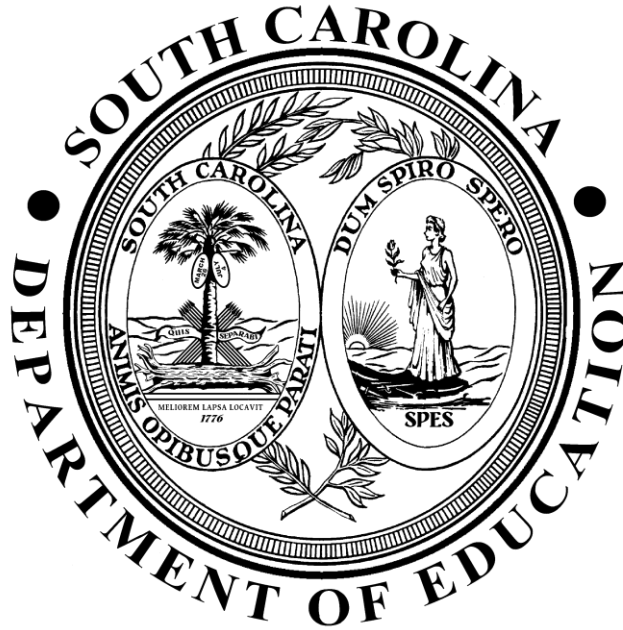


STATE OF SOUTH CAROLINA  
DEPARTMENT OF EDUCATION

MOLLY M. SPEARMAN  
STATE SUPERINTENDENT OF EDUCATION



# Career and Technical Education (CTE) Course Catalog

2019–20 School Year

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## **Introduction**

The South Carolina Career and Technical Education (CTE) Course Catalog is a listing of CTE courses categorized by career clusters and include course codes, recommended maximum enrollments, numbers of credits/seat time hours per course, prerequisites, and course descriptions. A credit-bearing course that is not listed in this document is either an innovative course, a locally designed elective course approved by the local board of trustees or a locally designed subject-area course approved by the South Carolina Department of Education (SCDE). Middle school courses are listed at the beginning of their perspective career clusters.

## **Contents**

The Contents provide a list of CTE courses, categorized by career cluster. A cluster or course section and page number can be quickly found, then immediately accessed without having to scroll or page through the document. Clicking anywhere within the text of a cluster or course title will immediately take you to that cluster or course. To execute a link, hold down the control button, then click the mouse.

## **Additional Information**

Click on the underlined topic for additional information:

[Activity Coding System for the Student Information System](#) includes the standardized codes for courses, instructional activities, and non-instructional activities used in the student information system in South Carolina public schools. The Activity Coding System is the foundation on which course codes, class scheduling, and class sections are built. The system standardizes data that are collected for federal and state funding and accountability purposes.

[CTE Student Reporting Procedures Guide](#) is the Office of Career and Technical Education's official guide for PowerSchool data entry and reporting.

[Required Credentials for Professional Staff Members](#) is a tabular listing of most district office and school positions, along with the required credentials for each of those positions. All professional instructional staff must hold South Carolina educator licenses in order to meet accreditation standards mandated by State Board of Education Regulation 43-300.

[South Carolina Educator Certification](#) provides information regarding certification status, forms and resources, educator recruitment, procedures to maintain and advance certification, and responses to frequently asked questions.

Area of Responsibility	Staff
Director	Angel Malone 803-734-8412 <a href="mailto:amalone@ed.sc.gov">amalone@ed.sc.gov</a>
Health Science	Angel Clark 803-734-0372 <a href="mailto:aclark@ed.sc.gov">aclark@ed.sc.gov</a>
Information Technology	Andrew Cook 803-734-7168 <a href="mailto:acook@ed.sc.gov">acook@ed.sc.gov</a>
Business Management and Administration Finance Marketing Assessments/Testing/CTE Course Standards	Dana Depew 803-734-2828 <a href="mailto:ddepew@ed.sc.gov">ddepew@ed.sc.gov</a>
Arts, Audio-Video Technology and Communications Education and Training Hospitality and Tourism Human Services/Family and Consumer Sciences Science, Technology, Engineering and Mathematics	Eleanor Glover Gladney, PhD 803-734-3826 <a href="mailto:eglover@ed.sc.gov">eglover@ed.sc.gov</a>
Agriculture, Food and Natural Resources	William E. Keels 803-896-8873 <a href="mailto:wkeels@clermson.edu">wkeels@clermson.edu</a>
Arts, Audio-Video Technology and Communications Science, Technology, Engineering and Mathematics Transportation, Distribution and Logistics	B. T. Martin 803-734-3398 <a href="mailto:btmartin@ed.sc.gov">btmartin@ed.sc.gov</a>
Career Guidance Work-Based Learning	Kama Staton 803-734-8415 <a href="mailto:KStaton@ed.sc.gov">KStaton@ed.sc.gov</a>
Architecture and Construction Law, Public Safety, Corrections and Security Manufacturing Science, Technology, Engineering and Mathematics	Steven Watterson 803-734-8267 <a href="mailto:SWatterson@ed.sc.gov">SWatterson@ed.sc.gov</a>
Professional Development	Jacqueline Wiseman 803-734-8455 <a href="mailto:jwiseman@ed.sc.gov">jwiseman@ed.sc.gov</a>

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## Middle School Career Clusters Course

### Introduction to Career Clusters

<b>Course Code</b>	2830
<b>Recommended Maximum Enrollment</b>	30
<b>Grade Level</b>	7, 8
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Introduction to Career Clusters is designed to provide middle schools with a course in which students are introduced to career possibilities in the sixteen national career clusters adopted by the South Carolina Department of Education. Students will have an opportunity to explore job tasks and career opportunities in each cluster while identifying pathways from high school to post-secondary education and the workplace. Students will learn skills needed for success in college and careers with relevance to academic standards. This course is exposure to help each student gain an understanding of careers in order to assist in the development of an initial Individual Graduation Plan (IGP) in the 8th grade.

## Middle School - Agriculture, Food, and Natural Resources

### Introduction to Agriculture – 6th Grade

<b>Course Code</b>	1856
<b>Recommended Maximum Enrollment</b>	30
<b>Grade Level</b>	6
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Introduction to Agriculture for sixth grade is designed to develop in middle school students an awareness of the relationships between agriculture and science. Major concepts covered in the course include an awareness of agriculture, the world of work, agribusiness careers, human relations, and scientific principles applied in agriculture. The course is offered on a semester or fewer bases for sixth-grade students and units include Orientation to Agriscience, Plants and Animals in Agriscience, Communication Skills, Orientation to Agricultural Technology, Orientation to Ecology and Conservation, and Orientation to Agriscience Careers.

### Introduction to Agriculture – 7th Grade

<b>Course Code</b>	2856
<b>Recommended Maximum Enrollment</b>	30
<b>Grade Level</b>	7
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Introduction to Agriculture for the seventh grade is designed to assist students in exploring science as it relates to agriculture. Through well planned instructional activities, students have the opportunity to develop an understanding of human relations, communication, the importance of agriculture to the economy, and key scientific terms related to the field of agriculture concepts. The course is offered on a semester or less basis for seventh-grade students and units include Exploration of Agriscience, Recognizing the Importance of Agriculture/Agriscience, Exploration of Natural Resources and the Environment, Exploration of Science Process in Agriculture, Soil and Plant Science, Animal Science, Introduction to Basic Laboratory Principles, and Personal Development Through Agriscience Activities.

## **Introduction to Agriculture – 8th Grade**

<b>Course Code</b>	2856
<b>Recommended Maximum Enrollment</b>	30
<b>Grade Level</b>	8
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Introduction to Agriculture for the eighth grade is designed to allow students to apply scientific principles to the field of agriculture in a laboratory setting. Students are introduced to new technology and its impact on agriculture. An introduction to regional and/or international agriculture and marketing concepts in agriculture are also included. The course is offered on a semester or less basis for eighth-grade students.

## High School - Agriculture, Food, and Natural Resources

### Agribusiness and Marketing

<b>Course Code</b>	5600
<b>Recommended Maximum Enrollment</b>	30
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	One of the following courses: Agricultural Science and Technology, Agricultural Mechanics and Technology, Environmental and Natural Resources Management, Introduction to Horticulture, <b>or</b> Agricultural Biosystems Science (depending on the pathway)

Agribusiness and Marketing is designed for the student who plans to seek employment on, manage, or own a farm or who seeks employment in an agribusiness field. Students will be involved in learning activities that generally prepare them to apply the economic and business principles involved in the organization, operation, and management of a farm, ranch, or agribusiness. Typical hands-on learning experiences include applying modern economic and business principles involved in the organization, operation, and management of agricultural businesses, including the production and marketing of agricultural products and services; applying computer application models; participating in personal and community leadership development activities; planning and implementing a relevant work-based learning transition experience; and participating in Future Farmers of America (FFA) activities.

### Agricultural and Biosystems Science

<b>Course Code</b>	5691
<b>Recommended Maximum Enrollment</b>	30
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Agricultural and Biosystems Science teaches essential concepts related to skills needed to pursue a career in a biotechnology field. Emphasis is placed on scientific research and development (R&D) and how it can be used to create future advancements in agriculture. Students will learn the basic principles of plant and animal science as well as the role of agriculture in our society and the importance of agriculture to the welfare of the world. Basic personal and community leadership and safety practices are included, and each student designs and participates in a supervised agricultural experience. Typical hands-on learning experiences include performing research on the basic principles of plant, soil, and animal science; studying

## **Agricultural and Biosystems Science**

**Course Code** 5691  
and modeling the significance of humankind's interrelationship with soil, water, and air; and participating in Future Farmers of America (FFA) activities.

## **Agricultural Crop Production and Management**

**Course Code** 5614  
**Recommended Maximum** 20  
**Enrollment**  
**Grade Level** 10, 11, 12  
**Credits** 1 (120 hours)  
**Prerequisite** Agricultural Science and Technology **or** Agricultural Biosystems Science

The Agricultural Crop Production and Management course prepares students to operate enterprises producing cereal grain, fiber, forage, oilseed, tree fruits and nuts, small fruits, vegetables and other plant products and includes instruction in soils, plant physiology, crop cultivation practices, plant diseases, pest management, harvesting, and marketing.

## **Agricultural Mechanics and Technology**

**Course Code** 5660  
**Recommended Maximum Enrollment** 20  
**Grade Level** 9, 10  
**Credits** 1 (120 hours)  
**Prerequisite** None

The Agriculture Mechanics and Technology course is designed as an introductory course to the Agriculture Mechanics Career Pathway. In addition, it provides development of general mechanical skills, which are required in all areas of Agricultural Education. Typical instructional activities include hands-on experiences in woodworking, metalworking, welding, small engine repair, basic farm and homestead improvements, participating in personal and community leadership development activities, planning and implementing a relevant work-based learning transition experience, and participating in Future Farmers of America (FFA) activities.

## **Agricultural Mechanics and Technology for the Workplace 1**

<b>Course Code</b>	5604
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10, 11
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	None

The Agriculture Mechanics and Technology for the Workplace 1 course is designed as an introductory course to the Agriculture Mechanics Career Pathway. Typical instructional activities include hands-on experiences in woodworking, metalworking, welding, small engine repair, basic farm and homestead improvements, participating in personal and community leadership development activities, planning and implementing a relevant work-based learning transition experience, and participating in Future Farmers of America (FFA) activities.

## **Agricultural Mechanics and Technology for the Workplace 2**

<b>Course Code</b>	5605
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	11, 12
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	Agricultural Mechanics and Technology for the Workplace 1

Agricultural Mechanics and Technology for the Workplace 2 combines subject matter and activities to teach technical knowledge and skills required for entry-level positions in selling, selecting, and servicing agribusiness technical equipment and facilities, including computers, specialized software, power units, machinery equipment, structures, and utilities. Courses in the Agricultural Mechanics and Technology program are designed to qualify the student completing the courses for job entry into farm, business, or industrial phases of agricultural mechanics or to continue advanced training post high school.

## **Agricultural Power Mechanics**

<b>Course Code</b>	5610
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural Mechanics and Technology

The courses in Agricultural Mechanics are designed to qualify the student completing the courses for job entry into farm, business, or industrial phases of agricultural mechanics or to continue advanced training in post high school education. A combination of subject matter and activities is designed to teach technical knowledge and skills for entry-level positions in selling, selecting, and servicing agribusiness technical equipment and facilities, including computers, specialized software, power units, machinery equipment, structures and utilities. Typical instructional activities include hands-on experiences with agricultural power units, participation in personal and community leadership development activities, and planning and participation in Future Farmers of America (FFA) activities.

## **Agricultural Science and Technology**

<b>Course Code</b>	5624
<b>Recommended Maximum Enrollment</b>	30
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

The Agricultural Science and Technology course teaches essential concepts and understanding related to plant and animal life including biotechnology, the conservation of natural resources, and the impact of agriculture and natural resource utilization on the environment. Emphasis is placed on the role of agriculture in our society and the importance of agriculture to the welfare of the world. Basic personal and community leadership and safety and agricultural mechanical technology are included as a part of the instructional program. Each student is required to design and participate in a supervised agricultural experience.

## **Agricultural Science and Technology for the Workplace**

<b>Course Code</b>	5620
<b>Recommended Maximum Enrollment</b>	30
<b>Grade Level</b>	9, 10, 11
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	None

The Agricultural Science and Technology for the Workplace course teaches essential concepts and understanding related to plant and animal life including biotechnology, the conservation of natural resources, and the impact of agriculture and natural resource utilization on the environment. Emphasis is placed on the role of agriculture in our society and the importance of agriculture to the welfare of the world. Basic personal and community leadership and safety, and agricultural mechanical technology are included as a part of the instructional program. Each student is required to design and participate in a supervised agricultural experience.

## **Agricultural Structural Mechanics**

<b>Course Code</b>	5611
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural Mechanics and Technology

Agricultural Structural Mechanics courses are designed to qualify the student completing the courses for job entry into farm, business, or industrial phases of agricultural mechanics or to continue advanced training in post high school education. A combination of subject matter and activities is designed to teach technical knowledge and skills for entry-level positions in selling, selecting, and constructing structures and utilities. Typical hands-on instructional experiences include the planning and selection of materials for the construction of agricultural facilities, the mechanical practices associated with irrigation and water conservation, erosion control, metal fabrication, participation in personal and community leadership development activities, and planning and participation in Future Farmers of America (FFA) activities.

## **Animal Science**

<b>Course Code</b>	5603
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural Science and Technology or Agricultural Biosystems Science

Animal Science provides an overview of the animal science industry, including information on the biological makeup of various species of agricultural livestock. It also provides students with beneficial information on animal behavior before they decide to embark on a career in Animal Science. Animal Science is recommended as a prerequisite for other courses in Animal Science. Typical instructional activities include hands-on experiences with the principles and practices essential in the production and management of farm animals and farm animal products for economic, recreational, and therapeutic uses; participating in personal and community leadership development activities; planning and implementing a relevant work-based learning transition experience; and participating in Future Farmers of America (FFA) activities.

## **Animal Science for the Workplace 1**

<b>Course Code</b>	5608
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	None

Animal Science for the Workplace 1 is designed to teach technical knowledge and skills for entry-level positions in an animal production enterprise by developing competencies concerning the selection, breeding, physiology, nutrition, health, housing, feeding, and marketing of farm and companion animals. Typical instructional activities include hands-on experiences with the principles and practices essential in the production and management of animals and animal products for economic, recreational, and therapeutic uses; participating in personal and community leadership development activities; planning and implementing a relevant work-based learning transition experience; and participating in Future Farmers of America (FFA) activities.

## **Animal Science for the Workplace 2**

<b>Course Code</b>	5609
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	11, 12
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	Animal Science for the Workplace 1

The Animal Science for the Workplace 2 course covers animal care and veterinary science and is designed to teach technical knowledge and skills for occupations in the pet industry or the companion animal industry. Skills also relate to the veterinarian or the veterinarian technician career field. Typical instructional activities include hands-on experiences with cats, dogs, rabbits, fish, etc.; participating in personal and community leadership development activities; and planning a relevant work-based learning transition experience.

## **Aquaculture**

<b>Course Code</b>	5663
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	One of the following courses: Agricultural Science and Technology, Environmental and Natural Resources Management, <b>or</b> Agricultural Biosystems Science (depending on the pathway)

The Aquaculture course is designed to teach knowledge and skills required for job entry into alternative agriculture through the husbandry of aquatic plants and animals. The ultimate objective of this course is to help students plan, build, stock, and run aquaculture facilities of varied sizes. Aquaculture projects require planning and management comparable to any other commercial endeavor. Typical learning activities include selecting a site, evaluating soil types, selecting equipment and planning a facility, managing water quality to promote good health and growth of selected aquatic species, participating in Future Farmers of America (FFA) personal and leadership development activities, and planning and conducting a supervised occupational experience program relevant to aquaculture.

## **Biosystems Mechanics and Engineering**

<b>Course Code</b>	5692
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11
<b>Credits</b>	1 (120 hours)

## **Biosystems Mechanics and Engineering**

<b>Course Code</b>	5692
<b>Prerequisite</b>	One of the following courses: Agricultural Science and Technology, Environmental and Natural Resources Management, Introduction to Horticulture, <b>or</b> Agricultural Biosystems Science (depending on the pathway)

The Biosystems Mechanics and Engineering course is designed to teach basic physical science skills in relation to Agricultural Engineering. In addition, it provides for the development of general mechanical skills that are required in all areas of Agricultural Education. Typical instructional activities include hands-on experiences in developing research projects to examine ways to utilize agricultural crops in unique ways, to include the development of biofuels and other alternative energy sources and to discover new uses for agricultural products. In addition, students will participate in personal and community leadership development activities, plan and implement a relevant work-based learning transition experience, and participate in Future Farmers of America (FFA) activities.

## **Biosystems Technology 3**

<b>Course Code</b>	5695
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	11
<b>Credits</b> 1 (120 hours)	1 (120 hours)
<b>Prerequisite</b>	Agricultural and Biosystems Science <b>and</b> Biosystems Mechanics and Engineering

The Biosystems Technology 3 course expands upon information and material introduced in the Agricultural and Biosystems Science and Biosystems Mechanics and Engineering courses. Content focuses on biological and engineering sciences important to the bioprocessing and biofuels industry, including microbial concepts, reactor design, and laboratory techniques inherent. Emphasis is placed on the role of agriculture in our society and the importance of agriculture to the welfare of the world. Basic personal and community leadership and laboratory safety are included. Each student is required to design and participate in a supervised agricultural experience. Typical hands-on learning experiences include performing basic principles of plant, soil, and animal science; studying and modeling the significance of humankind's interrelationship with soil, water, and air; and participating in Future Farmers of America (FFA) activities.

## **Biosystems Technology 4**

<b>Course Code</b>	5696
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural and Biosystems Science, Biosystems Mechanics and Engineering <b>and</b> Biosystems Technology 3

The Biosystems Technology 4 course introduces the major unit operations and technology used in bioprocessing, including heat exchangers, bioreactors, pumps, and cell/product separation systems. The content directly expands upon information and material introduced in the Agricultural and Biosystems Science and Biosystems Mechanics and Engineering courses. Emphasis is placed on the role of agriculture in our society and the importance of agriculture to the welfare of the world. Basic personal and community leadership and laboratory safety are included. Each student is required to design and participate in a supervised agricultural experience. Typical hands-on learning experiences include performing basic principles of plant, soil, and animal science; studying and modeling the significance of humankind's interrelationship with soil, water, and air; and participating in Future Farmers of America (FFA) activities.

## **Biosystems Technology Career Development 1**

<b>Course Code</b>	5693
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10, 11
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	None

Biosystems Technology Career Development 1 is designed to teach essential concepts and understanding related to skills required to pursue a career in a biotechnology field. Emphasis is placed on scientific research and development (R&D) and how it can be used to create future advancements in Agriculture. In addition, the course teaches basic mechanical and engineering skills and their application to scientific research. Basic principles of plant and animal science as well as the role of agriculture in our society and the importance of agriculture to the welfare of the world are also included. Basic personal and community leadership and safety practices are included, and each student is required to design and participate in a supervised agricultural experience.

