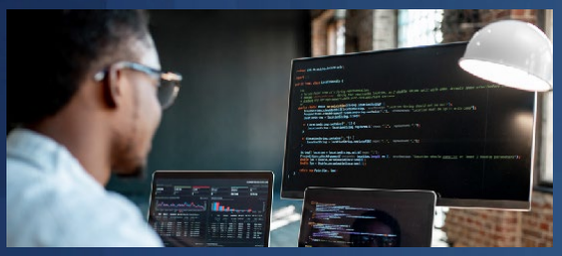
NORTH CAROLINA

CTE Course Inventory

CAREER AND TECHNICAL EDUCATION **2024-2025**



Agricultural Education

Business, Finance, and Marketing Education

Career Development Education

Computer Science, IT, and Technology Education

Family and Consumer Sciences Education

Health Science Education

Trade and Industrial Education

North Carolina Department of PUBLIC INSTRUCTION

Learning that works for North Carolina CTE™

North Carolina

CAREER AND TECHNICAL EDUCATION
COURSE INVENTORY

PUBLIC SCHOOLS OF NORTH CAROLINA
State Board of Education • Department of Public Instruction

For information, contact ctecurriculum@dpi.nc.gov

This document goes into effect in July 2024.

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INTRODUCTION

CAREER AND COLLEGE READY

The mission of Career and Technical Education (CTE) is to empower students to be successful citizens, workers, and leaders in a global economy. CTE programs are designed to contribute to the broad educational achievement of students, including basic skills, as well as their ability to work independently and as part of a team, think creatively and solve problems, and utilize technology in the thinking and problem-solving process.

Career and Technical Education fulfills an increasingly significant role in school reform efforts. Students who concentrate in a CTE area, earning at least two related technical credits and meeting other criteria, are better prepared for the further education and advanced training required to be successful in 21st century careers. Career and Technical Educators at the state and local levels partner with business and industry and with community colleges and other postsecondary institutions to ensure Career and Technical Education serves the needs of individual students and of the state.

The Strengthening Career and Technical Education for the 21st Century Act (Perkins V) provides the framework for Career and Technical Education. North Carolina's Five-Year Plan for Career and Technical Education specifies how Career and Technical Education programs will be carried out in the state. Additional information about planning for Career and Technical Education is found in the CTE Planning Guide.

COURSE INVENTORY

The 2023 CTE Course Inventory document was approved by the North Carolina StateBoard of Education in April 2022 and goes into effect for the 2023-2024 academic year. The document contains program areas, course descriptions, and links to essential standards by course. This information was previously part of the Career and Technical Education Standard Course of Study Guide but has been revised as part of the North Carolina Department of Public Instruction Accountability and Curriculum Reform Effort with emphasis on Essential Standards. Public School Unit (PSU) CTE administrators work with individual schools to select appropriate courses from among those in this document.

Each year the NC Department of Public Instruction publishes the Status of Curriculum, which lists the latest version date of each course and each supporting blueprint and curriculum, and the assessment source used with courses in the Course Inventory.

For specific information about our pathways, courses, and standards, please refer to our Course Management System website: https://center.ncsu.edu/nccte-cms/

Career and Technical Education in the North Carolina Department of Public Instruction is responsible for managing courses in the Course Inventory. Four types of courses are available.

1. **Courses Developed by the Department of Public Instruction**
   Courses developed by the state are designed to meet the needs/standards of business and industry. They include a blueprint of essential standards, supporting objectives, and relative objective weights. These courses provide a curriculum product and aligned Proof of Learning (POL). All products developed since 2006 are aligned using the Revised Bloom's Taxonomy.
2. **Courses Adapted by the Department of Public Instruction**
   In some cases, curriculum is available from multiple vendors and a blueprint is needed to direct the learning of students. An Adapted Course Blueprint is developed with essential standards, indicators, and relative essential standard weights. This type of blueprint is often used when an industry credential is available for the course.

3. **Courses Using Adopted Curriculum**
   In some cases, a sole source is recognized as a provider of curriculum in a specialty area, and the course is adopted fully from a third-party vendor. Materials for these courses are usually purchased by thePSU and typically include assessments.
4. **Courses Approved as Local Course Options**
   If a PSU recognizes needs that are not addressed by courses in the Course Inventory, that PSU can request authorization to offer a Local Course Option. A Local Course Option requires considerable planning and preparation. Each local course must be approved before it is advertised and offered to students. More information about Local Course Options appears in Appendix A.