## **Biosystems Technology Career Development 2**

<b>Course Code</b>	5694
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	11, 12
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	Biosystems Technology Career Development 1

The Biosystems Technology Career Development 2 course expands upon information and material introduced in the Level 1 course. Content focuses on biological and engineering sciences important to the bioprocessing and biofuels industry, including microbial concepts, reactor design, and laboratory techniques inherent. Emphasis is placed on the role of agriculture in our society and the importance of agriculture to the welfare of the world. Basic personal and community leadership and laboratory safety are included as a part of the instructional program, and each student is required to design and participate in a supervised agricultural experience.

## **Cattle Production**

<b>Course Code</b>	5646
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural Science and Technology <b>or</b> Agricultural and Biosystems Science

This Cattle Production course is designed to teach technical knowledge and skills for entry-level positions in an animal production enterprise by developing competencies concerning the selection, breeding, physiology, nutrition, health, housing, feeding, and marketing of cattle. Typical hands-on instructional experiences include the principles and practices essential in the production and management of cattle and cattle products for economic, recreational, and therapeutic uses; participation in personal and community leadership development activities; planning and implementation of a relevant work-based learning transition experience; and participation in Future Farmers of America (FFA) activities.

## **Environmental and Natural Resources Management**

<b>Course Code</b>	5626
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Environmental and Natural Resource Management is the introductory course for the Environmental and Natural Resources Career Pathway. It is a combination of subject matter and planned learning experiences on the principles involved in the conservation and/or improvement of natural resources such as air, soil, water, land, forest, and wildlife for economic and recreational purposes. Instruction also emphasizes such factors as the establishment, management, and operation of land for recreational purposes. Typical learning activities include constructing a model watershed; identifying and/or measuring the levels of air, water, noise, and solid waste pollution in a selected site; participating in hands-on experiences with site analysis; evaluating competing interests; and analyzing biological and physical aspects of the environment and environment-related issues including methods of abating and controlling pollution. Students participate in personal and community leadership development activities, plan and implement a relevant work-based learning transition experience, and participate in Future Farmers of America (FFA) activities.

## **Environmental and Natural Resources Management for the Workplace 1**

<b>Course Code</b>	5628
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10, 11
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Environmental and Natural Resource Management for the Workplace 1 is the introductory course for the Environmental and Natural Resources Career Pathway. It is a combination of subject matter and planned learning experiences on the principles involved in the conservation and/or improvement of natural resources such as air, soil, water, land, forest, and wildlife for economic and recreational purposes. Instruction also emphasizes such factors as the establishment, management, and operation of land for recreational purposes. Typical learning activities include constructing a model watershed; identifying and/or measuring the levels of air, water, noise, and solid waste pollution in a selected site; participating in hands-on experiences with site analysis; evaluating competing interests; and analyzing biological and physical aspects of the environment and environment-related issues including methods of abating and controlling pollution. Students participate in personal and community leadership development activities, plan and implement a relevant work-based learning transition experience, and participate in Future Farmers of America (FFA) activities.

## **Environmental and Natural Resources Management for the Workplace 1**

**Course Code** 5628

## **Environmental and Natural Resources Management for the Workplace 2**

**Course Code** 5629  
**Recommended Maximum Enrollment** 20  
**Grade Level** 11, 12  
**Credits** 2 (240 hours)  
**Prerequisite** Environmental and Natural Resources Management for the Workplace 1

Environmental and Natural Resources Management for the Workplace 2 is the second level course designed for programs in the Environmental Natural Resources Career Pathway. It is a combination of subject matter and planned learning experiences on the principles of conservation and/or improvement of forest and wildlife resources for economic and recreational purposes. Instruction also emphasizes such factors as the establishment, management, and operation of land for recreational purposes. Typical forestry hands-on instructional activities include experiences in assessing environmental factors affecting forest growth; cruising timber; planting trees; managing an established forest; selecting, grading, and marketing forest raw materials for converting into a variety of consumer goods; harvesting timber or pulpwood; operating and maintaining equipment; and managing forests for multiple purpose uses such as game preserves and recreation. Typical wildlife management hands-on instructional activities include experiences in analyzing problems and developing site plans, including the essential elements, concepts, and skills related to wildlife management; understanding basic ecological concepts; implementing habitat management practices; identifying wildlife and fish species; and analyzing policies, laws, and regulations and using natural resources for outdoor recreation. Students also participate in personal and community leadership development activities, plan and implement a relevant work-based learning transition experience, and participate in Future Farmers of America (FFA) activities.

## Equine Science

<b>Course Code</b>	5679
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural Science and Technology <b>or</b> Agricultural and Biosystems Science

Equine Science teaches essential concepts and provides practical experience related to the care taking and production of horses. Instruction emphasizes knowledge and understanding of the importance of maintaining, selecting, and managing horses. Basic methods and safety techniques are included in this course. Typical instructional activities include hands-on experiences in saddling, bridling, grooming, and judging horses; feeding and health techniques; and housing design.

## Equipment Operation and Maintenance

<b>Course Code</b>	5621
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	One of the following courses: Agricultural Science and Technology, Agricultural Mechanics and Technology, Environmental and Natural Resources Management, Introduction to Horticulture, <b>or</b> Agricultural Biosystems Science (depending on the pathway)

Equipment Operation and Maintenance teaches students how to operate and maintain equipment commonly used in the agricultural industry. It includes equipment used in four of the Agriculture, Food and Natural Resources pathways: Horticulture, Plant and Animal Systems, Environmental and Natural Resources Management, and Agricultural Mechanics and Technology. Typical instructional activities include hands-on experiences with agricultural power units; participating in personal and community leadership development activities; planning and implementing a relevant work-based learning transition experience; and participating in Future Farmers of America (FFA) activities.

## **Farm Animal Production**

<b>Course Code</b>	5647
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural Science and Technology <b>or</b> Agricultural Biosystems Science

Farm Animal Production teaches technical knowledge and skills for entry-level positions in an animal production enterprise by developing students' competency in the selection, breeding, physiology, nutrition, health, housing, feeding, and marketing of farm animals. Typical instructional activities include hands-on experiences with the principles and practices essential in the production and management of farm animals and farm animal products for economic, recreational, and therapeutic uses; participating in personal and community leadership development activities; planning and implementing a relevant work-based learning transition experience; and participating in Future Farmers of America (FFA) activities.

## **Floriculture**

<b>Course Code</b>	5634
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Horticulture

Floriculture teaches technical knowledge and skills for entry-level positions in the production, processing, and distribution of flowers, foliage, and related plant materials, including best management practices in field and greenhouse production of flowers and related plant materials and the arrangement of plant materials for ornamental purposes. Typical instructional activities include hands-on experiences with planning, designing, and growing representative flower crops; preparing and analyzing growing medium; tissue culture; alternative propagation methods; greenhouse management practices including environmental controls; participating in personal and community leadership development activities; planning and implementing a relevant work-based learning transition experience; and participating in Future Farmers of America (FFA) activities. The instructor selects units of instruction based on a local needs assessment.

## Food Processing

<b>Course Code</b>	5657
<b>Recommended Maximum Enrollment</b>	30
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural Science and Technology <b>or</b> Agricultural and Biosystems Science

Food Processing generally prepares individuals to process food and nonfood products and to inspect those products preparatory to marketing. The course also includes instruction in the characteristics and properties of agricultural products and of agriculture-related processing techniques and skills (including quality control and mechanical operations involved in marking, grading, inspecting, packaging, storing, and marketing). Typical learning activities include cutting meat; packaging, canning, testing, and grading food products; participating in Future Farmers of America (FFA) contests or other club activities; and planning and conducting a supervised practice program or occupational work experience program related to agricultural products.

## Forestry

<b>Course Code</b>	5642
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Environmental and Natural Resources Management

Forestry teaches technical knowledge and skills for entry-level positions in the production, protection, and management of timber and specialty forest resources. Typical instructional activities include hands-on experiences in assessing environmental factors affecting forest growth; cruising timber; planting trees; managing an established forest; selecting, grading, and marketing forest raw materials for converting into a variety of consumer goods; harvesting timber or pulpwood; operating and maintaining equipment; and managing forests for multiple purpose uses such as game preserves and recreation. Students participate in personal and community leadership development activities, plan and implement a relevant work-based learning transition experience, and participate in Future Farmers of America (FFA) activities.

## **Golf Course Technology**

<b>Course Code</b>	5667
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Horticulture

Golf Course Technology is designed to qualify the students completing the program for job entry into golf course and turf fields, as well as to continue advanced training post high school. A combination of subject matter and activities teaches technical knowledge and skills for entry-level positions. Typical instructional activities include hands-on experiences with agricultural power units, the planning and selection of materials, the mechanical practices associated with irrigation and water conservation, erosion control, participation in personal and community leadership development activities, planning and implementation of a relevant supervised agricultural experience, and participation in Future Farmers of America (FFA) activities.

## **Horticulture for the Workplace 1**

<b>Course Code</b>	5652
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10, 11
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	None

Horticulture for the Workplace 1 includes organized subject matter and practical experiences related to the culture of plants used principally for ornamental or aesthetic purposes. Instruction emphasizes knowledge and understanding of the importance of establishing, maintaining, and managing ornamental horticulture enterprises.

## **Horticulture for the Workplace 2**

<b>Course Code</b>	5653
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	11, 12
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	Horticulture for the Workplace 1

Horticulture for the Workplace 2 is the second level course designed for programs involved in the Horticulture Career Pathway. The course is a combination of subject matter and planned learning experiences on the principles involved in the related to the culture of plants used principally for ornamental or aesthetic purposes. Instruction emphasizes knowledge and understanding of the importance of establishing, maintaining, and managing ornamental horticulture enterprises.

## **Introduction to Horticulture**

<b>Course Code</b>	5650
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

The Introduction to Horticulture course is designed to be an introduction to the Horticulture pathway. It is recommended as a prerequisite for all other horticulture courses. This course includes organized subject matter and practical experiences related to the culture of plants used principally for ornamental or aesthetic purposes. Instruction emphasizes knowledge and understanding of the importance of establishing, maintaining, and managing ornamental horticulture enterprises.

## **Introduction to Veterinary Science**

<b>Course Code</b>	5613
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural Science and Technology <b>or</b> Agricultural Biosystems Science

In this advanced animal science course, students will explore the field of veterinary medicine. Students will study the role of a veterinarian and veterinary technician in the diagnosis and treatment of animal diseases. Topics to be discussed include: veterinary terminology, anatomy and physiology, pathology, genetics, handling and restraint, and physical examinations along with common surgical skills. Students will engage in a variety of laboratory activities and will participate in shadowing and/or other work-based learning experiences.

## **Landscape Technology**

<b>Course Code</b>	5670
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Horticulture

The course in Landscape Technology is designed to qualify the student completing the course for job entry into landscaping fields or to continue advanced training in post high school education. A combination of subject matter and activities is designed to teach technical knowledge and skills for entry-level positions in selling, selecting, and servicing.

## **Nursery, Greenhouse, and Garden Center Technology**

<b>Course Code</b>	5672
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Horticulture

The course in Nursery, Greenhouse and Garden Center Technology includes organized subject matter and practical experiences related to the operation and management of nursery, greenhouse or a garden center. Instruction emphasizes knowledge and understanding of the importance of establishing, maintaining, and managing “green industry” enterprises.

## Outdoor Recreation

<b>Course Code</b>	5602
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Environmental and Natural Resources Management

The Outdoor Recreation course is a combination of subject matter and planned learning experiences on the principles involved in outdoor safety, planning outdoor recreational activities, designing parks and special use areas, and outdoor recreational resources on public lands. Instruction also emphasizes such factors as the establishment, management, and operation of land for recreational purposes.

## Small Animal Care

<b>Course Code</b>	5612
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Agricultural Science and Technology <b>or</b> Agricultural and Biosystems Science

The Small Animal Care course is designed to teach technical knowledge and skills for occupations in the pet industry or the companion animal industry. Skills also relate to the veterinarian or the veterinarian technician career field.

## Soil and Water Conservation

<b>Course Code</b>	5627
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	One of the following courses: Agricultural Science and Technology, Agricultural Mechanics and Technology, Environmental and Natural Resources Management, <b>or</b> Agricultural Biosystems Science (depending on the pathway)

The Soil and Water Conservation course is a combination of subject matter and planned learning experiences on the principles involved in the conservation and/or improvement of soil and water resources for economic and recreational purposes.

## **Soils and Soilless Research**

<b>Course Code</b>	5630
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	One of the following courses: Agricultural Science and Technology, Environmental and Natural Resources Management, Introduction to Horticulture, <b>or</b> Agricultural Biosystems Science (depending on the pathway)

Soils and Soilless Research is designed to teach students the science involved in growing crops in both soil and soilless production systems. Students learn the importance of soil chemistry and composition as it relates to the growth of economically important crops. Students investigate common agricultural practices as well as alternative methods for growing crops to include hydroponic techniques. Students are also introduced to experimental research using the principles of experimental design.

## **Sports Turf Management**

<b>Course Code</b>	5655
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Horticulture

Sports Turf Management course is designed to teach technical knowledge and skills for entry-level positions in the Sports Turf Management career field. The principles and practices involved in establishing, managing, and maintaining grassed areas for recreational purposes are studied.

## **Turf and Lawn Management**

<b>Course Code</b>	5654
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Horticulture

The Introduction to Horticulture course is designed to be an introduction to the Horticulture pathway. It is recommended as a prerequisite for all other horticulture courses. This course includes organized subject matter and practical experiences related to the culture of plants used principally for ornamental or aesthetic purposes. Instruction emphasizes knowledge and understanding of the importance of establishing, maintaining, and managing ornamental horticulture enterprises.

## **Wildlife Management**

<b>Course Code</b>	5674
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Environmental and Natural Resources Management

The Wildlife Management course is designed to be introductory course for the Environmental and Natural Resources pathway. The course is a combination of subject matter and planned learning experiences on the principles involved in the conservation and/or improvement of natural resources such as air, soil, water, land, forest, and wildlife for economic and recreational purposes. Instruction also emphasizes such factors as the establishment, management, and operation of land for recreational purposes.

**Agriculture, Food and Natural Resources Internship  
(name change effective 2019-20), Work-Based Credit**

<b>Course Code</b>	5690
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

The Agriculture, Food and Natural Resources Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three or four unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course.

## Architecture and Construction

### Building Construction Cluster 1, 2, 3, 4

<b>Course Codes</b>	6060, 6061, 6062, 6063
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Building Construction prepares individuals to apply technical knowledge and skills in the building, inspecting, and maintaining of structures and related properties. Includes instruction in masonry, carpentry, electrical and power transmission installation, building/construction finishing, management, inspection, and other construction-related applications.

### Cabinetmaking 1, 2, 3, 4

<b>Course Codes</b>	6080, 6081, 6082, 6083
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Cabinetmaking courses provide an opportunity for students to acquire workshop, tool safety and employability skills as they practice reading and later interpreting blueprints; estimating and selecting materials; cutting and shaping stock; assembling, fastening, and installing components; and finishing surfaces. They also learn to install interior finishes, apply wood veneers and plastic laminates, finish surfaces, and transport and install cabinets. The technical, problem-solving, leadership, and creative skills learned in Cabinetmaking can be applied in industries well beyond construction trades and professions and can prepare students for lifelong learning and success.

## **Carpentry 1, 2, 3, 4**

<b>Course Codes</b>	6091, 6092, 6093, 6094
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Carpentry courses provide information related to the building of wooden structures, enabling students to gain an understanding of wood grades and construction methods and to learn skills such as laying sills and joists; erecting sills and rafters; applying sheathing, siding, and shingles; setting door jambs; and hanging doors. Carpentry courses may teach skills for rough construction, finish work, or both. Students learn to read blueprints, draft, use tools and machines properly and safely, erect buildings from construction lumber, perform finish work inside of buildings, and do limited cabinet work. Carpentry courses may also include career exploration, good work habits, and employability skills.

## **Electricity 1, 2, 3, 4**

<b>Course Codes</b>	6287, 6288, 6289, 6290
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Electricity—Comprehensive courses provide a survey of the theory, terminology, equipment, and practical experience in the skills needed for careers in the electrical field. These courses typically include AC and DC circuitry, safety, and the National Electrical Code and may cover such skills as those involved in building circuits; wiring residential, commercial, and/or industrial buildings; installing lighting, power circuits, and cables; and estimating job costs. As students progress, their projects become more complex and expansive. In these courses, safety is stressed, and a career exploration component may be offered.

## Home System Technology

<b>Course Codes</b>	5330
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	None

Home System Technology targets skills in the multiple industries that touch the home, including technology integrators, security system technicians, cable, satellite, telecommunications, and A/V installers, electricians, and network administrators. Students will develop the skills and knowledge of basic PC hardware, hand and tool skills, safety precautions, basic electrical awareness, local regulations and building codes.

## HVAC Technology 1, 2, 3, 4 (formerly Air Conditioning Refrigeration Technology-ACRT)

<b>Course Codes</b>	6003, 6004, 6005, 6006
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

HVAC Technology courses offer students specialized training related to the design, installation, and repair of air conditioning systems for residential and commercial use. These courses may emphasize the theory and design of electrical, electronic, mechanical, and pneumatic control systems used in air conditioning systems; they might also (or instead) focus on procedures used in troubleshooting, servicing, and installing components of air conditioning systems.

## Introduction to Construction

<b>Course Code</b>	6001
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Construction technology provides students with an understanding of how construction impacts their lives, both socially and professionally. Students will explore and demonstrate an understanding of five elements of construction: Career Opportunities, Design, Measurements, Tools, and Materials

## Masonry 1, 2, 3, 4

<b>Course Codes</b>	6250, 6251, 6252, 6253
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Masonry courses enable students to learn to construct interior and exterior walls, columns, doorways, window openings, fireplaces, chimneys, and foundations from brick and concrete block. Along with other activities, students may mix and spread cement and mortar, read blueprints and plans, and estimate materials needed for a project. Other topics may also include how to layout buildings on footings and how to establish grades using a surveying transit.

## Plumbing 1, 2, 3, 4

<b>Course Codes</b>	6280, 6281, 6282, 6283
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Plumbing courses provide students with instruction in installing waste and vent systems, water and gas pipes, trim, and fixtures. Skills taught include cutting and joining various types of pipe (for instance, steel or plastic) using various methods (cement, seat method, and so on).

**Architecture and Construction Internship**  
**(name change effective 2019-20), Work-Based Credit**

<b>Course Codes</b>	6690
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

The Architecture and Construction Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course.

<b>Arts, Audio-Video Technology and Communications</b>
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**Fashion Design and Apparel Construction 1**

<b>Course Code</b>	5710
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	None

Ready to create your own look? Tired of having clothes that don't fit? Make a skirt or vest out of your dad's old neckties. Open the world of fashion from your own closet. Fashion Design and Apparel Construction 1 focuses on the study of the fashion and garment industry with emphasis on the basics of design and construction. Students will develop a global view and weigh design decisions within the parameters of ecological, socio-economic, and cultural contents. Concepts are applied with hands-on learning experiences as students study career pathways, textiles, fashion design, apparel construction, consumer behavior, products, and materials of the fashion industry. Projects are integrated throughout the course work and at least one garment will be completed. South Carolina standards for English/language arts, mathematics, science, social studies, and visual arts are reinforced. The Family and Consumer Sciences student organization Family, Career, and Community Leaders of America (FCCLA) greatly enhances this curriculum.

**Fashion Design and Apparel Construction 2**

<b>Course Code</b>	5711
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	Fashion Design and Apparel Construction 1

Design and make your own prom dress or outfit! Professionalism is showcased as preparations are made to enter the world of fashion design and apparel construction. Unfold the world of fashion merchandising and marketing. The skills of fashion design and apparel construction are refined. Creativity is on the runway in this hands-on course. Emphasis is placed on the development of problem solving, decision-making, and technological applications in a real-world context. South Carolina standards for English/language arts, mathematics, science, social studies, and visual arts are reinforced. The Family and Consumer Sciences student organization Family, Career, and Community Leaders of America (FCCLA) greatly enhances this curriculum.

## Interior Design 1

<b>Course Code</b>	5455
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	None

Interior Design 1 focuses on the study of interior planning with emphasis on the basics of design. Students will develop a global view and weigh design decisions within the parameters of ecological, socio-economic, and cultural contents. Concepts are applied with hands-on learning experiences as students study career paths, design, products, materials, and professionalism. Projects are integrated throughout the course work. Computer access is strongly recommended for this course. The Family and Consumer Sciences student organization Family, Career, and Community Leaders of America (FCCLA) greatly enhances this curriculum.

## Interior Design 2

<b>Course Code</b>	5456
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	Interior Design 1

Interior Design 2 focuses on design applications incorporating business basics of the design industry. Students will have an opportunity to develop advanced skills by learning about green design concepts and the principles and theories of sustainability as they pertain to design decisions, i.e. building materials, methods, systems, and occupants. Course content consists of career development, industry trends, design applications, client relations, presentation techniques, and business practices. Job shadowing, mentorships, internships, and/or apprenticeships are an integral part of this course. Portfolios and projects are integrated throughout the course work. Computer access is strongly recommended for this course. The Family and Consumer Sciences student organization Family, Career, and Community Leaders of America (FCCLA) greatly enhances this curriculum.

## Architectural Design 1, 2

<b>Course Codes</b>	6170, 6171
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	Courses taken sequentially

The Architectural Design program prepares students to perform entry-level tasks under the supervision and guidance of architects and/or architectural engineers in the development and preparation of plans for residential and/or commercial buildings. Instruction is given in design technology and techniques, computer-aided design, zoning laws, building codes, cost planning, material requirements, styling, and client preferences. Upon successful completion of the architectural design program, students will be prepared for postsecondary education and entry-level architectural-related careers.

## Digital Art and Design 1, 2, 3, 4

<b>Course Codes</b>	6120, 6121, 6122, 6123
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9 (6120 with Teacher Recommendations/approval, 10–11 (6120, 6121), 11–12 (6122, 6123)
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

The ever changing and global technological advancements offer newer and broader opportunities in the creative industry. The Digital Art and Design program prepares students for a multitude of careers in the graphic design field. This program provides instruction in layout, computer design, electronic art, color enhancement, and digital photography. Students use design concepts, principles, and processes that meet client expectations using Adobe Creative Suite Software: Photoshop, Illustrator, and InDesign. Students will have the opportunity to attain Adobe Certified Associate certification. Career development and employability skills are the foundation of all career and technical education. Students will compile their works for inclusion in a portfolio, for use in this program of study, the workforce, or postsecondary education.

## **Introduction to Graphic Communications and Graphic Communications 1, 2, 3, 4**

<b>Course Codes</b>	5205, 6200, 6201, 6202, 6203
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Graphic Communication competencies require that students are competent in their overall understanding of the industry and its major operations, and have the fundamental measurement, math, and interpersonal skills needed for starting a career. The competencies are broken into 11 subsections: introduction, digital file preparation, image capture, color theory, digital file output, press operations, bindery operations, measurement, safety and first aid, basic math, and job application and interpersonal skills. All competencies are theory-based and require students to list, describe, identify, and/or calculate production-related issues, rather than actually demonstrate performance.

## **Mechanical Design 1, 2**

<b>Course Codes</b>	6172, 6173
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

The Mechanical Design program prepares students to perform entry-level tasks under the supervision of an experienced drafter or engineer. Instruction includes safety, basic drafting techniques, geometric constructions, sketching, shape description, size description, drawing conventions, computer-aided design, manufacturing processes, applied geometry, and technical illustration. Upon successful completion of the Mechanical Design program, students will be prepared for postsecondary education and entry-level mechanical-related careers.

## Media Technology 1, 2, 3, 4

<b>Course Codes</b>	6124, 6125, 6126, 6127
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

In the Media Technology program, students will explore the general field of communications focused primarily on media production industries. Students will get hands-on experience in basic production techniques for audio, video, and film. They will work collaboratively while writing, producing, directing, and editing projects of increasing complexity, using industry-standard software and equipment. Students will also learn about related fields such as graphic design, broadcast journalism, animation, sound design and engineering, special effects, online media development, marketing, and corporate communications. Program completers will compile their works for inclusion in a portfolio, for use in this program of study, the workforce, or postsecondary education.

## Arts, Audio-Video Technology and Communications Internship (name change effective 2019-20), Work-Based Credit

<b>Course Codes</b>	5290
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

Arts, Audio-Video Technology and Communications Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three-unit completer pathway.

<b>Middle School - Business Management and Administration</b>
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**Computer Applications (Will not receive high school credit beginning 2019-20)**

<b>Course Code</b>	2702
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	None
<b>Prerequisite</b>	None

Computer Applications is designed to introduce students to software applications that are necessary to live and work in a technological society. The applications covered include word processing, database, spreadsheet, and presentation.

**Digital Literacy (Will not receive high school credit beginning 2019-20)**

<b>Course Code</b>	2853
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	None
<b>Prerequisite</b>	None

Digital Literacy is designed to equip students with many of the needed computer skills to find, evaluate, create, and communicate information. Students will be exposed to a broad range of computer technology along with a working knowledge of computer software and hardware. Students benefit from an understanding of wide range of applications (e.g., document processing, presentations, spreadsheets, and web-based resources). This course prepares students to be college and career-ready.

**Google Basics (Will not receive high school credit beginning 2019-20)**

<b>Course Code</b>	2704
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	None
<b>Prerequisite</b>	None

Google Basics introduces the student to basic Google tools and focuses on collaboration, communication, and productivity through the completion of real-world, student-centered activities and projects.

### **Keyboarding (Will not receive high school credit beginning 2019-20)**

<b>Course Code</b>	2706
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	None
<b>Prerequisite</b>	None

The Keyboarding course is designed for middle school students to master the skill of entering alphabetic, numeric, and symbolic information on a keyboard and a ten-key pad using the touch method of key stroking. Emphasis is placed on development of accuracy and speed, proper techniques, and correct finger positions. Students will further develop and enhance touch skills for entering information using a keyboard to compose and produce personal, educational, and professional documents. Digital literacy, composition, and language skills are embedded throughout the course.

### **Multimedia Basics (Will not receive high school credit beginning 2019-20)**

<b>Course Code</b>	2703
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	None
<b>Prerequisite</b>	None

Multimedia Basics covers basic multimedia concepts, processes, and applications utilizing text, graphics, animation, audio, and video. Students will design, develop, and create various interactive multimedia projects.

## High School - Business Management and Administration

### Administrative Support Technology

<b>Course Code</b>	5122
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding proficiency

Administrative Support Technology is designed to provide an overview of the major responsibilities and tasks in an administrative support position. The objectives of the course are to enhance technology and communication skills; solve business-oriented problems; manage processes and procedures of organizations; and demonstrate effective supervisory, management, and human relations skills.

### Business Law

<b>Course Code</b>	5044
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Business Law develops an understanding of legal rights and responsibilities in personal and business law with applications applied to everyday roles as consumers, citizens, and workers. The student will have an understanding of the American legal system, courts/court procedures, criminal justice systems, torts, the civil justice system, oral and written contracts, sales contracts and warranties, consumer protection, social responsibility, and ethics.

## **Business Principles and Management**

<b>Course Code</b>	5092
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Any Digital Literacy course

In the Business Principles and Management course, students will develop a thorough understanding of the role and activities of businesses, and in the many activities, problems, and decisions that are essential to the management of a successful business. Students will analyze characteristics of businesses, social and ethical environments, business economics, international business, forms and types of business, ethical and legal responsibilities, communication, decision-making, leadership, personnel, professional development, and related careers. By gaining an understanding of these areas, students will be prepared to enhance the business decisions of tomorrow. This course prepares students for the Entrepreneurship certification offered by Certiport.

## **Digital Publication Design**

<b>Course Code</b>	5176
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Digital Desktop Publishing combines the business world with graphic design and allows students to use their creativity to produce business and personal publications. Students create, format, illustrate, design, edit/revise, and print publications including newsletters, flyers, brochures, reports, advertising materials, catalogs, posters, and other publications. Students who excel have the opportunity to earn nationally recognized Adobe certification.

## Digital Multimedia

<b>Course Code</b>	5030
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Digital Multimedia covers basic multimedia concepts, processes, and applications including games, print publications, presentations, tutorials, simulations, virtual reality, and web sites. Students will design, develop, and create various interactive multimedia projects culminating with an e-portfolio.

## Digital Technologies

<b>Course Code</b>	5180
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	.5 (60 hours), 1 (120 hours)
<b>Prerequisite</b>	None

Digital Technologies introduces students to new and emerging technologies that are impacting the way we utilize information when accessing computers and other technology devices. With the use of tablets, iPads, Smartphones, and other digital devices, students will design, develop, and create projects using speech recognition software, mobile applications, and online collaborative tools for personal and business applications. Students' work will be showcased in an e-portfolio.

## Entrepreneurship

<b>Course Code</b>	5400
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Entrepreneurship is designed to provide students with the knowledge and skills needed to develop an effective business plan for small business ownership. An important part of the course will be the incorporation of economics, ethics, legal aspects, logistics, research, staffing, strategies for financing, and technology.

## **Essential Communications**

**(name change Workplace Communications effective 2019–20)**

<b>Course Code</b>	5041
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

The Workplace Communications course is designed to teach students to communicate in a clear, courteous, concise, complete, and correct manner on both personal and professional levels. Competency will be developed in oral, written, interpersonal, technological, and employment communication. Listening skills will be incorporated throughout the course.

## **Fundamentals of Business, Marketing, and Finance**

<b>Course Code</b>	5090
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Fundamentals of Business, Marketing and Finance curriculum is designed to encourage students to pursue successful careers as an entrepreneur in business, marketing, and finance. Students will gain a basic understanding of business concepts including international business, consumer rights, business and operations management, financial planning, and marketing communications. This course will increase students' knowledge and skills that are utilized within business as it relates to a global society.

## **Fundamentals of Human Resources Management**

<b>Course Code</b>	5093
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Fundamentals of Human Resource Management is designed to provide students with a basic understanding of the primary functions of human resources management to include recruitment, selection, training and development, compensation, and evaluation.

## **Fundamentals of Project Management**

<b>Course Code</b>	5480
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

The Fundamentals of Project Management curriculum is designed to introduce students to processes of initiating, planning/executing, monitoring/controlling, and closing projects. Students will learn the ten knowledge areas of Project Management - integration, scope, schedule, cost, quality, resources (human and physical), communication, risk, procurement and stakeholder management; through projects, simulations, and work-based scenarios. Successful completion of this course will lead toward Certified Associate in Project Management certification by PMI®.

## **Global Business**

<b>Course Code</b>	5032
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Global Business provides a basic understanding of global business operations to prepare students for an increasingly global future. Students gain an understanding of global trade, international and political culture, legal issues, finance, distribution, and marketing.

## **Google Applications**

<b>Course Code</b>	5007
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Google Applications will build on skills beyond the traditional introduction of computer concepts by incorporating technologies using emerging productivity applications for creativity, collaboration, and critical thinking. Using Google applications, students will complete real world student-centered activities, projects, and collaborative works.

## **Image Editing**

<b>Course Code</b>	5340
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Fundamentals of Computing or Digital Multimedia and any Digital Literacy course

Image editing tools are used by industry professionals to edit and enhance most images presented in magazines, newspapers, and other media. Image Editing is designed to provide students with the knowledge and skills needed to master image manipulation and photographic retouching. Students will explore the technical and artistic aspects of image editing by creating images to be used in various types of media. Successful completion of this course will prepare the student for industry certification.

## **Image Editing 2 (Course will be phased out July 2020)**

<b>Course Code</b>	5341
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Image Editing 1

Image Editing 2 is designed to provide the student with advanced and in-depth knowledge and skills necessary for utilizing digital imaging software to edit and design images, web graphics, animation, and video. Successful completion of this course will prepare the student to take industry certification test(s).

## **Integrated Business Applications 1**

<b>Course Code</b>	5020
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding skills focused on touch typing, formatting, and production rate, for example Keyboarding, or successful completion of state keyboarding proficiency exam.

Integrated Business Applications 1 provides in-depth instruction in Microsoft (MS) Office applications that will lead to national certifications. The applications covered include MS Word, MS Excel, MS PowerPoint, and Microsoft (MS) Access (optional). Students will learn the features and benefits of the application program and apply their knowledge in various problem-based activities. In addition, students are engaged in applying key critical thinking skills and the practice of ethical and appropriate behavior for the responsible use of technology. This course prepares students for the Microsoft Specialist Associate certifications offered by Certiport.

## **Integrated Business Applications 2**

<b>Course Code</b>	5021
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Integrated Business Applications 1 (IBA 1)

Integrated Business Applications 2 is designed to provide advanced instruction in Microsoft Office applications that will lead to Core and Expert national certifications. The applications covered include advanced levels of MS Word, MS Excel, MS PowerPoint, and MS Access. Students will learn the features and benefits of the application programs and apply their knowledge in various problem-based and critical thinking activities. This course prepares students for the Microsoft Specialist Expert certifications offered by Certiport.

## **Logistics and Business Processes**

**(name change Global Logistics and Business Processes effective 2019–20/Phasing out July, 2021)**

<b>Course Code</b>	5482
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Integrated Business Applications 1 (IBA 1)

For a business, logistics means having the right thing, at the right place, at the right time. Global Logistics and Business Processes spans the complete order to cash lifecycle and gives students an overview of the processes involved in order management from its inception to its fulfillment. Students will learn about fundamental logistics concepts and processes including defining items and customers, entering and processing orders, inventory and warehouse operations, shipping and RFID technology, pricing and invoices, and payment processing. Students will have online access to Oracle’s virtual company, Vision Enterprises, enabling them to carry out the practices using the same software used by many companies around the world today. Assuming the roles of managers and employees of Vision Enterprises, students will enter new customers and items to the system and understand how inventory is ordered, stored, shipped, and replenished.

## **Principles of Digital Technology**

<b>Course Code</b>	5270
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Principles of Digital Technology introduces digital citizenship and basic concepts in computer and information technology, including computer hardware, software, Internet, and network systems. Upon successful completion of this course, a student should be able to successfully enter any one of the Information Technology Cluster majors and be prepared to take the Certiport’s Internet and Computing Core Certification IC<sup>3</sup> Certification test. Individuals who currently hold or are pursuing IC<sup>3</sup> certification may apply for college credit through the American Council on Education (ACE) member institutions.

## **Professional and Leadership Development**

<b>Course Code</b>	5178
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	.5 (60 hours) or 1(120 hours)
<b>Prerequisite</b>	None

The purpose of Professional and Leadership Development is to help students develop leadership skills necessary for success in business and industry. Concepts for the course include goal setting, motivation, team building, time management, problem solving, conflict resolution, communication, ethics, and diversity.

## **Virtual Enterprise 1, 2, 3, 4**

<b>Course Code</b>	5150, 5151, 5152, 5153
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Successful completion of a business or computer-related course

The Virtual Enterprise program allows students to experience all areas of management of a business within a simulated environment. Students assume positions in accounting, management, information technology, legal, human resources, marketing, insurance, and business finance. Working collaboratively, students run simulated businesses in their schools as well as engage in virtual trading with other virtual businesses. The program provides students with opportunities to participate in-school work experience that will develop college and career ready skills. Opportunities to participate in organized competitions on local, state, and national levels are integral to the course.

**Business Management and Administration Internship  
(name change effective 2019–20), Work-Based Credit**

<b>Course Code</b>	5490
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1(120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses within a program

Business Management and Administration Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

## Education and Training

### Child Development 1

<b>Course Code</b>	5800
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Child Development 1 focuses on the physical, social, emotional, and cognitive growth and development of children. Emphasis is placed on helping students acquire knowledge and skills essential to the care and guidance of children. Students learn to create environments that promote optimal development. Factors influencing a child's development from conception through childhood are explored. Opportunities for service and project-based learning are incorporated throughout the course. Integration of the Family and Consumer Sciences student organization, Family, Career and Community Leaders of America (FCCLA), greatly enhances this curriculum.

### Child Development 2

<b>Course Code</b>	5801
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Child Development 1

Child Development 2 is a specialized course that provides students with knowledge and skills related to children's growth and development. Students are equipped to develop positive relationships with children and effective care giving skills. Emphasis is on promoting the well-being and healthy development of children and strengthening families in a diverse society. Opportunities to investigate careers related to the care and education of children are provided. Observations, job shadowing, and service learning experiences are encouraged. This course builds on skills and information introduced in Child Development 1. Skills acquired in Child Development 1 and 2 provide a foundation for further studies and employability in Childcare and Early Childhood Education. Critical thinking and practical problem-solving are emphasized in a co-curricular approach that incorporates principles of mathematics, science, writing, and communications. Integration of the Family and Consumer Sciences student organization, Family, Career and Community Leaders of America (FCCLA), greatly enhances this curriculum.

## Early Childhood Education 1

<b>Course Code</b>	5700
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	None

Early Childhood Education 1 is designed to provide students with hands-on opportunities to actively explore and observe the world of children and prepare them for educational and administrative careers in the field. This course provides an in-depth study of career paths, developmentally appropriate practices, curriculum development, safe and healthy learning environments, and collaborative relationships. Participation in student organizations, Educators Rising (former Future Educators Association) and/or Family, Career and Community Leaders of America (FCCLA) greatly enhance the learning experience.

## Early Childhood Education 2

<b>Course Code</b>	5701
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	Early Childhood Education 1

Early Childhood Education 2 is an advanced course focusing on the competencies needed to plan, guide, and care for young children in a safe, healthy, and developmentally appropriate environment. Students can acquire certification in pediatric safety, cardiopulmonary resuscitation (CPR), and first aid. Students interact with professionals in the field and participate in various work-based learning activities. Student laboratory/field experiences may be school based or in the community and include job shadowing and internships. This course may be taken for dual credit or may be articulated to local technical colleges (ECD 135: Health, Safety, and Nutrition; ECD 101: Introduction to Early Childhood Development). Students who successfully complete ECD 101 will be eligible for the South Carolina Early Childhood Credential. Participation in student organizations Educators Rising (former Future Educators Association) and/or Family, Career and Community Leaders of America (FCCLA) greatly enhance the learning experience.

## **Introduction to Early Childhood Education**

<b>Course Code</b>	5702
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Introduction to Early Childhood Education is designed as an introduction of skills required for a career in the care, education, and administration of programs for young children. Students will develop skills in areas including career paths, developmentally appropriate practices, safe and healthy learning environments, and collaborative relationships. Academics and employability skills are integrated throughout the course. Units from this course could be applied to education and training, health sciences, business, and human services clusters. Participation in student organizations Educators Rising (former Future Educators Association) and/or Family, Career and Community Leaders of America (FCCLA) greatly enhance the learning experience.

## **Introduction to Teaching 1**

<b>Course Code</b>	5703
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	None

Introduction to Teaching 1 is designed to prepare students for employment and/or postsecondary opportunities in the education field. The program provides instruction in the teaching profession, communication skills, human growth and development, planning and instructional strategies, and school-societal relationships. Technology is integrated throughout the course work. Participation in student organizations Educators Rising (former Future Educators Association) and/or Family, Career and Community Leaders of America (FCCLA) greatly enhance the learning experience.

## Introduction to Teaching 2

<b>Course Code</b>	5704
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	Introduction to Teaching 1

Introduction to Teaching 2 is an advanced level course that builds on skills developed in Introduction to Teaching Level 1. Students develop a higher level of proficiency through authentic learning experiences. Students plan engaging lessons, enhance communication and presentation skills, explore school-societal relationships, and exhibit professionalism. Technology is integrated throughout the course work. Participation in student organizations Educators Rising (former Future Educators Association) and/or Family, Career and Community Leaders of America (FCCLA) greatly enhance the learning experience.

## Dual Credit CTE Teacher Cadet

<b>Course Code</b>	5705
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1(120 hours)
<b>Prerequisite</b>	Completion of ECE 1 and 2 <b>or</b> Intro to Teaching 1 and 2 <b>and</b> satisfy the requirements for enrollment in the Teacher Cadet program

The Teacher Cadet Program uses an innovative approach designed to attract talented young people to the teaching profession through a challenging introduction to teaching. The program seeks to provide high school students with insight into the nature of teaching, the problems of schooling, and the critical issues affecting the quality of education in America's schools. The curriculum for the CTE Dual Credit Teacher Cadet Course and the curriculum for Dual Credit Teacher Cadet are the same.