CAREER CLUSTERS™ AND PROGRAMS OF STUDY

Career Clusters™ are broad groupings of occupations/career specialties, organized by common knowledge and skills required for career success. There are 16 Career Clusters™ and 79 related pathways (subgroupings of occupations/career specialties). Supported by the original 2006 Perkins legislation, Career Clusters™ are an organizing tool for curriculum design, school guidance, and a framework for seamless transition to career and college.

All NC CTE courses align to the Career Clusters™. Each course is placed in a Career Cluster based on a set of knowledge and skills common to all careers in the entire Career Cluster. Industry-validated knowledge and skills statements of student expectations identify what the student should know and be able to do. They prepare students for success in a broad range of occupations/career specialties. Some CTE courses cross over all 16 Career Clusters™.

Sixteen Career Clusters™

- Agriculture, Food, and Natural Resources
- Architecture and Construction
- Arts, A/V Technology, and Communications
- Business Management and Administration
- Education and Training
- Finance
- Government and Public Administration
- Health Science
- Hospitality and Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections, and Security
- Manufacturing
- Marketing
- Science, Technology, Engineering, and Mathematics
- Transportation, Distribution, and Logistics

Federal law requires each school receiving Perkins funds to offer at least one Program of Study (POS). A Program of Study provides a clear pathway for students to reach their career goals through secondary CTE courses, opportunities for postsecondary credit while in high school, and academic coursework, combined with a smooth transition to postsecondary education and advanced training. Students are to have a career development plan outlining courses to be taken that will move them toward their tentative career objective, meet high school graduation requirements, and provide a foundation for further education and advanced training.

WORK-BASED LEARNING

All Career and Technical education clusters in North Carolina offer work-based learning opportunities forstudents. Work-based learning opportunities for each course are identified with its description.

- **Pre-apprenticeship:** a recruiting and screening tool for students interested in an apprenticeship opportunity. This course is developed by the apprenticeship sponsor with academic instruction, technical skills training, or a combination of both.
- **Apprenticeship:** a system of skilled occupational training that combines practical work experiences withrelated academic instruction, technical skill training, and a progressive wage scale.
- **Business and Industry Field Trip:** an off-site learning experience aimed at expanding the learning context for participating students.
- **Cooperative Education:** a method of instruction where technical classroom instruction is combined withpaid employment that is directly related to the classroom instruction.
- **Entrepreneurial Experience:** involves students developing knowledge and proficiency in running a business. Students gain work-place skills and develop an understanding of how to manage a business and are responsible for all risks.
- **Internship:** a work-based learning experience where a student participates in the daily operations of a work site under the direct supervision of a business mentor.
- **Job Shadowing:** a short-term educational experience that introduces a student to aparticular job or career by pairing the student with an employee of a business, industry, or agency.
- **Mentorship:** involves pairing a student (mentee) with a community professional (mentor) in aone-to-one relationship with the intent of providing first-hand experience in a career field/cluster of the student's choice.
- **School-based Enterprise:** a simulated or actual business conducted by a school that creates direct links between classroom learning and the world of work.
- **Service Learning:** a work-based learning strategy that combines community service with Career and Technical learning goals. Students provide volunteer service to public and non-profit agencies, as well as to civic, charitable, and governmental organizations in the local community.

WORK-BASED LEARNING IMPLEMENTATION

Building the bridge for work-based learning and the various pathways for career success involves stakeholders. As we build a useable, interactive roadmap and guide for our youth, it is the primary goalof the Work-based Learning Guide to help stakeholders, educators, parents, students, business, and industryutilize resources that support the implementation of work-based learning experiences.