**Note:** The Teacher Cadet – CTE course code should only be used as a part of a CTE Completer program.

**Education and Training Internship**  
**(name change effective 2019–20), Work-Based Credit**

<b>Course Code</b>	6390
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

Education and Training Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course.

<b>Middle School - Finance</b>
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**Financial Literacy (Will not receive high school credit beginning 2019-20)**

<b>Course Code</b>	2705
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	None
<b>Prerequisite</b>	None

Financial Literacy is designed to introduce the student to basic financial literacy skills to help them make responsible financial decisions. Concepts covered include financial planning, bank accounts, credit and loans, wages and taxes, investments, and insurance. Students will gain the information and skills to implement a life-long plan for financial success.

## High School - Finance

### Accounting 1

<b>Course Code</b>	5001
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of Algebra I <b>or</b> equivalent with a grade of C or better <b>and/or</b> accounting instructor approval.

Accounting 1 is designed to help the student develop an understanding of the concepts, principles, and practices necessary in the preparation and maintenance of financial records concerned with business management and operations. Students are exposed to the accounting cycle, cash control systems, payroll, and careers in accounting.

### Accounting 2

<b>Course Code</b>	5005
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Accounting 1 with minimum grade of C or better <b>and/or</b> instructor approval.

Accounting 2 provides advanced skills that build upon those acquired in Accounting 1. Students continue applying accounting concepts related to business entities. Additional accounting skills will be developed, including preparing and journalizing payroll records, calculating and recording adjusting entries, and interpreting financial information. The student will demonstrate knowledge of accounting principles through the use of computer software and simulated activities.

## **Banking Services**

<b>Course Code</b>	5271
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Banking Services is designed to offer a unique approach to understanding the banking services. It provides an introduction to banking services and functions, history and purpose of banking, money and interest, deposits in banking, negotiable instruments, bank loans, mortgages, specialized bank services, promoting the bank, security and ethics, and careers in banking.

## **Business Finance**

<b>Course Code</b>	5273
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Accounting I

Business Finance is designed to provide students with an understanding of how corporations, organizations, and businesses handle money. Concepts include the management of money, accounting methodologies, investing strategies, and effective financial management.

## **Financial Math (phasing out July 2020)**

<b>Course Code</b>	5281
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Financial Math empowers students to become college and career-ready by offering multiple opportunities to use, construct, analyze, and respond to financial situations. Incorporating decision-making skills and hands-on activities, students become wise and knowledgeable consumers, savers, investors, users of credit, and money managers.

## Insurance and Risk Management

<b>Course Code</b>	5275
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Personal Finance

Insurance is designed to introduce the student to the basic elements of the insurance industry: auto, renters and homeowner's, health, life, disability and long-term care, and other personal and commercial insurance coverages. Career opportunities in the insurance industry will also be discussed. Upon completion of the course, the student will have a background and licensure to seek an entry-level position in the insurance industry.

## Personal Finance

<b>Course Code</b>	5131
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Personal Finance introduces students to the fundamentals of personal finance, which include budgeting, credit and lending processes, maintaining accounts, evaluating investments, managing financial risk, computing taxes, and analyzing the basic elements of finance. Students will be exposed to the tools and knowledge to make sound financial decisions for life.

## Securities and Investments

<b>Course Code</b>	5277
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Business Finance <b>or</b> Personal Finance

Securities and Investments prepares students to make intelligent investment decisions based on their personal financial needs (or on the needs of a business). Students will describe and abide by laws and regulations in order to manage business operations and transactions in the securities industry: access, process, maintain, evaluate, and disseminate information to assist in making decisions common to the securities industry; and monitor, plan, and control day-to-day securities organization activities to ensure continued business functions. Topics include the analysis of stocks, dividends, hedge funds, venture capital, bonds, mutual funds, real estate, precious metals, gems, collectibles, and futures/options markets.

**Finance Internship**  
**(name change effective 2019-20), Work-Based Credit**

<b>Course Code</b>	6190
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

Finance Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

<b>Middle School - Health Science</b>
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**Introduction to Health Professions**

<b>Course Code</b>	2839
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Introduction to Health Professions provides students with an introduction to many healthcare careers and the safety procedures and interpersonal communication skills required for them. The course will enable students to receive initial exposure to healthcare skills; attitudes applicable to healthcare including the concepts of health, wellness, and preventative care; and responsibilities of today's healthcare provider. Mastery of skills through project-based learning, technical skills practice, and group activities will provide students with an opportunity to decide if they want to continue this course of study in high school and/or at a post-secondary institution. Students will be introduced to the five career pathways developed by the National Consortium on Health Science Education (NCHSE): therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

## High School - Health Science

### Emergency Medical Services 1

<b>Course Code</b>	5531
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	None

Emergency Medical Services (EMS) 1 is the first in a sequence of courses. This course is designed to teach students how to recognize and respond to various emergencies. Students will review basic anatomy and physiology as it relates to injury management and treatment. Students will review basic information needed for all phases of a healthcare professional. Information that students are exposed to will include legal and ethical implications, communications, safety, infection control and professionalism. In this course students will learn what skills are necessary to recognize and care for emergencies in adults, children, and infants until professional medical help arrives. Students will obtain First Aid/Cardiopulmonary Resuscitation/Automated External Defibrillator (FA/CPR/AED) certification. Students will be required to perform light physical activity.

### Emergency Medical Services 2

<b>Course Code</b>	5532
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Successful completion of Emergency Medical Services (EMS) 1

EMS 2 is the second in a sequence of courses. This course is a continuation of EMS 1. The course includes content and skills that first responders need, to provide appropriate initial care, regardless of the type of emergency. EMS 2 stresses the steps to follow in an emergency until more advanced medical personnel arrive. The skills and content taught at this level become more specific and rigorous. Students in this course will be certified in FA/CPR/AED if not certified before course attendance. Recertification may take place as needed.

\*Successful completion of this course *may* result in First Responder certification available through various national certifying bodies.

### Emergency Medical Services 3

<b>Course Code</b>	5533
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	12
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	Completion of Emergency Medical Services (EMS) 1 and 2 courses with a grade of 75% or better <b>and</b> successful completion of Health Science 3 (or it's substitute) Student must also meet admission requirements of the participating local technical college, if student is dually enrolled.

Emergency Medical Technician-Basic (EMT-B)/EMS 3 serves as an entry-level course in professional health careers. EMT-B is a solid foundation for further study in prehospital care (intermediate and paramedic) nursing, physical and occupational therapy, and premedical studies. EMT-B/EMS 3 provides the student with the knowledge and skills for the emergency medical field, responsibilities, first aid measures, and use of emergency equipment. The course may be offered as a dual-enrollment course with the local technical college or may be offered on a high school campus with a DHEC (Department of Health and Environmental Control) approved EMT-B instructor. Students may take the course and sit for the exam while a senior and at least 17 years old. After the student's 18<sup>th</sup> birthday and successful completion of both the practicum and the theoretical National Registry examination for EMT-B, the student will be nationally registered and state certified in South Carolina. National registry card expires in two years and state certification expires every three years.

### Health Informatics 1: Data Use (Phasing Out June 2021)

<b>Course Code</b>	5505
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9-12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Health Informatics 1 is an Advanced Career foundational course that focuses on the use of data and databases within the health field. Students explore the following questions using project-based and problem-based scenarios. What are data? What are the sources of data in the medical and health informatics fields? How can we use data? How do we make sense of data? How may we apply data to our own lives? Students interact with professionals in the health informatics field through interviews or on-site and/or virtual field trips.

## **Health Informatics 2: Transforming Data into Information (Phasing Out June 2021)**

<b>Course Code</b>	5506
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10-12
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	Health Informatics 1

Health Informatics 2 is an Advanced Career course, students study ways to use data to address both patient and industry needs in the health-care field. Students use software such as Microsoft Access, Excel and Balsamiq to collect and analyze data, develop a health-care registry, create a mobile app mockup and develop forms and systems to solve health-care problems. The following questions are addressed through project or problem-based scenarios: How can technology and analysis create better information to inform better decisions? How can we use technology tools to create information from data? How can we use technology to improve public and individual health? How can we use technology to protect patient privacy?

## **Health Informatics 3: Transforming Information into Knowledge (Phasing Out June 2021)**

<b>Course Code</b>	5507
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Health Informatics 2

Health Informatics 3 is an advanced course that allows students to make improvements in the health-care field by designing solutions using the information, knowledge and technology tools available to health informatics professionals. Students are engaged in the following activities: building a system of sharing information among health-care facilities; using social media tools to reduce diseases in foreign countries; exploring voice recognition software; using a motion-based video gaming console for rehabilitation; and exploring clinical decision rules for improving patient care.

## Health Informatics 4: Problems and Solutions (Phasing Out June 2021)

<b>Course Code</b>	5508
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	12
<b>Credits</b>	1 (120 hours) or 2 (240 hours) based on addition of a certification course
<b>Prerequisite</b>	Health Informatics 3

Health Informatics 4 is an Advanced Career course, students study and design solutions to problems facing health-care systems. Students explore the following questions through project or problem based scenarios: How can the health-care system work more efficiently and economically? How do we address health-care issues in rural locations? How can various community organizations work together to improve the health of the community? Students interact with professionals in the health informatics field through interviews or on-site and /or virtual field trips.

## Health Science 1

<b>Course Code</b>	5550
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite or Co-requisite</b>	Biology 1

Health Science 1, Foundations of Healthcare Professions, is an introductory course designed to provide students with an overview of the career clusters in the fields of health care. **Course** Upon completion of this course proficient students will be able to identify careers in these fields, compare and contrast the features of healthcare systems and begin to provide foundational health care skills. This course will serve as a foundation for all Health Science programs of study. This course is designed for students in grades 9-12. Students must have completed Biology 1 or be enrolled concurrently in Biology 1 to take this course. The skills and knowledge that students learn in Health Science 1 serve to prepare them for future clinical experiences such as job shadowing or internships as they advance through the Health Science courses. To advance to Health Science 2, students must achieve a score of 75% or higher in Health Science 1.

## Health Science 2

<b>Course Code</b>	5551
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Health Science 1

Health Science 2, Advanced Healthcare Applications, course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development. Upon completion of this course proficient students will be able to build on foundational standards from Health Science 1 and incorporate patient care skills learned within a classroom setting. Students will also become CPR certified. This course is for students in grades 10-12. Students enrolled in this course must have successfully completed Health Science 1 with a grade of 75% or higher. Furthermore, students are required to job shadow in a health-related field experience that will connect to real-world experience in the healthcare industry.

## Health Science 3

<b>Course Code</b>	5552
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Biology 1 <b>plus</b> Health Science 1 <b>or</b> Sports Medicine 1 <b>plus</b> Cardiopulmonary Resuscitation (CPR) Certification <b>and</b> First Aid (FA) Training

Health Science 3, Human Structure Function and Disease, acquaints students with basic anatomy and physiology of the human body. Students learn how the human body is structured and the function of each of the 12 body systems. Students will study the relationship that body systems have with disease from the healthcare point of view. This is a very “hands on” course and students will learn through projects and activities in the classroom. Skill procedures and foundation standards are reviewed and integrated throughout the program. Job shadowing is encouraged. This course does not count as a lab science.

## Health Science Clinical Study

<b>Course Code</b>	5560
<b>Recommended Maximum Enrollment</b>	16
<b>Grade Level</b>	12
<b>Credits</b>	1 (120 hours), 2 (240 hours)

<b>Course Code</b>	5560
<b>Prerequisite</b>	Be a completer in any health science pathway with grades of 75% or higher or be a concentrator with grades of 75% or higher and substitute the 3rd unit (Science Dept. Anatomy & Physiology (A&P) <b>or</b> Advanced Placement (AP) biology) <b>plus</b> Basic Life Support (BLS) Cardiopulmonary Resuscitation (CPR) certification.

Health Science Clinical Study is a course that guides students to make connections from the classroom to the healthcare industry through clinical experiences/activities. This course is designed to provide for further development and application of knowledge and skills common to a wide variety of healthcare professions. The students in this course will build on all information and skills presented in the previously required course foundation standards. The students will relay these skills into real-life experiences. The student, teachers, and work-based learning coordinators will work together to create opportunities for the students to get the best experience available in the districts geographic region. **Students in this course must be BLS Healthcare Providers CPR certified and HIPAA trained before participating in any healthcare experience outside of the classroom. OSHA Safety Training – Healthcare certification is highly recommended.**

## Medical Billing and Coding

<b>Course Code</b>	5584
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	12
<b>Credits</b>	1 (120 hours), 2 (240)
<b>Required Prerequisite</b>	Be a completer in any Health Science Pathway <b>or</b> be a concentrator with the substitute for the 3 <sup>rd</sup> unit (Science Dept. A & P or AP Biology) <b>plus</b> Basic Life Support (BLS) Cardiopulmonary Resuscitation (CPR) certification.

Medical Billing and Coding will prepare students to sit for a national certification in insurance coding. Students in this course will further their knowledge of foundational standards in medical law and ethics, professionalism, medical terminology and anatomy and physiology. This course includes an introduction to International Classification of Diseases (ICD) -10 and ICD/Current Procedural Terminology (CPT). The student may be required to use computer medical software to navigate this course and meet the required objectives. Students interested in this course should have an interest in healthcare, science and technology but may not necessarily want to have “hands – on” patient care. This certification may be obtained through Kaduceus or National Health Career Association (NHANOW).

## Medical Terminology

<b>Course Code</b>	5540
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Will vary by school district

Medical terminology is designed to develop a working knowledge of the language of health professions. Students acquire word-building skills by learning prefixes, suffixes, roots, combining forms, and abbreviations. Utilizing a body systems approach, students will define, interpret, and pronounce medical terms relating to structure and function, pathology, diagnosis, clinical procedures, and pharmacology. Students will use problem-solving techniques to assist in developing an understanding of course concepts. In addition to traditional classroom instruction, Medical Terminology may be offered as a dual enrollment, virtual, online, or independent study course.

## Pharmacology for Medical Careers

<b>Course Code</b>	5570
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Be a completer in any Health Science Pathway <b>or</b> be a concentrator with the substitute for the third unit (Science Dept. Anatomy & Physiology or Advanced Placement Biology) <b>plus</b> Basic Life Support (BLS) Cardiopulmonary Resuscitation (CPR) certification or its substitute, to enroll in this course.

Pharmacology for Medical Careers/Pharmacy Technology is designed to expose students to pharmacy careers and benefit from pharmacology, math, and science standards included in this course. Teachers are encouraged to arrange student work-based learning opportunities in pharmacies for practical experience. At the end of this program a student may sit for the national exam to become a national certified pharmacy technician. The cost of the program is usually around \$300 per student. We have two programs listed that offer the training – PassAssured and Kaduceus. The program prepares students to sit for the Pharmacy Technician Certification Board (PTCB) examination or the examination offered by the National Healthcareer Association (ExCPT). (NHANOW)

## PLTW-Principles of Biomedical Sciences

<b>Course Code</b>	5580
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Teacher Recommendation

Principles of Biomedical Sciences is a foundation course for the Project Lead the Way (PLTW) Biomedical Sciences program for high school students. This course provides an introduction to the biomedical sciences through exciting hands-on projects and problems. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. They determine the factors that led to the death of a fictional person, and investigate lifestyle choices and medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, medicine, research processes and bioinformatics. Key biological concepts including homeostasis, metabolism, inheritance of traits, and defense against disease are embedded in the curriculum. Engineering principles including the design process, feedback loops, and the relationship of structure to function are also incorporated.

## **PLTW-Principles of Biomedical Sciences**

This course is designed to provide an overview of all the courses in the Biomedical Sciences program and lay the scientific foundation for subsequent courses.

## **PLTW-Human Body Systems**

<b>Course Code</b>	5581
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Successful completion of Principles of Biomedical Science or Teacher Recommendation

Human Body Systems is a foundation course for the Project Lead the Way (PLTW) Biomedical Sciences programs for high school students. Students examine the interactions of body systems as they explore identity, communication, power, movement, protections, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.

## **PLTW-Medical Interventions**

<b>Course Code</b>	5582
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Human Body Systems and Principles of Biomedical Science

Medical Interventions is a foundation course for the Project Lead the Way (PLTW) Biomedical Sciences program for high school students. In the Medical Interventions course, students will investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. A “How-To” manual for maintaining overall health and homeostasis in the body, the course will explore how to prevent and fight infection, how to screen and evaluate the code in our deoxyribonucleic acid (DNA), how to prevent, diagnose and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios, students will be exposed to the wide range of interventions related to Immunology, Surgery, Genetics, Pharmacology, Medical Devices, and Diagnostics. Each family case scenario will introduce multiple types of interventions and will reinforce concepts learned in the previous two courses, as well as present new content. Interventions may range from simple diagnostic tests to treatment of complex diseases and disorders. These interventions will be showcased across the generations of the family and will provide a look at the past, present and future of biomedical science. Lifestyle choices and preventive measures are emphasized throughout the course as well as the important role scientific thinking and engineering design play in the development of interventions of the future.

## **PLTW-Biomedical Innovation**

<b>Course Code</b>	5583
<b>Recommended Maximum Enrollment</b>	24
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Principles of Biomedical Sciences (PBS), Human Body Systems (HBS), and Medical Interventions

Biomedical Innovation is the capstone course for the Project Lead the Way (PLTW) Biomedical Sciences program for high school students. Students design innovative solutions for the health challenges of the 21st century. They work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering and public health. They have the opportunity to work on an independent project with a mentor or advisor from a university, hospital, research institution, or the biomedical industry.

## **Practical Nursing, Phase 1**

<b>Course Code</b>	5520
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	12
<b>Credits</b>	2 (240 hours)
<b>Prerequisite</b>	Passing score on the Nurse Entrance Exam (NET) Health Science 1 & 2 plus First Aid and Basic Life Support (BLS) Cardio Pulmonary Resuscitation (CPR) certification

Practical Nursing programs are approved by the South Carolina Department of Labor, Licensing and Regulation, Board of Nursing. The programs are provided support by the South Carolina Department of Education, Office of Career and Technology Education, Health Science Technology Education. These practical nursing programs are eighteen months courses of study, consisting of two nine month segments (Phase I and Phase II) that correspond with the public school calendar. Classes begin annually in August and end in May. Generally career center or high school Phase I students attend classes all morning each day. Most programs are articulated with a technical college to offer Phase II to these students upon graduation. See standards for details. The goal of the practical nurse pathway is to provide quality nursing education, incorporating professional work ethics, to meet the changing needs of healthcare.

## Sports Medicine 1

<b>Course Code</b>	5555
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 unit (120 hours), 2 units (240 hours)
<b>Prerequisite or Co-requisite</b>	None; varies by school district

Sports Medicine 1 emphasizes sports medicine career exploration and the prevention of athletic injuries, including the components of exercise science, kinesiology, anatomy, principles of safety, first aid, Cardio Pulmonary Resuscitation (CPR), and Automatic External Defibrillator (AED) use. Subject matter also includes legal issues, members of the sports medicine team, nutrition, protective sports equipment, environmental safety issues, principles of taping and wrapping, mechanisms of injury, and application of other sports medicine concepts. Students interested in healthcare careers in athletic training, physical therapy, medicine, exercise physiology, nursing, biomechanics, nutrition, psychology, and radiology will benefit from this course.

## Sports Medicine 2

<b>Course Code</b>	5556
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 unit (120 hours), 2 units (240 hours)
<b>Prerequisites</b>	Required successful completion of Sports Medicine 1, <b>plus</b> Cardio Pulmonary Resuscitation (CPR) <b>and</b> first aid (FA) certification. Also <i>recommended</i> but not required: Health Science 3 <b>or</b> its substitute (Medical Terminology, Project Lead the Way (PLTW) Human Body Systems, Science department Anatomy and Physiology, Advanced Placement (AP) Biology).