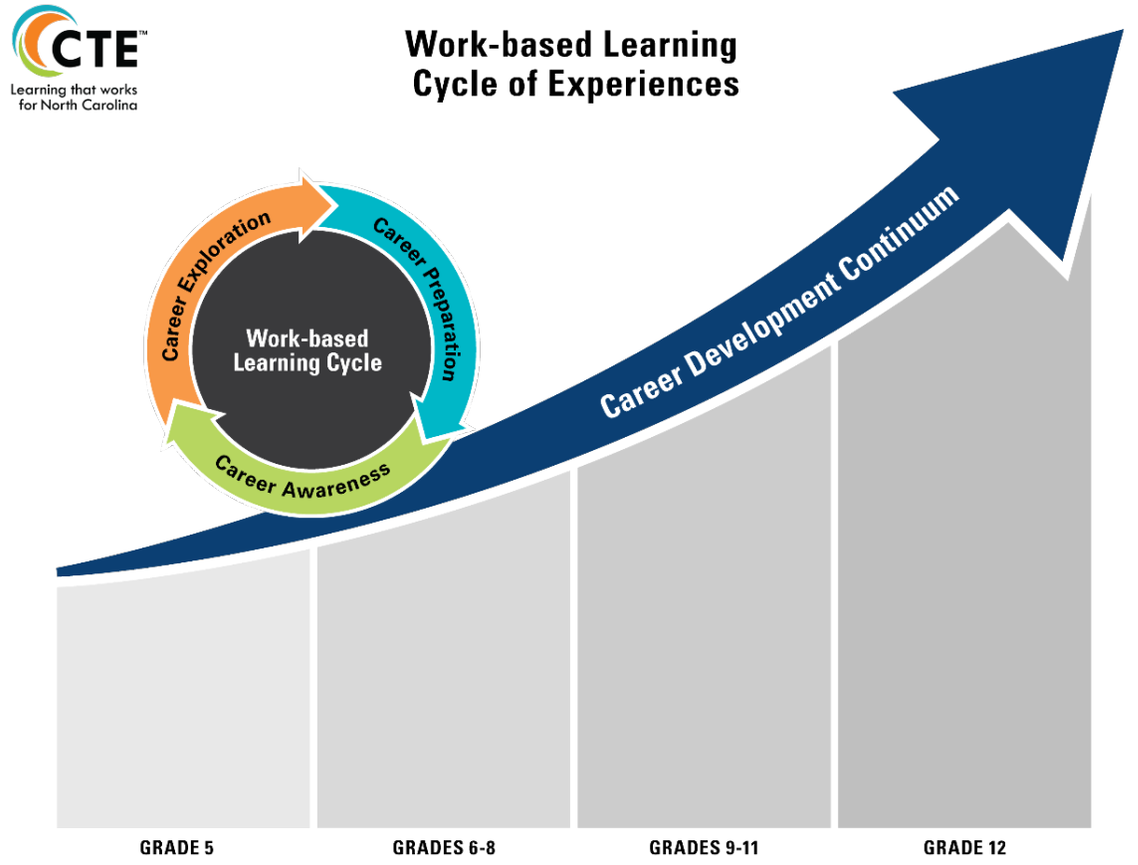
The first step to understanding work-based learning in a career pathway is to recognize how important each aspect of career development is for the participant involved at that precise period of time.

Work-based Learning is an integral part of all Career and Technical Education courses in North Carolina to show curricular relevance to industry skills. The Work-based Learning Cycle of Experiences depicts the opportunities students have beginning in elementary through middle and high school and beyond.

Work-based Learning includes:

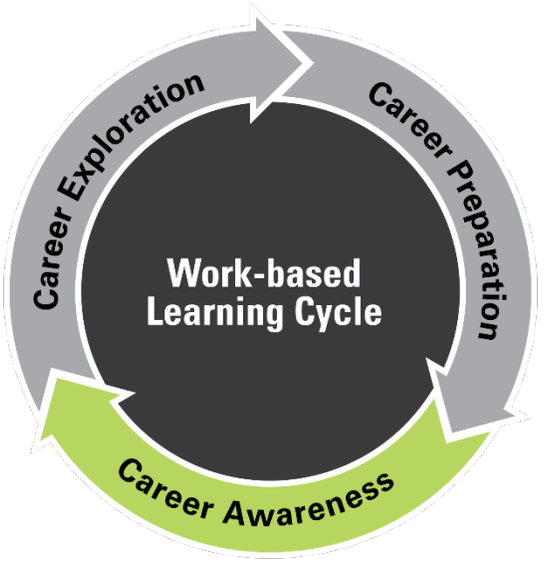
- Career Awareness
- Career Exploration
- Career Preparation

The Work-based Learning Cycle of Experiences is formal or informal experiences that are slightly different from each other and provide a range of opportunities for students to interact with the world of work.