Sports Medicine 2 emphasizes the recognition and care of common injuries and illnesses sustained by a physically active population. Subject matter will include discussion of specific conditions and injuries that may be experienced by individuals participating in athletic activities. In addition, the concepts of therapeutic modalities and exercise in the care of injuries will be examined. A focus on deeper understanding of body systems and common pathologies will be included. Concepts related to the administrative aspects of the sports medicine program will also be covered. Students will apply legal and ethical principles through real-world scenarios in various sports medicine settings. Other career roles in sports medicine will be discussed as the Athletic Trainer takes the injured athlete through the pathway of recovery.

## Sports Medicine 2

**Course Code** 5556

## Sports Medicine 3

<b>Course Code</b>	5557
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	12
<b>Credits</b>	1 unit (120 hours), 2 units (240 hours)
<b>Prerequisites</b>	Required successful completion of Sports Medicine 1 and 2 with a grade of 75 or higher <b>plus</b> Basic Life Support (BLS) certification. It is strongly recommended that students successfully complete Medical Terminology, Health Science 3, <b>or</b> Anatomy and Physiology prior to this course.

Sports Medicine 3 emphasizes the student's ability to apply concepts from previous Sports Medicine course work to real-world situations and scenarios. A priority will be placed on understanding the current research and evidence based practices affecting the practice of Sports Medicine professionals. Students will develop policies, procedures, and guidelines based on these aspects, as well as explore detailed treatment and rehabilitation procedures for common athletic injuries. Students are expected to participate in clinical situations either at school with their athletic department or in an outside clinical setting for real world experience.

**Health Science Internship**  
**(name change effective 2019–20), Work-Based Credit**

<b>Course Code</b>	5590
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 unit (120 hours)
<b>Prerequisite</b>	Successful completion of two Health Sciences courses <b>plus</b> Cardiopulmonary Resuscitation (CPR) <b>and</b> First Aid (FA) certification.

Health Science Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

**Sports Medicine Internship**  
**(name change effective 2019–20), Work-Based Credit**

<b>Course Code</b>	5591
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 unit (120 hours)
<b>Prerequisite</b>	Successful completion of two Sports Medicine courses <b>plus</b> Cardiopulmonary Resuscitation (CPR) <b>and</b> First Aid (FA) certification.

Sports Medicine Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

## Hospitality and Tourism

### Baking and Pastry

<b>Course Code</b>	5723
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	None

Baking and Pastry for high school students is a course that provides students an opportunity to develop foundational skills needed for a seamless transition to a postsecondary program, workforce, or military. Students will develop advanced skills in safety and sanitation in addition to management and professionalism. Specialized content includes units on formulas and techniques, basic baking principles, specialized dietary baking, breads, desserts and pastries, and advanced techniques for specialty cakes, confections, piping, plate presentation, and flavor pairing. Concepts are aligned with competencies from the American Culinary Federation (ACF) Education foundation assessment, ACF Retail Commercial Baking Certification. Integration of the Family and Consumer Sciences student organization, Family Career and Community Leaders of America (FCCLA) provides leadership and entrepreneurship experiences. Participation in the career & technology organization SkillsUSA provides the students an opportunity to compete and display professional baking techniques.

### Culinary Arts Management 1

<b>Course Code</b>	5720
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	None

Culinary Arts Management 1 prepares students for gainful employment and/or entry into postsecondary education in the food production and service industry. Content provides students the opportunity to acquire marketable skills by examining both the industry and its career opportunities. Laboratory experiences simulate commercial food production and service operations. Integration of the Family and Consumer Sciences student organization, Family Career and Community Leaders of America (FCCLA) provides leadership and entrepreneurship experiences. Participation in the career & technology organization SkillsUSA provides the students an opportunity to compete and display professional baking techniques.

## Culinary Arts Management 2

<b>Course Code</b>	5721
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	Culinary Arts 1

Culinary Arts Management 2 is an advanced level course that prepares the serious culinary student for gainful employment and/or entry into postsecondary education. Content provides students the opportunity to acquire marketable skills by examining both the industry and its career options. Students have opportunities to develop skills in workplace settings. Integration of the Family and Consumer Sciences student organization, Family Career and Community Leaders of America (FCCLA) provides leadership and entrepreneurship experiences. Participation in the career & technology organization SkillsUSA provides the students an opportunity to compete and display professional baking techniques.

## Event and Entertainment Management

<b>Course Code</b>	5475
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Hospitality and Tourism Management, Introduction to Culinary Arts Management, <b>or</b> Culinary Arts Management 1

Create magic and memories...Event and Entertainment Management familiarizes students with management techniques and strategies for successful planning, promotion, and implementation of special events that result in extraordinary and memorable experiences. Students will learn the basics about what it takes to add the “WOW factor” for customers whether the event is a sporting event, corporate event, family reunion, cruise, wedding, party, etc. Students will engage in project- and problem-based learning opportunities for event evaluation, direct observation of, and hands-on involvement in the planning and staging of special events. Students are encouraged to participate in extended learning experiences such as career and technical student organizations (FCCLA and/or DECA) and other leadership or extracurricular organizations to enhance their learning.

## **Introduction to Culinary Arts Management**

<b>Course Code</b>	5722
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Introduction to Culinary Arts Management provides students with an overview of interest, aptitude, and technical skills to provide foundational skills and knowledge for Culinary Arts 1 and/or the food service industry. Integration of the Family and Consumer Sciences student organization, Family Career and Community Leaders of America (FCCLA) provides leadership and entrepreneurship experiences. Participation in the career & technology organization SkillsUSA provides the students with the opportunity to compete and display professional baking techniques.

## **Introduction to Hospitality and Tourism Management**

<b>Course Code</b>	5478
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Hospitality + you = unimaginable opportunities. Introduction to Hospitality and Tourism Management explores the nature, concepts and impact of the hospitality and tourism industry. This course focuses on foundational information about the hospitality and tourism industry and provides opportunities for students to get a taste of what hospitality and tourism is all about. Course content includes: career exploration, employability and career development skills, guest satisfaction, safety, security and environmental practices, the history of the hospitality industry, and the hospitality and tourism segments. Students are encouraged to participate in extended learning experiences such as career and technical student organizations (FCCLA and/or DECA) and other leadership or extracurricular organizations to enhance their learning.

## Lodging Management

<b>Course Code</b>	5473
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Hospitality and Tourism Management

There's no dodging the lodging! So, check-in for a five star experience! Lodging Management is the study of the lodging industry's history, growth, development and future direction. Students will learn what it takes to provide ideal guest experiences from a management perspective. The course covers front office procedures and interpersonal dynamics from reservations through night audit. Students are encouraged to participate in extended learning experiences such as career and technical student organizations (FCCLA and/or DECA) and other leadership or extracurricular organizations to enhance their learning experiences.

## Travel and Tourism Management

<b>Course Code</b>	5474
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Hospitality and Tourism Management

Discover the world one adventure at a time! Travel and Tourism Management incorporates management principles and procedures of the travel and tourism industry as well as destination geography, airlines, international travel, cruising, travel by rail, lodging, recreation, amusements, attractions, and resorts. Employment qualifications and opportunities are also included in this course. Students are encouraged to participate in extended learning experiences such as career and technical student organizations (FCCLA and/or DECA) and other leadership or extracurricular organizations.

**Hospitality and Tourism Internship**  
**(name change effective 2019-20), Work-Based Credit**

<b>Course Code</b>	5190
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

Hospitality and Tourism Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

<b>Human Services</b>
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**Barber/Master Hair Care 1, 2, 3, 4**

<b>Course Code</b>	6158, 6159, 6160, 6161
<b>Required Maximum Enrollment</b>	20 students per class period
<b>Grade Level</b>	11, 12
<b>Credits/Hours</b>	8 units/1000 hours <b>plus</b> 540 academic hours required by South Carolina Labor, Licensing and Regulation (SCLLR)
<b>Prerequisite</b>	Courses should be taken sequentially; Barber/Master Hair Care 2 – Pass Barber/Master Hair Care 1 with a minimum of a 70 average and a minimum of 250 clock hours; Barber/Master Hair Care 3 – Pass Barber/Master Hair Care 2 with a minimum of a 70 average and a minimum of 500 clock hours; Barber/Master Hair Care 4 – Pass Barber/Master Hair Care 3 with a minimum of a 70 average and a minimum of 750 clock hours

The Barber/Master Hair Care Specialist Program is designed to prepare students to become Registered Barbers or Master Hair Care Specialists. The student receives training following the guidelines and regulations established by the South Carolina Labor, Licensing, and Regulation (SCLLR) Barber Board. Students will perform techniques and arts such as hair cutting and styling, facial treatments, trimming and shaving of facial hair, chemical hair relaxing, tinting, coloring, shampooing, and rinsing. Instruction in chemistry, bacteriology, and anatomy and physiology of the face, head, arms, and hands is incorporated by means of theory and practical application on both mannequins and live models. Also included in the course of study is barber shop/salon planning and management. The use of four course codes is highly recommended for this program.

## Cosmetology 1, 2, 3, 4

<b>Course Code</b>	6150, 6151, 6152, 6153
<b>Required Maximum Enrollment</b>	20 students per class period
<b>Grade Level</b>	11, 12
<b>Credits/Hours</b>	8 units/1000 hours <b>plus</b> 540 academic hours required by South Carolina Labor, Licensing and Regulation (SCLLR)
<b>Prerequisite</b>	Courses should be taken sequentially; Cosmetology 2 – Pass Cosmetology 1 with a minimum of a 75 average and a minimum of 250 clock hours Cosmetology 3 – Pass Cosmetology 2 with a minimum of a 75 average and a minimum of 500 clock hours Cosmetology 4 – Pass Cosmetology 3 with a minimum of a 75 average and a minimum of 750 clock hours

The Cosmetology Program is designed to prepare students to qualify and successfully complete all requirements for a South Carolina Cosmetology license. The student receives training following the guidelines and regulations established by the South Carolina Labor, Licensing, and Regulation (SCLLR) Cosmetology Board. The course of study includes Sanitation and Safety, Professionalism and Salon Management, Sciences of Cosmetology, Professional Hair Care Skills, Professional Nail Care Skills, Professional Skin Care Skills, and Unassigned Specific Needs. Instruction in chemistry, bacteriology, and anatomy and physiology of the face, head, arms, and hands is incorporated by means of theory and of practical application on both mannequins and live models. The use of four course codes is highly recommended for this program.

## Esthetics 1, 2, 3, 4

<b>Course Codes</b>	6162, 6163, 6164, 6165
<b>Required Maximum Enrollment</b>	20 students per class period
<b>Grade Level</b>	11, 12
<b>Credits/Hours</b>	4 units/450 hours required by South Carolina Labor, Licensing and Regulation (SCLLR) <b>plus</b> 30 hours by South Carolina Department of Education (SCDE) or a total of <b>480 hours</b>
<b>Prerequisite</b>	Courses should be taken sequentially; Esthetics 2 – Pass Esthetics 1 with a minimum of a 75 average and a minimum of 120 clock hours Esthetics 3 – Pass Esthetics 2 with a minimum of a 75 average and a minimum of 240 clock hours Esthetics 4 – Pass Esthetics 3 with a minimum of a 75 average and a minimum of 360 clock hours

Esthetics is designed to train students in the theory and practical skills necessary to prepare them for immediate employment opportunities as a licensed esthetician. The student receives training following the guidelines and regulations established by the South Carolina Labor, Licensing, and Regulation (SCLLR) Cosmetology Board. The course is designed to instill desirable work habits and a positive attitude toward an esthetics career. Technical skills are complimented with training in practical communication and people skills. Emphasis is placed on ethical business practices throughout the Esthetics Course.

## Nail Technology 1, 2, 3, 4

<b>Course Code</b>	6154, 6155, 6156, 6157
<b>Required Maximum Enrollment</b>	20 students per class period
<b>Grade Level</b>	11, 12
<b>Credits/Hours</b>	3 units/300 hours required by South Carolina Labor, Licensing and Regulation (SCLLR) <b>plus</b> 60 hours Carolina Department of Education (SCDE) or a total of <b>360 hours</b>
<b>Prerequisite</b>	Courses should be taken sequentially; Nail Technology 2 – Pass Nail Technology 1 with a minimum of a 75 average and a minimum of 120 clock hours; Nail Technology 3 – Pass Nail Technology 2 with a minimum of a 75 average and a minimum of 240 clock hours; Nail Technology 4 (optional) – Pass Nail Technology 3 with a minimum of a 75 average and a minimum of 360 clock hours

The Nail Technology program is designed to prepare students to become licensed nail technologists. Nail Technology students receive training in the art and science of the care and beautification of nails. The student receives training following the guidelines and regulations established by the South Carolina Labor, Licensing, and Regulation (SCLLR) Cosmetology Board. The course of study includes instruction in diseases and disorders, chemistry, biology and anatomy, and physiology of the arms, hands, and feet. Manicures, pedicures, tips, sculptures, and wraps are incorporated by means of theory and practical application on both mannequins and live models. Also included in the course of study is salon planning and management.

**Human Services Internship**  
**(name change effective 2019–20), Work-Based Credit**

<b>Course Codes</b>	5790
<b>Required Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Requirements satisfied by South Carolina Labor, Licensing and Regulation (SCLLR) statutes and regulations prior to working with the public

Human Services Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

<b>Middle School - Human Services/Family and Consumer Sciences</b>
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**Exploratory Family and Consumer Sciences – 6th Grade**

<b>Course Code</b>	1858
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	6
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Exploratory Family and Consumer Sciences introduces students to relationships, resources, home safety and security, childcare responsibilities, personal image, basic food preparation techniques, career, and entrepreneurship opportunities. Integration of the Family and Consumer Sciences student organization, Family Careers, and Community Leaders of America (FCCLA), greatly enhances this curriculum.

**Introduction to Family and Consumer Sciences 1 – 7th Grade**

<b>Course Code</b>	2857
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Introduction to Family and Consumer Sciences 1 provides an opportunity for students to explore self-image, consumer issues, and environmental concerns, positive approaches to child development, clothing care, nutritional choices, food preparation, and skills for successful employment.

**Introduction to Family and Consumer Sciences 2 – 8th Grade**

<b>Course Code</b>	2858
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	8
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Introduction to Family and Consumer Sciences 2 focuses on the changes and challenges faced by young teens today. Topics include family relationships, goal setting, money management, home repairs, early childhood development, textile products, nutrition-related diseases and illnesses and careers.

## High School - Human Services/Family and Consumer Sciences

### Family and Consumer Sciences 1

<b>Course Code</b>	5808
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Family and Consumer Sciences 1 is a comprehensive course designed to provide students with the core knowledge and skills needed to manage their lives. Project based instruction provides students with opportunities to utilize higher order thinking, communication, and leadership skills impacting families and communities. Concepts incorporate interpersonal relationships, career, community, and family connections, family, nutrition and wellness, consumer and family resources, fashion and apparel, food production and service, parenting, and housing into a rigorous and relevant curriculum. Integration of the Family and Consumer Sciences student organization, Family Careers, and Community Leaders of America (FCCLA), greatly enhances this curriculum.

### Family and Consumer Sciences 2

<b>Course Code</b>	5809
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Family and Consumer Sciences 1

Family and Consumer Sciences 2 is a comprehensive course designed to build upon concepts learned in Family and Consumer Sciences 1. Units covered in this course are career, community, and family connections; consumer services; education and early childhood facilities management and maintenance; family and community services, food production and services, food science, dietetics, and nutrition; hospitality, tourism, and recreation; interpersonal relationships; interiors and furnishings; and textiles. Students will explore career pathways in Family and Consumer Sciences. Integration of the Family and Consumer Sciences student organization, Family Careers, and Community Leaders of America (FCCLA), greatly enhances this curriculum.

## Family Life Education 1

<b>Course Code</b>	5820
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Your body is not the only thing that needs to be healthy! What about your relationships? Learn how to make better choices by enrolling in Family Life Education 1. Family Life Education 1 helps students understand and learn to apply various concepts to gain and maintain healthy relationships throughout their lives. Topics such as applying interpersonal skills in relationships, critiquing financial decisions, and determining risk factors of healthy lifestyles are included in the course content. Successful completion of the standards satisfies the Comprehensive Health Education Act requirements. Integration of the Family and Consumer Sciences student organization, Family Careers, and Community Leaders of America (FCCLA), standards greatly enhance the curriculum.

## Family Life Education 2

<b>Course Code</b>	5821
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Family Life Education 1

Now that you've acquired the skills to enhance your relationships, let's further apply these skills to improve personal and family development. Family Life Education 2 stresses the role individuals must assume to improve family life. Effective personal development and the use of community resources are emphasized. Topics include but are not limited to developing healthy lifestyles, preparing for a family, managing financial resources, dealing with family crises, and developing employability skills. Integration of the Family and Consumer Sciences student organization, Family Careers, and Community Leaders of America (FCCLA), greatly enhances the curriculum.

## **Fashion, Fabric, and Design 1**

<b>Course Code</b>	5804
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	None

Did you know that you can make clothing out of everyday items such as gum wrappers, tires, bamboo, and aluminum foil? Learn how textiles are woven into the fabric of life. Enroll in Fashion, Fabric, and Design 1 to develop skills in the selection, purchase, design, care, and construction of textile products. The course emphasizes critical thinking skills needed for making wise consumer choices and career decisions. Integration of the Family and Consumer Sciences Pre-Professional Assessment Certification (Pre-PAC) competencies and the student organization, Family Careers and Community Leaders of America (FCCLA), greatly enhances this curriculum.

## **Fashion, Fabric, and Design 2**

<b>Course Code</b>	5805
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Fashion, Fabric, and Design 1

Do you have a flair for creativity and an eye for fashion design? Why not enroll in Fashion, Fabric, and Design 2? This course is designed to advance skills in the selection, purchase, design, care, and construction of textile products. Contextual learning experiences further develop critical thinking skills needed for success in the professional environment and merchandising. Integration of the Family and Consumer Sciences Pre-Professional Assessment Certification (Pre-PAC) competencies and the student organization, Family Careers and Community Leaders of America (FCCLA), greatly enhances this curriculum.

## Financial Fitness 1

<b>Course Code</b>	5812
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Want to get more for your money? Want to learn to spend your money wisely? If so, this is the course you should take. Financial Fitness 1 is designed to help students develop financial management skills by evaluating marketplace alternatives, creating a personal budget, understanding consumer rights and responsibilities, understanding the impact of career choices on personal goals and making informed consumer decision. Learning experiences provide real life application concepts such as budgeting money, using credit, and avoiding scams, rip offs and identity theft. Integration of the Family and Consumer Sciences career and technical education student organization, Family Career, and Community Leaders of America (FCCLA) greatly enhances this curriculum.

## Financial Fitness 2

<b>Course Code</b>	5813
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Financial Fitness 1

Graduation is near and life after high school is quickly approaching! Are you ready? Take this course to help to put you in control of your future. Financial Fitness 2 is an in depth study of financial management skills. Building on skill mastered in Financial Fitness 1, students will further research and analyze savings and investment options, consumer legislation, local, state, and federal consumer protection agencies, and financial services career paths. Learning experiences incorporate strategies to improve higher order thinking skills, incorporate the use of technology, solve real world problems, and develop characteristics of a responsible consumer. Students will have opportunities to interact with professionals from business and industry. Integration of the Family and Consumer Sciences career and technical education student organization, Family Career, and Community Leaders of America (FCCLA) greatly enhances this curriculum.

## **Foods and Nutrition 1**

<b>Course Code</b>	5824
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Students enrolled in Foods and Nutrition 1 will receive rigorous and relevant learning experiences as they study the principles of nutrition for individual and family health, fitness, and wellness. Students will gain knowledge and experiences in nutrition, food safety and sanitation, kitchen work centers, meal planning, preparation techniques, table service and etiquette, and nutrition-related careers. Critical thinking and practical problem-solving are emphasized in a co-curricular approach that incorporates principles of mathematics, science, writing, communications, and economics. The ServSafe® Food Handlers certification provides increased marketability for students seeking employment. Foods and Nutrition 1 is a prerequisite for Foods and Nutrition 2. Inclusion of the Family and Consumer Sciences student organization, Family Careers, and Community Leaders of America (FCCLA), greatly enhances this curriculum.

## **Foods and Nutrition 2**

<b>Course Code</b>	5825
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Foods and Nutrition 1

Students enrolled in Foods and Nutrition 2 will experience an advanced program designed to provide a more in depth knowledge of USDA guidelines, government involvement in food regulations, factors that affect consumer purchases and exploration of foods and nutrition related careers. Critical thinking and practical problem-solving are emphasized in a co-curricular approach that incorporates principles of mathematics, science, writing, communications, and economics. The ServSafe® Food Handlers and Pre-Assessment and Certification (Pre-PAC) Nutrition Food and Wellness certifications provide increased marketability. Skills acquired in Foods and Nutrition 2 provides a foundation for further studies and employability in nutrition and food service. Inclusion of the Family and Consumer Sciences student organization, Family Careers, and Community Leaders of America (FCCLA), greatly enhances this curriculum.

## Housing and Interiors 1

<b>Course Code</b>	5830
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

“Home is where the heart is,” and the house shelters that home. Enroll in this course to begin preparations for your future dream home. Housing and Interiors 1 provides opportunities for students to evaluate the housing market; housing needs for individuals, families, and communities; and career pathways in the housing and interiors industries. Identification of the elements and principles of design is emphasized. Students will develop knowledge and skills that enable them to plan safe and affordable homes for changing families in a world of diverse interests, cultures, and values. Projects are integrated throughout the course. Integration of the Family and Consumer Sciences Pre-Professional Assessment Certification (Pre-PAC) Housing and Furnishing competencies and the student organization, Family Careers and Community Leaders of America (FCCLA), greatly enhances this curriculum.

## Housing and Interiors 2

<b>Course Code</b>	5831
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Housing and Interiors 1

Dreams can become reality. Open the doors of your future home! Enroll in this course to get the key to your future home. Housing and Interiors 2 provides opportunities for students to apply the elements and principles of design in residential settings. Comprehensive design projects are integrated throughout the course. Interior backgrounds, furnishings, kitchen design, bath room design, laundry design, traffic patterns, home element enhancements, professional practices, and marketing skills used in the industry are explored. Integration of the Family and Consumer Sciences Pre-Professional Assessment Certification (Pre-PAC) Housing and Furnishings competencies and the student organization, Family Careers and Community Leaders of America (FCCLA), greatly enhances this curriculum.

## **Human Development: Responsible Life Choices 1**

<b>Course Code</b>	5834
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Do you really know yourself? Has technology taken over your life to the point where you don't like to have a face to face conversation with another human being? Learn more about yourself by enrolling in this course. Human Development: Responsible Life Choices 1 addresses development and wellness of individuals and families. Current information is provided about the physical, psychological, and emotional maturation process. Unit topics include interpersonal relationships, family life education, adolescent development, health and wellness, pregnancy and parenthood, and careers. This course includes requirements specified in the Comprehensive Health Education Act. Integration of 21st Century Skills, the Family and Consumer Sciences Pre-Professional Assessment Certification (Pre-PAC) competencies and the student organization, Family, Career and Community Leaders of America (FCCLA) greatly enhances this curriculum.

## **Human Development: Responsible Life Choices 2**

<b>Course Code</b>	5835
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Human Development: Responsible Life Choices 1

Do you want to feel better as a person, but you don't know where to start? Does the thought of becoming a parent scare you or are you intrigued by the idea? There is a special place waiting for you in this course. Human Development: Responsible Life Choices 2 builds on skills and knowledge from the first level course. Additional unit topics include psychological health, parenthood, and an enhanced career unit. Students investigate careers in health and human services, family and human development. Extended learning opportunities including volunteer activities, service learning, and job shadowing are provided and encouraged throughout this course. Integration of 21st Century Skills, the Family and Consumer Sciences Pre-Professional Assessment Certification (Pre-PAC) Broad Field Family and Consumer Sciences competencies and the student organization, Family, Career and Community Leaders of America (FCCLA), greatly enhances this curriculum.

## Parenting Education 1

<b>Course Code</b>	5816
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Parenting Education 1 emphasizes the importance of planning and preparing for parenthood. Learning experiences will focus on parenting practices that maximize human growth and development, the significance of health and wellness in parenting practices, issues to consider when faced with adolescent parenthood, roles, responsibilities, and rewards of parenting, management of resources across the lifespan, methods of family planning, and personal interests and career opportunities related to parenting education. Integration of concepts from the Family and Consumer Sciences co-curricular student organization – Family, Career and Community Leaders of America (FCCLA) – greatly enhances the curriculum.

## Parenting Education 2

<b>Course Code</b>	5817
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Parenting Education 1

Parenting Education 2 provides learning experiences for students to understand the roles, responsibilities, and rewards of parenthood. Students have an opportunity to develop positive assertion skills, identify support systems for adolescent parents and their children, investigate legal and ethical responsibilities of parenthood, conduct personal analysis to determine parenting readiness skills, and demonstrate professional ethics and employability skills. Integration of concepts from the Family and Consumer Sciences co-curricular student organization – Family, Career and Community Leaders of America (FCCLA) – greatly enhances the curriculum.

## Sports Nutrition 1

<b>Course Code</b>	5759
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Sports Nutrition 1 is designed for all students. This course examines the relationship between nutrition, physical performance, and overall wellness. Students will learn how to choose nutritious foods for healthy lifestyles and peak performance. Health and disease prevention through nutrition, physical activity, and wellness practices are essential components of the course. Sports Nutrition 1 is a prerequisite for Sports Nutrition 2. ServSafe® Food Handlers and Pre-Assessment and Certification (Pre-PAC) Nutrition Food and Wellness certifications provide increased marketability. Integration of the Family and Consumer Sciences co-curricular student organization, Family, Career and Community Leaders of America (FCCLA), greatly enhances the curriculum.

## Sports Nutrition 2

<b>Course Code</b>	5760
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Sports Nutrition 1

Sports Nutrition 2 is an essential course in advancing the knowledge base of nutritional needs. This course emphasizes the metabolic process and management of food choices for optimal health and physical performance. Students are challenged to develop personal fitness and nutrition plans. Sports Nutrition 1 is a prerequisite for Sports Nutrition 2. ServSafe® Food Handlers and Pre-Assessment and Certification (Pre-PAC) Nutrition Food and Wellness certifications provide increased marketability. Integration of the Family and Consumer Sciences co-curricular student organization, Family, Career and Community Leaders of America (FCCLA), greatly enhances the curriculum.

**Family and Consumer Sciences Internship  
(name change effective 2019–20), Work-Based Credit**

<b>Course Code</b>	5890
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

Family and Consumer Sciences Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

## Information Technology

### Advanced Animation

<b>Course Code</b>	5351
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Foundations of Animation

Advanced Animation teaches students how to use Autodesk Maya to model, animate, and render with a focus on establishing a working knowledge of animation tools and techniques. Emphasis is placed on career awareness, fundamentals of modeling, storyboard creation, cameras, and lighting. Students will learn how 3D technology is used for film, broadcast, and games. This course prepares students for the Autodesk Certified User for Maya certification exam.

### Advanced Computer Operating Systems

<b>Course Code</b>	5323
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Computer Operating Systems <b>and/or</b> passing score on applicable industry certification such as Microsoft Certified Solution Associate (MCSA) Exam Microsoft (MS) 70-680 & 70-687

Advanced Computer Operating Systems provides opportunities for students to gain the knowledge and skills required to install and configure Windows 10 desktops and devices in a Windows Server domain corporate environment. Students will learn how to configure local and remote network connectivity and storage, explore how to configure data security, device security, and network security. In addition you will discover how to maintain, update, and recover Windows 10.

## Advanced Computer Repair and Service

<b>Course Code</b>	5321
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Computer Repair and Service <b>and/or</b> passing score on applicable industry certification such as CompTIA A+ 220-801

The Advanced Computer Repair and Service course is a continuation of the Computer Repair and Service course. It prepares students to perform advanced, detailed tasks related to computer repair. Students receive instruction in operating systems, security, mobile devices, and troubleshooting. Laboratory activities provide instruction in installation, configuration, operation, maintenance, security, troubleshooting, and repair of industry-standard operating systems in accordance with industry certification standards.

## Advanced Cyber Security

<b>Course Code</b>	5372
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Cyber Security Fundamentals <b>or</b> Teacher Recommendation

Advanced Cyber Security introduces advanced concepts and terminology of cyber security and information assurance. The course examines how security integrates into user involvement and the importance of having security training, ethics, trust, and best practices management. The advanced skills cover network security, testing, and validation; compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; cryptography; and a broad range of other topics. This is the second of two sequential courses that prepare the student to take the CompTIA Security+ certification exam.

## Advanced Networking

<b>Course Code</b>	5311
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <u>and</u> Networking Fundamentals

Advanced Networking is designed to provide students with classroom, laboratory, and hands-on experience in current and emerging networking technologies. Upon successful completion of the course sequence within the networking major, students will be able to seek employment or further their education and training in the information technology field.

## Advanced Server Administration

<b>Course Code</b>	5313
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <u>and</u> Server Administration

Advanced Server Administration provides students with classroom and laboratory experience in current and emerging networking technologies. Upon successful completion of the course sequence, students will be able to seek employment or further their education and training in the information technology field. Students will benefit most from the curriculum if they possess a strong background in reading, math, and problem solving skills. Instruction includes advanced system hardware, advanced software, advanced storage, advanced IT environments, advanced disaster recovery, advanced troubleshooting, and leadership skills. Particular emphasis is placed on critical thinking skills and problem-solving techniques found in math and communication programs.

## Advanced Web Page Design and Development

<b>Course Code</b>	5033
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1(120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Fundamentals of Web Page Design and Development

Web Page Design and Development is designed to provide students with the knowledge and skills necessary to pursue careers in web design and development. Students will develop an in-depth understanding and use of Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), JavaScript, layout techniques, and other industry-standard practices. In addition, students will learn scripting technologies to create dynamic and interactive websites. Students will maintain a professional quality portfolio of web design work. Successful completion of this course will prepare students for industry certification.

## Computer Forensics

<b>Course Code</b>	5374
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Computer Service Technology 1

Computer Forensics is focused on teaching students how to gather evidence and prevent cybercrime using computer, criminology, law, digital security, and investigative techniques. Students will learn to collect, preserve, present, and prepare computer-based evidence for the purposes of criminal law enforcement or civil litigation. Activities will define the central roles of the computer forensic practitioner involved in investigating computer crime scenes and torts involving computers. Students will be prepared to assist in the formulation and implementation of organizational computer forensics preparedness policies, to determine the necessity for forensic procedures, extend governance processes to allow for proper future forensic investigations, and be contributing members of computer forensics investigation teams.

## Computer Operating Systems

<b>Course Code</b>	5322
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120), 2 (240)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Computer Repair and Service <b>and/or</b> passing score on applicable industry certification such as CompTIA A+ 220-901, 220-902

Computer Operating Systems provides students an opportunity to gain the knowledge and skills required to install and configure Windows 10 desktops and devices in a Windows

Server domain corporate environment. You will learn how to configure local and remote network connectivity and storage, explore how to configure data security, device security, and network security. In addition, you will discover how to maintain, update, and recover Windows 10. This course will lead toward the Microsoft Certified Solutions Associate Windows 10 certification.

## Computer Programming 1

<b>Course Code</b>	5050
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding proficiency

Computer Programming 1 is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

## Computer Programming 2

<b>Course Code</b>	5051
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Computer Programming 1 using the same language

Computer Programming 2 is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

### Computer Programming 1 with C++

<b>Course Code</b>	5056
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)

<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Any high school computer science course, Algebra 1 (or equivalent), <b>and/or</b> Teacher Recommendation
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Computer Programming with C++ 1 is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

### Computer Programming 2 with C++

<b>Course Code</b>	5057
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Computer Programming with C++ 1

Computer Programming with C++ 2 is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

## Computer Programming 1 with Java

<b>Course Code</b>	5052
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Any high school computer science course, Algebra 1 (or equivalent), <b>and/or</b> Teacher Recommendation.

Computer Programming with Java 1 is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

## Computer Programming 2 with Java

<b>Course Code</b>	5053
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Computer Programming with JAVA 1

Computer Programming with Java 2 is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

## Computer Programming 1 with Visual Basics

<b>Course Code</b>	5054
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> any high school computer course, Algebra 1 (or equivalent), <b>and/or</b> Teacher Recommendation

Computer Programming with Visual Basics 1 is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

## Computer Programming 2 with Visual Basic

<b>Course Code</b>	5055
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Computer Programming with Visual Basic 1

Computer Programming with Visual Basic 2 is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

## Computer Repair and Service

<b>Course Code</b>	5320
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Recommendations based on individual schools and school districts

The Computer Repair and Service course prepares students to perform tasks related to computer repair. Students receive instruction in the installation, operation, maintenance, and repair of computer-based technology. Instruction may also include mobile devices, peripheral devices, networking, and laptops. Laboratory activities provide instruction in installation, configuration, troubleshooting, component replacement, operating systems, and upgrades in accordance with industry certification standards.

## **. Cyber Security Fundamentals**

<b>Course Code</b>	5370
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Networking Fundamentals <b>or</b> Server Administration <b>or</b> Instructor Recommendation

Cyber Security Fundamentals introduces the core concepts and terminology of cyber security and information assurance. The course examines how security integrates into user involvement and the importance of having security training, ethics, trust, and best practices management. The fundamental skills cover network security, testing, and validation; compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; cryptography; and a broad range of other topics.

## **Database Design and Programming with SQL**

<b>Course Code</b>	5324
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Basic computer skills (word processing, Internet use) <b>and</b> recommended successful completion of Algebra 1

Database Design and Programming with structured query language (SQL) is geared to meet the learning needs of a variety of students, from those interested in gaining broad exposure to business and technical skills to students planning on pursuing a technical education or career. This course utilizes an Oracle hosted, state-of-the-art lab environment to build database design and programming skills. Students analyze case studies to identify data patterns and connections in order to design relational databases. Students create entity relationship diagrams (ERDs) while building collaboration and problem solving skills. Students build and modify databases using SQL, the industry-standard database programming language.

## Database Programming with PL/SQL

<b>Course Code</b>	5326
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Database Design & Programming with SQL

Database Programming with PL/SQL covers a procedural language extension to SQL. Through an innovative project-based approach, students learn programming logic constructs such as variables, constants, conditional statements, and iterative controls. The course blends hands-on exercises, industry-type assessments, and project based learning experiences while leveraging the latest Oracle technologies. Students utilize an Oracle hosted, state-of-the-art lab environment to develop database programming skills using PL/SQL and Oracle Application Express. Students continue to improve skills including problem solving, teamwork, project management, and technical presentations that are used in a variety of industries and job roles.

## Discovering Computer Science

<b>Course Code</b>	5061
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

Discovering Computer Science students will discover introductory computer science topics with an emphasis on computational thinking and problem solving. Students will be empowered to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. Students will create their own websites, apps, and games.

**Discovering Computer Science Part 1 (.5 High School Credit for Middle School)**

<b>Course Code</b>	5062
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	.5 (60 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

Discovering Computer Science students will discover introductory computer science topics with an emphasis on computational thinking and problem solving. Students will be empowered to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. Students will create their own websites, apps, and games.

**Discovering Computer Science Part 2 (.5 High School Credit for Middle School)**

<b>Course Code</b>	5063
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	.5 (60 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

Discovering Computer Science students will discover introductory computer science topics with an emphasis on computational thinking and problem solving. Students will be empowered to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. Students will create their own websites, apps, and games.

## **Foundation of Animation**

<b>Course Code</b>	5350
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <u>and</u> High School Computer Science Course

Foundation of Animation prepares students to use artistic and technological foundations to create animations. The basic principles of digital animation are reviewed, including character development and story conception through production. Students learn the technical language used in the animation industry and basic animation methods. They will also learn techniques about various ways to plan, create, and prepare for animation in pre-production, production and post-production. This course prepares students for the Adobe Certified Associate for Flash/Animate Creative Cloud (CC) certification exam.

## **Fundamentals of Computing**

<b>Course Code</b>	5023
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

Fundamentals of Computing is designed to introduce students to the field of computer science through an exploration of engaging and accessible topics. Through creativity and innovation, students will use critical thinking and problem solving skills to implement projects that are relevant to students' lives. They will create a variety of computing artifacts while collaborating in teams. Students will gain a fundamental understanding of the history and operation of computers, programming, and web design. Students will also be introduced to computing careers and will examine societal and ethical issues of computing.

### **Fundamentals of Computing Part 1 (.5 High School Credit for Middle School)**

<b>Course Code</b>	5028
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	.5 (60 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

Fundamentals of Computing Part 1 is designed to introduce students to the field of computer science through an exploration of engaging and accessible topics. Through creativity and innovation, students will use critical thinking and problem solving skills to implement projects that are relevant to students' lives. They will create a variety of computing artifacts while collaborating in teams. Students will gain a fundamental understanding of the history and operation of computers, programming, and web design. Students will also be introduced to computing careers and will examine societal and ethical issues of computing.

### **Fundamentals of Computing Part 2 (.5 High School Credit for Middle School)**

<b>Course Code</b>	5029
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	.5 (60 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

Fundamentals of Computing Part 2 is designed to introduce students to the field of computer science through an exploration of engaging and accessible topics. Through creativity and innovation, students will use critical thinking and problem solving skills to implement projects that are relevant to students' lives. They will create a variety of computing artifacts while collaborating in teams. Students will gain a fundamental understanding of the history and operation of computers, programming, and web design. Students will also be introduced to computing careers and will examine societal and ethical issues of computing.

## Fundamentals of Web Page Design and Development

<b>Course Code</b>	5031
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1(120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

Fundamentals of Web Page Design will guide students in the development of websites in a project-based, problem-solving environment. Students will learn the industry standard languages, HTML and CSS, which are used in every website on the web today. Students will learn how to create a portfolio of content-rich, well-styled websites. Successful completion of this course will prepare students for industry certification.

**NOTE:** Websites created by students in this course are not to be published without following district guidelines.

## 211B Game Design and Development

<b>Course Code</b>	5352
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> any Computer Programming course <b>and/or</b> Teacher Recommendation

Game Design and Development provides students with the opportunity to design and develop fully-functional video games with product design documentation. This course emphasizes game control and logic, design tools, and the physics of games using computer programming.

## GIS 1

<b>Course Code</b>	5361
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Algebra I, Geometry, <b>and</b> Integrated Business Applications I <b>or</b> Teacher Recommendation

GIS Technology 1 is designed to include fundamentals of Geographical Information Systems (GIS) and remote sensing concepts, project management strategies, and essential basic computer skills. Students will acquire a basic understanding of geographic terms and concepts necessary for the appropriate use of GIS, including concepts of spatial variables, scale, map projection, and map coordinate systems. Students will also be exposed to the history of GIS, how GIS fits into overall information management systems, and a variety of applications in which GIS can contribute to analysis and decision-making.

## GIS 2

<b>Course Code</b>	5362
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> GIS Technology 1

Geographical Information Systems (GIS) 2 is designed to enable/prepare students to use their knowledge of mapping and cataloging to complete numerous geospatial applications. They will learn techniques in displaying, managing, querying, symbolizing, and creating geospatial data. Students will learn the skills required to work on and/or build advanced GIS/RS projects.

## IT Fundamentals

<b>Course Code</b>	5025
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

IT Fundamentals is designed to prepare the student to take the CompTIA IT Fundamentals certification exam. Instruction includes IT literacy, environmental and safety concepts, operating systems, software, hardware, networking, alternative technologies, security, and computational thinking. Students utilize the skills and qualities of the *S.C. Profile of the Graduate* to analyze and solve problems within the IT industry. This course prepares students for the IT Fundamentals certification offered by CompTIA.

## Java Fundamentals and Java Programming

<b>Course Code</b>	5058
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Algebra 2

Java Fundamentals and Java Programming is Oracle designed curriculum that introduces fundamental programming concepts and terminology in an engaging manner through the creation of simple animations and interactive games using Object Oriented Programming (OOP) environments. While mastering basic programming constructs using OOP, students will learn basic Java syntax. Using a popular, industry recognized Java Integrated Development Environment (IDE) and the Java programming language, students will write, edit, compile, deploy, and debug Java programs. Java classes, arrays, stacks, strings, and the core Application Program Interfaces (API) that are used to design object-oriented applications will be covered. The GridWorld case study is closely examined and used to enhance student knowledge of core Java concepts. As in other Oracle courses, collaboration and problem solving are emphasized throughout the course.