CAREER AWARENESS

Students will begin to understand how school relates to the “world of work“ through businesses, parents, and mentors who “share and tell” their story about their profession.



During career awareness, students will be given the opportunity to:

- understand how school relates to the world of work.
- become aware of different careers and career pathways.
- experience field trips to various businesses and industries.
- participate in community volunteer organizations and service-learning projects.
- embrace classroom assignments and project-based learning around specific industries.
- become involved in school-based business entrepreneurship projects.
- hear guest speakers from industry experts.
- visit theme-specific high schools that are of interest to them via class tours and open houses.

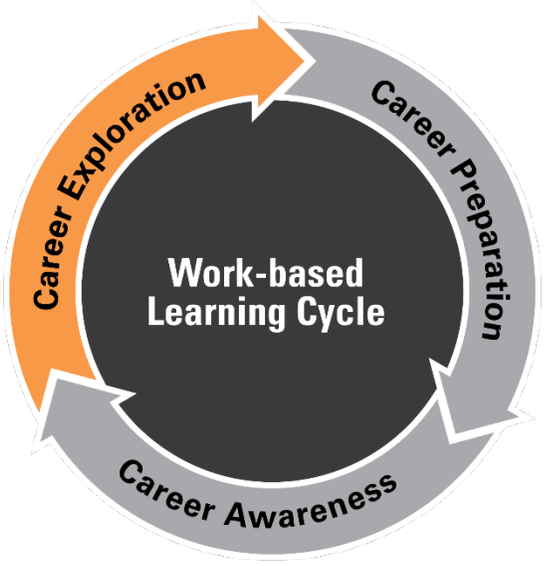
Other opportunities for developing career awareness include:

- Job shadowing *
- Classroom visits
- Field trips to various business and industry
- Assignments aligned with career exploration and discovery
- Job visits with parent/guardian for the day

* The Students@Work is a project of the North Carolina Business Committee for Education in partnership with theNorth Carolina Department of Public Instruction. The goal is for North Carolina businesses to help middle schoolstudents in their community see the opportunities that exist in the workplace.

CAREER EXPLORATION

Students will develop an in-depth understanding of the working world with an understanding of the importance of career discovery. Course work and project-based learning support discovery of various careers in numerous occupations as well as the needed educational foundation and prerequisite needed to be successful in a specific career pathway.

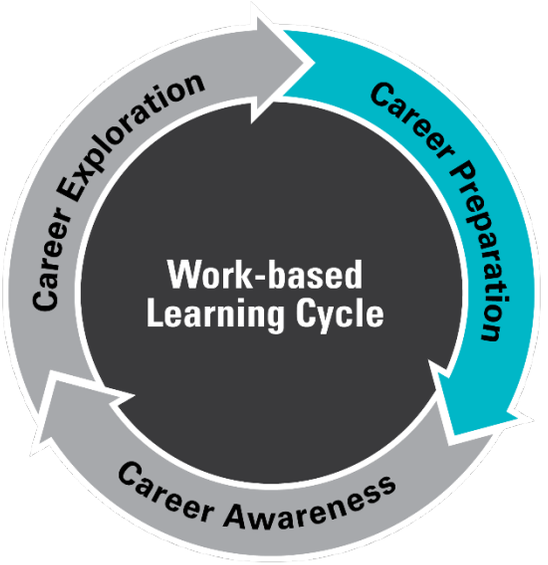


During career exploration, students:

- understand how school relates to the world of work.
- research a career interest.
- take an inventory assessment to help align specific educational courses and career goals.
- develop an understanding of various occupations within a specific career theme/pathway.
- become aware of how specific skills are needed to be successful in the work world.
- research, design and develop a plan for post-secondary training and education for a specific career pathway.

CAREER PREPARATION

Students will develop and possess the needed skills for college and career readiness via classroom academic and work-based skills needed in the world. Students will develop durable employability skills, relationship building tools, teamwork development, successful communication and business attributes sought from employers.