## Networking Fundamentals

<b>Course Code</b>	5310
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Recommendations based on individual schools and school districts

Networking Fundamentals provides students with classroom, laboratory, and hands-on experience in current and emerging networking technologies. Upon successful completion of the course sequence in the networking major, students will be able to seek employment or further their education and training in the information technology field. The networking student will benefit most from the curriculum if he or she possesses a strong background in reading, math, and problem-solving skills.

## SAS Programming 1

<b>Course Code</b>	5327
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b>and</b> Algebra 1 <b>and</b> at least one other programming language (Visual Basic C++ <b>or</b> Java)

Statistical Analysis System (SAS) Programming 1 is designed to increase student skills in business analytical software and services through the use of SAS for qualitative analysis. SAS knowledge can assist students with careers in technology, marketing, financial services, insurance, and pharmaceutical sectors. This course teaches the SAS programming language concepts and principles required for the SAS Base programming certification exam.

## SAS Programming 2

<b>Course Code</b>	5328
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <u>and</u> SAS Programming 1

Statistical Analysis System (SAS) Programming 2 is designed to increase student skills in business analytical software and services through the use of SAS for qualitative analysis. SAS knowledge can assist students with careers in technology, marketing, financial services, insurance, and pharmaceutical sectors. This course teaches the SAS programming language concepts and principles required for the SAS Base programming certification exam.

## Server Administration

<b>Course Code</b>	5312
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120), 2 (240)
<b>Prerequisite</b>	Keyboarding Proficiency <u>and</u> Advanced Networking

Server Administration provides students with classroom and laboratory experience in current and emerging technologies related to servers. Upon successful completion of the course sequence, students will be able to seek employment or further their education and training in the information technology field. The server administration student will benefit most from the curriculum if he or she possesses a strong background in reading, math, and problem solving skills. Instruction includes system hardware, software, storage, Information Technology (IT) environments, disaster recovery, troubleshooting, and leadership skills. Particular emphasis is given to the use of critical thinking skills and problem-solving techniques found in math and communication programs.

**Information Technology Internship**  
**(name change effective 2019–20), Work-Based Credit**

<b>Course Code</b>	5390
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency <b><u>and</u></b> Completion of two (2) CTE courses/units within a program

The Information Technology Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

### **Emergency and Fire Management Services 2 (phasing out July 2019)**

<b>Course Code</b>	6513
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	Level 1 prerequisite for Level 2

This program prepares individuals to do the work of fire fighters. Includes instruction in fire-fighting equipment operation and maintenance, principles of fire science and combustible substances, methods of controlling different types of fires, hazardous material handling and control, fire recuse procedures, public relations, and applicable laws and regulations.

### **Firefighter 1, 2**

<b>Course Code</b>	6514, 6515
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	Level 1 - 2 (240 hours); Level 2 -1 (120 hours)
<b>Prerequisite</b>	Level 1 prerequisite for Level 2

This program prepares individuals to do the work of fire fighters. Firefighter I and II courses intended to achieve National Fire Protection Agency (NFPA) certification must be conducted using curriculum that addresses the NFPA standards. Firefighter I, Firefighter II, Hazardous Materials Awareness (HMA), Hazardous Materials Operations (HMO) and Basic Auto Extrication (BAE 3330) curriculum materials can be acquired from the South Carolina Fire Academy (SCFA). For complete descriptions of SCFA's courses, see the Academy's online catalog at [SC Department of Labor, Licensing and Regulations](#). Curriculum for First Aid/Cardiopulmonary Resuscitation (CPR) prerequisite training may be based on any recognized accredited course, such as those offered through the American Heart Association or American Red Cross. Hazardous Materials Awareness and Hazardous Materials Operations prerequisites must comply with NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*.

## **Introduction to Law, Public Safety, Corrections, and Security**

<b>Course Code</b>	6505
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	8, 9
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Introduction to Law, Public Safety, Corrections and Security and Law Enforcement Services provides basic career information in public safety including corrections, emergency and fire management, security and protection, law enforcement, and legal services. Additionally, students will develop a personal plan for a career in public safety. The course includes skills in each area of Law Enforcement Services and Fire Fighter and the community to help deliver instruction to the students. English language arts are reinforced, and Work-based learning strategies appropriate for this course include job shadowing. Apprenticeship and cooperative education are not available for this course. SkillsUSA competitive events, community service, and leadership activities provide the opportunity to apply essential standards and workplace readiness skills through authentic experiences.

## **Law Enforcement Services 1, 2**

<b>Course Code</b>	6510, 6511
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	Level 1 prerequisite for Level 2

Law and Enforcement Services 1 and 2 prepare individuals to perform the duties of police and public security officers, including patrol and investigative activities, traffic control, crowd control and public relations, witness interviewing, evidence collection and management, basic crime prevention methods, weapon and equipment operations and maintenance, report preparation and other routine law enforcement responsibilities.

**Law, Public Safety, Corrections and Security Internship  
(name change effective 2019-20), Work-Based Credit**

<b>Course Code</b>	6590
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

Law, Public Safety, Corrections and Security Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

## Manufacturing

### Electronics Technology 1, 2, 3, 4

<b>Course Code</b>	6133, 6134, 6135, 6136
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Electronics Technology is a program that prepares individuals to apply technical knowledge and skills to operate, maintain, and repair electrical and electronic equipment. Includes instruction in electrical circuitry, simple gearing, linkages and lubrication of machines and appliances and the use of testing equipment.

### Introduction/Intermediate Manufacturing Technology

<b>Course Code</b>	6045
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None
<b>Computer Access Required</b>	1:1

Introduction/Intermediate Manufacturing Technology is an entry-level to mid-level course that provides students an introduction/intermediate path to manufacturing industries and may be used as a prerequisite for any of the manufacturing career majors: Electronics Technology, Machine Technology, Mechatronics Integrated Technologies, Metal Fabrication, and Welding. All standards come from the Manufacturing Skill Standards Council's (MSSC) "worker" standards four critical work functions of production: 1. Safety, 2. Quality Practices and Measurement, 3. Manufacturing Processes and Production, 4. Maintenance Awareness.

Completion of Worker standards 1 and 2 provides the student with the basic knowledge and skills required by an entry level production technician to perform the work.

Completion of Worker standards 1–4 provides the student with the basic knowledge and skills required by a mid-level production technician to perform the work.

## **Integrated Production Technologies 1: Advanced Technology for Design and Production**

<b>Course Code</b>	6222
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

This course will engage students in the use of modern technologies in the design and improvement of products. Students will use three-dimensional Computer Assisted Design (CAD) software in the creation and analysis process. Students will document designs using standards set by industry for design documentation. Students will implement methods of green production and just-in-time component supply which allow for the lowest cost and highest quality products. Students will design and troubleshoot data acquisition, programmable logic control, process monitoring, automation and robotic systems. Students will incorporate sensing and vision systems, utilizing cameras and sensors to control automated systems.

## **Integrated Production Technologies 2: Systems of Advanced Technology**

<b>Course Codes</b>	6223
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Advanced Technology for Design and Production

Systems of Advanced Technology provides opportunities for students to apply the technologies that are found in modern clean, production environments. Students study effective and energy efficient control of pumping, conveyors, piping, pneumatic and hydraulic control systems. Students apply total quality management to production design to assure quality. Students also focus on properties of materials and material testing, creating documentation to support designs, examining properties and justifying material selections based on properties. Students learn that old products become the new raw materials for new products.

### **Integrated Production Technologies 3: Mechatronic Systems for Advanced Production**

<b>Course Codes</b>	6224
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Systems of Advanced Technology

Mechatronic Systems for Advanced Production provides opportunities for students to design cost-effective work cells incorporating automation and robotics to improve quality of final products. The advanced production in this course depends on the use and coordination of information, automation, network systems, vision and sensing systems. Students will design and create mechatronic systems and automated tooling to accomplish these advanced tasks. Students produce authentic documentation about their cyber-mechanical systems and the integration with data to control and monitor processes.

### **Integrated Production Technologies 4: Design for the Production of Advanced Products**

<b>Course Code</b>	6225
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Mechatronic Systems for Advanced Production

Students will create plant designs to process and automatically assemble materials into new products. Students follow the process of developing and producing a new product from prototype to final product. They will accomplish this by creating a production flow plan that allows for the mass production of the product. Students will analyze and evaluate all aspects of the design and production processes with an emphasis on clean, lean and green production. Students will utilize data acquisition, quality control processes and Six Sigma methodology to control production.

## **Machine Tool Technology 1, 2, 3, 4**

<b>Course Codes</b>	6230, 6231, 6232, 6233
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Machine Tool Technology offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the manufacturing career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the manufacturing career cluster. This program offers a broad foundation of knowledge and skills to prepare students for employment in machining positions. The content includes but is not limited to broad, transferable skills, and stresses the understanding of all aspects of the modern machining industry, including Computer Numerical Control/Computer-Aided Design and Manufacturing (CNC/CAD/CAM), and demonstrates such elements of the industry as planning, management, technical and production skills, underlying principles of technology, labor issues, community issues, and health, safety, and environmental issues.

SC students completing Machine Tool Technology secondary program must complete the 10-hour General Industry Occupational Safety and Health Administration (OSHA) course/assessment and receive the card.

## **Mechatronics 1, 2, 3, 4**

<b>Course Codes</b>	6210, 6211, 6212, 6213
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Mechatronics is a new interdisciplinary field involving electrical, mechanical, instrumentation, electronics, robotics/automation, computer components, and control systems. The program is divided into four sequential courses: Mechatronics 1 - Electrical Components/Industrial Safety, Mechatronics 2 – Components Electric Drives/Hand & Power Tool Op, Mechatronics 3 – Electro Pneumatics and Hydraulics, and Mechatronics 4 – Digital Fundamentals and Programmable Controllers and exposes students to a higher level of working with their hands as well as understanding simple to complex systems. Mechatronics is a dynamic field that changes daily with the rapid improvements in technology and computer systems. Systems are networked to meet the demands of automated manufacturing processes, and technicians are trained to meet necessary entry-level industrial skills and entry into a postsecondary program at a technical college. Dual credit may be available through some SC technical colleges.

Provided a student takes Introduction to Construction and scores 70 percent on all assessments (00101-8-15), he or she does not have to repeat these modules in Heating, Ventilation and Air Conditioning (HVAC), Building Construction, Cabinetmaking, Carpentry, Electricity, Masonry, Mechatronics, Plumbing, and Welding.

## **Metal Fabrication 1, 2, 3, 4**

<b>Course Codes</b>	6260, 6261, 6262, 6263
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Metal Fabrication prepares individuals to apply technical knowledge and skills to plan, manufacture, assemble, test, and repair parts, mechanisms, machines, and structures in which materials are cast, formed, shaped, molded, heat treated, cut, twisted, pressed, fused, stamped, or worked.

## Welding Technology 1, 2, 3, 4

<b>Course Codes</b>	6340, 6341, 6342, 6343
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

Welding Technology is designed to provide students with the skills and knowledge to effectively perform cutting and welding applications used in the construction industry or in advanced manufacturing. Students will develop proficiency in fundamental safety practices in welding, interpreting drawings, creating computer aided drawings, identifying and using joint designs, efficiently laying out parts for fabrication. This program will provide the students with skills in basic Shielded metal arc welding (SMAW), gas metal arc welding (GMAW), Flux core arc welding (FCAW), Gas tungsten arc welding (GTAW), as well as quality control methods.

Provided a student takes Introduction to Construction and scores 70 percent on all assessments (00101-8-15), he or she does not have to repeat these modules in Heating, Ventilation and Air Conditioning (HVAC), Building Construction, Cabinetmaking, Carpentry, Electricity, Masonry, Mechatronics, Plumbing, and Welding.

## Manufacturing Internship (name change effective 2019-20), Work-Based Credit

<b>Course Codes</b>	6490
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses within a program

Manufacturing Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course.

## Marketing

### Advertising

<b>Course Code</b>	5470
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Marketing

Advertising is designed to introduce the concepts of advertising, planning strategies, communication skills, and career development. Course content includes budget development, media selection, design, and the preparation of ads for various media.

### Digital Media Marketing

<b>Course Code</b>	5422
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Computer Applications <u>or</u> Integrated Business Applications I

Digital Media Marketing is an overview of techniques in digital marketing media, including non-linear editing introducing students to the primary feature set and basic interface of industry standard editing software. Students will plan and execute a storyboard for producing their final product, to include podcasts, DVDs, video blogs, and webcasts. Students learn to demonstrate basic digital video camera technique, digital sound, and lighting. In addition, students will perform basic editing functions while familiarizing themselves with the software's user interface. Topics include basic setup, adjusting and customizing preferences and settings, capturing video and audio, various editing and trimming techniques, audio editing and audio creation, finishing and final output.

## **Fashion Marketing**

<b>Course Code</b>	5410
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Fashion Marketing explores concepts and practices of the fashion industry to include an overview of the fashion industry, the nature of fashion, and career development. Selling, advertising, visual merchandising, fashion buying, merchandising, management, and product technology are analyzed.

## **Marketing**

<b>Course Code</b>	5421
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Marketing introduces students to the world of marketing. Students will learn about marketing fundamentals, economics, and the Marketing functions of price planning and strategies, promotion, selling, and product distribution. Creativity, problem-solving, research, teamwork, communication, and critical thinking skills are stressed. A coherent, comprehensive marketing plan will be the cumulative project which will demonstrate skills marketing students learned in the course. This is the fundamental course in all the Marketing programs and should be taken before specialized marketing courses.

## **Marketing Management**

<b>Course Code</b>	5431
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Marketing

Marketing Management is the study of marketing from the decision-makers' view. This course continues the analysis of the marketing functions by examining human resource foundations, marketing and business fundamentals, distribution, promotion, and selling as applied in merchandising.

## **Marketing Analytics (formerly Marketing Research)**

<b>Course Code</b>	5423
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Marketing

Students in Marketing Analytics will study the buying behaviors of consumers in a global marketplace. Through this course, students explore how businesses use marketing research as a management tool to understand and influence consumer decision making. The course will emphasize decision making, based on results obtained through research and analysis, which make businesses profitable. Topics covered will consist of trends, sampling, surveys, demographics, and data analysis.

## **Merchandising**

<b>Course Code</b>	5430
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Marketing

Merchandising prepares individuals to understand the process of merchandising as it relates to the resale of products and product lines for stores, chains, and other retail enterprises. Concepts included in the course are merchandising, branding, purchasing, buying, and display.

## Professional Sales

<b>Course Code</b>	5471
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Marketing

Students in Professional Sales study the concepts needed to respond to customer wants and needs through planned personalized communication that influences purchase decisions, maintains customer relationships, ensures satisfaction, and enhances future business opportunities. Subject matter will include selling strategies, psychological and social factors influencing buying and selling, career opportunities, and technological integration in selling.

## Social Media Marketing (name change effective 2019-20; formerly Social Media in Business)

<b>Course Code</b>	5034
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Teacher approval <b>and</b> successful completion of either a business or marketing course

Social Media Marketing introduces students to the current field of social media and prepares them to explore and create successful social media strategies for businesses. This course gives students the knowledge, tools, and methods to use different social media tools in order to educate and connect with customers, promote and sell products and services, and develop new business.

## Sports and Entertainment Management

<b>Course Code</b>	5426
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Sports and Entertainment Marketing <b>or</b> Marketing

Students will apply concepts learned in Sports and Entertainment Marketing and study the key concepts in management and managerial principles as related to the sports and entertainment industry. Topics that will be addressed include leadership, finance, product management, people management, information management, legal and ethical issues, customer relations, sales management, change management, and career development.

## Sports and Entertainment Marketing

<b>Course Code</b>	5425
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

The Sports and Entertainment Marketing course is for students who are interested in marketing careers in the various areas found in the sports and entertainment industry. Marketing theory and practice are emphasized and incorporated into present-day scenarios. Major topics include the use of technology, promotion, customer relations, selling, and marketing plans.

## Marketing Internship

**(name change effective 2019-20), Work-Based Credit**

<b>Course Code</b>	5091
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

Marketing Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as the third unit in the three unit completer pathway.

<b>Middle School - Science, Technology, Engineering, and Mathematics</b>
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### **Gateway to Technology**

<b>Course Code</b>	1841
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	6
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Gateway to Technology (GTT) program features a project-based curriculum designed to challenge and engage the natural curiosity and imagination of middle school students. They envision, design and test their ideas with the same advanced modeling software used by companies like Lockheed Martin, Intel and Sprint. The knowledge that students gain and the skills they build from the GTT program creates a strong foundation for further Science, Technology, Engineering, and Mathematics (STEM) learning in high school and beyond.

### **Gateway to Technology**

<b>Course Code</b>	2841
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Gateway to Technology (GTT) program features a project-based curriculum designed to challenge and engage the natural curiosity and imagination of middle school students. They envision, design and test their ideas with the same advanced modeling software used by companies like Lockheed Martin, Intel and Sprint. The knowledge that students gain and the skills they build from the GTT program creates a strong foundation for further Science, Technology, Engineering, and Mathematics (STEM) learning in high school and beyond.

## **PLTW Computer Science for Innovators and Makers Application Creators**

<b>Course Code</b>	2785
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	7, 8
<b>Credits</b>	NA
<b>Prerequisite</b>	NA

Gateway to Technology (GTT) program features project-based curriculum designed to challenge and engage the natural curiosity and imagination of middle school students. Computer Science for Innovators and Makers expose students to programming for the physical world by blending hardware design and software development, allowing students to discover computer science concepts and skills by creating personally relevant, tangible, and shareable projects. App Creators expose students to computer science as a means of computationally analyzing and developing solutions to authentic problems through mobile app development, and will convey the positive impact of the application of computer science to other disciplines and to society.

<b>High School - Science, Technology, Engineering, and Mathematics</b>
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### **Food Science 1**

<b>Course Code</b>	5757
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Discover the science behind your favorite foods! How is root beer made? Are all additives bad? Will you get sick if you eat mold? These questions and more will be answered. Learn biology, chemistry, and physics as you investigate principles of food processing and food science. Topics to be covered include food safety and regulations, processing and preservation, product development, and nutritional content of various foods. The course places emphasis on hands-on lab activities and discussion. Integration of the Family and Consumer Sciences co-curricular student organization, Family, Career and Community Leaders of America (FCCLA), greatly enhances this course.

### **Food Science 2**

<b>Course Code</b>	5758
<b>Recommended Maximum Enrollment</b>	20
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours)
<b>Prerequisite</b>	Food Science and Dietetics 1

Discover different ways to preserve food. Create an original food product, technique, or process to be used in the food industry. Learn biology, chemistry, and physics as you continue to investigate principles of food processing and food science. Topics to be covered include food safety and regulations, processing and preservation, product development, and nutritional content of various foods. The course places emphasis on hands-on lab activities and discussion. Integration of the Family and Consumer Sciences co-curricular student organization, Family, Career and Community Leaders of America (FCCLA), greatly enhances this course.

## **Aerospace Engineering 1: Fundamentals of Aerospace Technology**

<b>Course Code</b>	6386
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

This project-based learning course engages students who are curious about aviation and aerospace careers. This course will introduce students to an engineering design process, tools to collect and analyze data, the science of aviation, materials and structures, and safety. Students will participate in real-world experiences such as designing, building and testing a pilot seat, kite, straw rocket and launcher, motor-powered rocket, and a model glider.

## **Aerospace Engineering 2: Advanced Aerospace Technology**

<b>Course Code</b>	6387
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Fundamentals of Aerospace Technology

This course builds on the foundation of Course 1 and engages students in applying the design process, using tools to collect and analyze data, exploring a deeper level of the science of aviation and discovering how quality control systems work in the aviation field. Students will work collaboratively in teams to design, build and test a wing; plot a course for a plane to take off and land; design, build and test a wing attachment system; test materials under stress; and design, build and test an electric-powered plane. Students will demonstrate their newly acquired knowledge and skills by presenting their innovative ideas, techniques and solutions to business and industry partners.

### **Aerospace Engineering 3: Aeronautics Engineering Applications**

<b>Course Code</b>	6388
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11,12
<b>Credits</b>	1 (120)
<b>Prerequisite</b>	Advanced Aerospace Technology

This project-based learning course is for students who have successfully completed Courses 1 and 2. Students will learn about systems such as flight control, remote-control vehicles and the virtual world. Students will learn to fly using flight simulators. They will work collaboratively to propose a shift from a Very High Frequency Omnidirectional Range (VOR) navigation system to a Global Positioning System (GPS) and determine the cost savings. In addition, students will develop rotor blades for helicopters and design and program an unmanned flying vehicle.

### **Aerospace Engineering 4: Astronautics Engineering Applications**

<b>Course Code</b>	6389
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	11,12
<b>Credits</b>	1 (120)
<b>Prerequisite</b>	Course 3: Aeronautics Engineering Applications

Students in this capstone course will focus on outer space and underwater applications. During the six projects, they will work collaboratively to design, build and test a laser communication system; develop a plan for space survivability in hostile environments; and utilize software to create a three-dimensional model of a satellite orbit and a team remote vehicle for underwater exploration. Depending on articulation agreements or state policy, students who successfully complete the course may be able to earn dual credit.

## Clean Energy 1: Clean Energy Systems

<b>Course Code</b>	6380
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Clean Energy Systems 1 exposes students to three sources of renewable energy: wind, solar and biofuels. Working with solar, thermal, chemical and mechanical sources of clean energy teaches students how to apply physics, geography, chemistry, biology, geometry, algebra and engineering fundamentals. Students learn the most efficient and appropriate use of energy production as they explore the relevant relationships among work, power and energy. Students will engage in a wide variety of hands on projects and lab activities that both test their knowledge and illustrate the interrelationships between the various forms of clean energy.

## Clean Energy 2: Clean Energy Applications

<b>Course Code</b>	6381
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Clean Energy Systems 2 builds on the foundation of Course 1 and introduces nuclear power, steam generation, fuel cells, geothermal power, water power, AC/DC power generation, heat transfer and the laws of thermodynamics. In addition, students now use chemical and thermal energy principles to create, store and use energy efficiently to power a variety of mechanical and electrical devices. Students will engage in a variety of hands-on design projects to demonstrate principles using advanced technology hardware and software.

### **Clean Energy 3: Clean Energy Strategies**

<b>Course Code</b>	6382
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Clean Energy Systems 3 students utilize applicable skills from the foundational courses to tackle challenges associated with the implementation of clean energy technology. The hands-on projects encountered during this course will require students to address specific issues related to providing portable power in any situation, developing new energy storage systems, increasing the efficiency of the modern home, and designing more energy efficient buildings and homes.

### **Clean Energy 4: Clean Energy Innovations**

<b>Course Code</b>	6383
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Clean Energy Innovations is the fourth and final course in the Clean Energy Technology Pathway Program. The course will provide students the opportunity to work independently with open-ended, problem-solving scenarios to create an original solution in the area of clean energy entrepreneurship or clean energy research and development. Students will collaborate with a mentor to conduct applied research around a defined research problem, develop solutions, collect and analyze relevant data, evaluate their solutions, and present their findings in public venues and competitions.

### **Core Engineering 1**

<b>Course Code</b>	6370
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Core Engineering 1 (Introduction to Engineering) is the introductory course in the core engineering program. This course teaches problem-solving skills using a design development process and exposes students to the career field of engineering, as well as engineering design software. Models of product solutions are created, analyzed, and communicated using 3D CAD software.

## Core Engineering 1

## Core Engineering 2

<b>Course Code</b>	6371
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Core Engineering 1

Core Engineering 2 is the second course when students learn 3D design as an interactive process. Students learn best when they can explore the practical applications of the concepts that they learn. This STEM course has many activities and exercises that enable students to put design concepts into practice. Students create their ideas such as artificial heart components, extreme sports equipment, hip replacement parts, robotic arm components, musical instruments and their parts as well as many others. Ideas become reality in this course.

## Core Engineering 3

<b>Course Code</b>	6375
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Core Engineering 2

Core Engineering 3 is the third course in the core engineering sequence and helps students understand a specialized field of engineering/engineering technology. The course uses project-based activities and technological systems to help students learn about a specific engineering discipline. Students will use Science, Technology, Engineering, and Math (STEM) and Project Lead the Way (PLTW) engineering and problem solving processes. Existing state-approved course that meet these standards include specialization courses in PLTW or STEM Academy.

## Core Engineering 4

<b>Course Code</b>	6376
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Core Engineering 3

Core Engineering 4 is the fourth course in the core engineering sequence and helps students understand an additional specialized field of engineering/engineering technology. The course uses project-based activities and technological systems to help students gain a deeper understanding of engineering processes. Students will use Science, Technology, Engineering, and Math (STEM) in an engineering and problem solving process. Existing state-approved course that meet these standards include specialization or capstone courses (PLTW or STEM Academy).

## Industrial Technology Education (Exploratory) 1, 2

<b>Course Code</b>	6040, 6041
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours) per course code
<b>Prerequisite</b>	None

Industrial Technology Education provides the essential core of technological knowledge and skills to become technology literate citizens. Standards are organized into five categories: The Nature of Technology, Technology and Society, Design, Abilities for a Technological World, and the Designed World and are presented in grade bands.

## **Informatics 1: Computers, Networks and Databases**

<b>Course Code</b>	6891
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

This project-based-learning course engages students who are curious about informatics. Students will learn how to use a design process to create systems that acquire, store and communicate data for a variety of career fields. Students will work collaboratively in teams to design systems, solve problems, think critically, be creative and communicate with each other and business partners. Students will participate in real-world experiences such as designing an inventory system for a retail store, comparing stores in a company to project future sales, track customer buying habits and more.

## **Informatics 2: Design for the Digital World**

<b>Course Code</b>	6892
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Computer, Networks, and Databases

This project-based-learning course engages students who are interested in applying the design process to create systems such as a cloud-based digital storage system for images. Students will design a system to automatically collect and report data on highway usage. They will apply a geospatial system to map a store and develop a database that studies shopping habits. Through these projects, students will learn about data management and logic-based queries by collecting data, using the Global Positioning System (GPS) and analyzing data utilizing a geographic information system (GIS). They will learn how to automate data collection to make processes more effective and efficient. Students will work collaboratively in teams and demonstrate their knowledge and skills by presenting new and innovative ideas, techniques and solutions to business and industry partners.

### **Informatics 3: Databases in the Cloud**

<b>Course Code</b>	6893
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Design for the Digital World

This project-based-learning course is for students who successfully completed courses 1 and 2 and who want to tackle the more complex challenges that business and industry face. Students at this level will learn about Web technologies, cloud storage, information security, data, animation, introductory computer programming and database applications. Students will take more responsibility for their own learning, problem solving, and thinking outside of the box. Real-world challenges will require higher levels of research, building, testing, analyzing and improving systems. Students will develop solutions for real-world problems by designing a database for ticket sales; designing security for a database; creating a game with animation; reporting information based on population data in a community; and designing, building and testing an application for a database.

### **Informatics 4: Developing a Cloud Presence**

<b>Course Code</b>	6894
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Databases in the Cloud

Students in this capstone course will focus on the ethics of privacy, social networking, designing for clients and artificial intelligence through six authentic projects. Students will select a business partner and design, build and test a Web presence for a company that will apply the concepts from the three prior courses. Student teams will work collaboratively with a business partner to develop a proposal for the project with evaluation criteria. Once the business partner accepts the proposal, the student team will implement it by designing, planning, building the system, and testing and revising the system to meet the needs of the business. Depending on articulation agreements or state policy, opportunity for dual credit may be available to students who successfully complete this course.

## **Innovations in Science and Technology 1: The Nature of Science and Technology**

<b>Course Code</b>	6140
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

This is a contextual-based course that introduces students to the core fundamental concepts of science and technology through authentic projects. Through these projects, students will develop an understanding of the relationship between the physical, biological and social world. Students will gain an understanding of the differences between science and technology, and learn that technology is a process for applying science. Students will develop a deeper understanding of scientific inquiry and the engineering design process when solving real-world problems. Students will experience the interaction of science, technology, engineering, math and literacy through a problem-based learning environment. Finally, the process will require students to use mathematics to analyze costs, develop budgets and make precise measurements to successfully implement project goals.

## **Innovations in Science and Technology 2: Core Applications of Science and Technology**

<b>Course Code</b>	6141
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Innovations in Science and Technology 1

This course uses the concepts learned from Course 1 to further develop students' problem-solving strategies and skills needed by the 21st-century workforce. Students will continue to explore emerging technologies and techniques in the context of addressing authentic projects. Key concepts introduced in this course include sustainability and environmental trends, systems thinking, and trend analysis and prediction. Through engagement, students will experience the necessary connection between literacy, mathematics and science in a variety of hands-on, real-world projects requiring them to apply academic and technical concepts and skills and technology to complete.

### **Innovations in Science and Technology 3: Impacts of Science and Technology**

<b>Course Code</b>	6142
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Innovations in Science and Technology 2

This course will examine the past, present and future impact of science and technology on culture, society and the environment. Students will explore how their predecessors worked to solve some problems that still exist today, and examine the potential of using modern technology to solve those problems. From these explorations, students will engage in a variety of hands-on design projects that will address tradeoffs, optimization, interconnectivity and the nature of complex systems.

### **Innovations in Science and Technology 4: Creativity and Innovations**

<b>Course Code</b>	6143
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Innovations in Science and Technology 3

This course will allow students to brainstorm, use invention, innovation, creativity, predictive analysis and use technology to solve real-world problems. Dimensions covered will include research and development, troubleshooting, experimentation, design failures, patents and trademarks, and design under constraints.

### **PLTW-Aerospace Engineering (AE)**

<b>Course Code</b>	6056
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Engineering (IED), Principles of Engineering (POE), or Teacher Recommendation

This PLTW course propels students' learning in the fundamentals of atmospheric and space flight. As they explore the physics of flight, students bring the concepts to life by designing an airfoil, propulsion system, and rockets. They learn basic orbital mechanics using industry-standard software and explore robot systems through projects such as remotely operated vehicles.

### **PLTW-Civil Engineering and Architecture (CEA)**

<b>Course Code</b>	6058
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Engineering (IED), Principles of Engineering (POE), or Teacher Recommendation

Students learn important aspects of building and site design and development, applying math, science, and standard engineering practices to design both residential and commercial projects. They document designs using 3D architecture design software. Some students have seen these designs come to life through partnerships with local housing organizations.

### **PLTW-Computer Integrated Manufacturing (CIM)**

<b>Course Code</b>	6053
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Engineering (IED), Principles of Engineering (POE), or Teacher Recommendation

Manufactured items are part of everyday life, yet most students have not been introduced to the high-tech, innovative nature of modern manufacturing. This course illuminates the opportunities related to understanding manufacturing while teaching students about manufacturing processes, product design, robotics, and automation. Students can earn a virtual manufacturing badge recognized by the National Manufacturing Badge system.

### **PLTW-Computer Science A (CSA)**

<b>Course Code</b>	6373
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

CSA focuses on integrating technologies across multiple platforms and networks, including the Internet. Students collaborate to produce programs that integrate mobile devices and leverage those devices for distributed collection and data processing. Students analyze, adapt, and improve each other's programs while working primarily in Java™ and other industry-standard tools. This course prepares students for the AP Computer Science-A course.

### **PLTW-Computer Science Essentials (CSE)**

<b>Course Code</b>	6372
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

Computer Science Essentials (CSE) will expose students to a diverse set of computational thinking concepts, fundamentals, and tools, allowing them to gain understanding and build confidence. Students will use visual, block-based programming and seamlessly transition to text-based programming with languages such as Python to create apps and develop websites, and learn how to make computers work together to put their design into practice. They will apply computational thinking practices, build their vocabulary, and collaborate just as computing professionals do to create products that address topics and problems important to them. Computer Science Essentials helps students create a strong foundation to advance to Computer Science Principles, Computer Science A, and beyond.

### **PLTW-Computer Science Principles (CSP)**

<b>Course Code</b>	6377
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Keyboarding Proficiency

CSP introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. With a unique focus on creative problem solving and real-world applications, CSP prepares students for college and career.

## **PLTW-Cybersecurity**

<b>Course Code</b>	6378
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Any high school computer science course

This course provides students with a broad exposure to the many aspects of digital and information security, while encouraging socially responsible choices and ethical behavior. It inspires algorithmic and computational thinking, especially “outside-the-box” thinking. Students explore the many educational and career paths available to cybersecurity experts, as well as other careers that comprise the field of information security. Cybersecurity is designed with strong connections to the National Cybersecurity Workforce Framework (also known as the NICE Framework or NCWF). Created by the National Institute of Standards and Technology (NIST), this framework identifies standards that have been developed by numerous academic, industry, and government organizations. The objectives also incorporate many of the big ideas and learning objectives outlined by the College Board and addressed in AP CSP and AP CSA. In addition, the course integrates Computer Science Teachers Association (CSTA) standards.

## **PLTW-Digital Electronics (DE)**

<b>Course Code</b>	6052
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Engineering (IED), Principles of Engineering (POE) or Teacher Recommendation

From smart phones to appliances, digital circuits are all around us. This course provides a foundation for students who are interested in electrical engineering, electronics, or circuit design. Students study topics such as combinational and sequential logic and are exposed to circuit design tools used in industry including logic gates, integrated circuits, and programmable logic devices.

### **PLTW-Engineering Design and Development (EDD)**

<b>Course Code</b>	6054
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Engineering (IED), Principles of Engineering (POE), or Teacher Recommendation

The knowledge and skills student acquire on the “Pathway To Engineering” come together in EDD as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards. Completing EDD prepares students to be ready to take on any post-secondary program or career.

### **PLTW-Environmental Sustainability (ES)**

<b>Course Code</b>	6374
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10, 11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

ES provides opportunities for students to investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply, and renewable energy. Applying their knowledge through hands-on activities and simulations, students’ research and design potential solutions to these true-to-life challenges.

### **PLTW-Introduction to Engineering Design (IED)**

<b>Course Code</b>	6051
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Students dig deep into the engineering design process, applying math, science and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software and document their work in an engineering notebook.

## **PLTW-Principles of Engineering (POE)**

<b>Course Code</b>	6050
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Introduction to Engineering Design

Through problems that engage and challenge students, they explore a broad range of engineering topics including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.

## **Pre-Engineering/Engineering and Industrial Technology Education Internship (name change effective 2019-20), Work-Based Credit**

<b>Course Code</b>	6090
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

Pre-Engineering/Engineering and Industrial Technology Education Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course.

**Science, Technology, Engineering, and Mathematics Internship  
(name change effective 2019-20), Work-Based Credit**

<b>Course Code</b>	6890
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	Completion of two (2) CTE courses/units within a program

Science, Technology, Engineering, and Mathematics Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-credit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course. This course **will not** count as a unit in the three unit completer pathway.

## Transportation, Distribution, and Logistics

### Automotive Collision Repair Technology 1, 2, 3, 4

<b>Course Codes</b>	6020, 6021, 6022, 6023
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

The Automotive Collision Repair Technology program is designed to prepare students to repair automobiles and light commercial vehicles under the supervision of an experienced automotive collision repair technician. Automotive Collision Repair Technology students receive instruction in frame alignment, surface finishing, and shop management. Upon successful completion of the program standards, the student will be prepared for postsecondary education and entry-level automotive collision repair-related careers. Program standards are based on National Automotive Technicians Education Foundation (NATEF)-Automotive Service Excellence (ASE), Vehicle Manufacturers, and Inter-Industry Conference on Auto Collision Repair (I-CAR) industry standards.

### Automotive Technology 1, 2, 3, 4

<b>Course Codes</b>	6030, 6031, 6032, 6033
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

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

## **Diesel Engine Technology 1, 2, 3, 4**

<b>Course Codes</b>	6310, 6311, 6312, 6313
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

The Diesel Technology program provides a broad foundation in the diesel repair field by preparing students for entry level positions in the field of heavy duty diesel vehicle repair. Students gain skills in engine repair, fuel supply and management, suspension and brakes, hydraulic systems operation, and lighting and instrumentation. Students entering this program should exhibit mechanical aptitude, the ability to read and follow instructions as outlined in service repair manuals, and enjoy precision work and problem solving.

## **Global Logistics 1: Introduction to Logistics**

<b>Course Codes</b>	6191
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	No prerequisite

This Advanced Career course engages students in solving contextual problems related to the concepts of supply chains, warehouse location, contingency planning, insourcing and outsourcing, and expanding existing supply chains. These concepts form the basis of global logistics and supply chain management and help students understand how professionals examine options to maximize the use of resources across distribution networks.

## **Global Logistics 2: Functional Areas in Logistics**

<b>Course Codes</b>	6192
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	Introduction to Logistics

This Advanced Career course compels students to explore deeper understandings of the concepts they discovered in the previous course as they navigate projects on warehouse design, inventory management, transportation optimization, information technology, emergency responsiveness, and the supply chain for manufacturing. Students use their experiences in this course to discover ways that professionals minimize the outlay of resources while improving efficiency and ability in the global market.

## **Global Logistics 3: Global Logistics Management**

<b>Course Codes</b>	6193
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	Functional Areas in Logistics

This Advanced Career course offers challenging projects that require students to look at the global implications of the industry in more earnest as they experiment with decisions over intermodal transportation, route selection, international shipping regulations, emergency preparedness, cultural awareness, business ethics, and international trade restrictions related to a distribution strategy. Students develop their understanding of the industry in this course and truly build their awareness of the challenges of doing business in a world with multiple borders that must be traversed.

## **Global Logistics 4: Logistics and Supply Chain Management**

<b>Course Codes</b>	6194
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

This Advanced Career course allows students to see the implications of all the concepts they learned in the previous three courses as they consider environmental impact, selecting business partners in a global and domestic chain, information technology, and decisions regarding e-commerce. Students explore the ongoing need to balance dependability and resource outlay in meeting customer demands around the world. Projects will expand students' decision-making skills as they tackle issues related to transportation, distribution networks and manufacturing. Global Logistics & Supply Chain Management is for students who want to solve complex spatial problems on a global scale through careful research and critical thinking about how to move people and products between points.

### **267B**

## **Introduction to Transportation, Distribution, and Logistics**

<b>Course Codes</b>	6015
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	9, 10
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	None

Introduction to Transportation, Distribution, and Logistics is a foundation course that covers a broad industry sector responsible for managing the flow of goods, information, and people between a point of origin and a point of consumption in order to meet the requirements of consumers. Major sub-sectors within the industry include air, rail, water, truck transportation, urban transit and ground passenger transportation, warehousing and storage, and motor vehicle repair. Logistics involve the integration of these sub sectors, including information, transportation, and inventory, warehousing, material-handling, and packaging.

## **Power Equipment Technology 1, 2, 3, 4**

<b>Course Codes</b>	6300, 6301, 6302, 6303
<b>Recommended Maximum Enrollment</b>	24
<b>Grade Level</b>	10, 11, 12
<b>Credits</b>	1 (120 hours), 2 (240 hours), 3 (360 hours) per course code
<b>Prerequisite</b>	No prerequisite for Level 1; Courses taken sequentially

This program is designed to prepare students to perform entry-level maintenance and repair tasks under the supervision of an experienced technician. Students receive training on small internal combustion engines used on portable equipment such as lawn mowers, chain saws, rotary tillers, motorcycles, pumps, compressors, and small boats. The training includes locating and solving problems, using specialized test equipment, overhauling the basic engine, and repairing or replacing engine systems.

## **Transportation, Distribution and Logistics Internship (name change effective 2019–20), Work-Based Credit**

<b>Course Code</b>	6790
<b>Recommended Maximum Enrollment</b>	NA
<b>Grade Level</b>	11, 12
<b>Credits</b>	1 (120 hours)
<b>Prerequisite</b>	

Transportation, Distribution and Logistics Internship is a structured work-based credit bearing course that is taken as a fourth unit in a three- or four-unit CTE completer program. Each work-based learning (credit bearing) course has an assigned CTE course code. The guidelines listed in the CTE Work-Based Learning Implementation Guide must be followed in order to award one Carnegie unit of credit upon successful completion of the course.