During career preparation, students will:

- develop needed skill-building aptitudes sought from all employers.
- know and understand the function and the skills needed to be successful in a specific career.
- be able to seek resources to find a specific career/job.
- have the core knowledge to be successful in a particular career pathway.
- understand and possess the appropriate work attitude, characteristics and professionalism needed for asuccessful work placement.
- develop an understanding of various occupations within a specific career theme/pathway.
- become aware of how specific skills are needed to be successful in the work world.
- develop career and educational goals that align with their selected career pathway
- research and design a career development plan that will help align their courses and career goals.
- follow and utilize post-secondary training opportunities and education to design their own careerpathway.
- apply for a specific job or work-based learning experience via employment protocol methods utilizing thefollowing: cover letters, resumes, interviewing skills, application forms, and thank you/follow-up letters.

AGRICULTURAL EDUCATION
PROGRAM DESCRIPTION

Agricultural education provides systematic instruction to students in the areas of agriculture, food, and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management, and technology. Agricultural education prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber, and natural resources systems.

Through agricultural education, students are provided opportunities for leadership development, personal growth, and career success. Agricultural education instruction is delivered through three major components:

- Classroom/Laboratory instruction (contextual learning)
- Supervised Agricultural Experience programs (work-based learning)
- Leadership Development (North Carolina FFA Association and National FFA Organization).

Career pathways that students may pursue include:

- Animal Science
- Equine Science
- Natural Resources
- Plant Systems
- Power, Structural, and Technical Systems
- Sustainable Agriculture

National FFA Organization is a dynamic youth organization that changes lives and prepares members for more than 255 careers in agriculture. FFA develops members' potential and helps them discover their talent through hands-on experiences, giving them the tools to achieve real-world success. Members are future chemists, veterinarians, government officials, entrepreneurs, bankers, international business leaders, teachers, and premier professionals in many career fields. FFA is an intracurricular student organization for those interested in agriculture and leadership.

For specific information about AG pathways, courses, credentials, and standards, please refer to the NC CTE CourseManagement System website: https://center.ncsu.edu/nccte-cms/

Agricultural Education
Course Descriptions

Agricultural Mechanics I

Course Number: AS31

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFA Organization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop knowledge and technical skills in the broad field of agricultural machinery, equipment, and structures. Identify day-to-day maintenance and repair needs of agricultural mechanics equipment. Generate knowledge of agricultural mechanics safety and hand/power tool use and selection. Develop an understanding of electrical wiring and basic agricultural metal and wood fabrication. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Power, Structural and Technical Systems pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Agricultural Mechanics II

Course Number: AS32

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AS31 Agricultural Mechanics I

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Understand metal fabrication technology to implement hot/cold metal working skills and technology, advanced welding and metal cutting skills. Build non-metallic agricultural fabrication techniques. Utilize tools and equipment safely to work with plastics, plumbing, concrete, and masonry. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in Power, Structural and Technical Systems pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Agricultural Mechanics II - Small Engines

Course Number: AS33

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AS31 Agricultural Mechanics I

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Implement knowledge of four-cycle small engines to obtain an industry recognized credential. Execute skills in compression and ignition system repair and maintenance. Facilitate regulation of fuel and governor small engine function. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Power, Structural and Technical Systems pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Agricultural and Environmental Biotechnology

Course Number: AY12

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Understand the science of plants, food, and animals in agricultural biotechnology through hands-on activities. Build knowledge of environmental biotechnology applications and understand their global impact. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food, and Natural Resources career cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Agriculture and Our Social and Economic Well-Being

Course Number: AY25

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization (FFA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Analyze the importance of agriculture to social and economic well-being through hands-on activities. Explore how advances in agriculture support life and help society. Establish a connection to agriculture through career exploration. Build knowledge of industrial and environmental biotechnology applications and their global impact. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food and Natural Resources career cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Foundations of Agriculture

Course Number: AU10

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the sectors of the agriculture industry through hands-on activities. Develop a foundation of agricultural literacy to become an advocate in the community. Establish an understanding of the process to produce agricultural commodities in the areas of plant science, agriculture mechanics, animal science, and natural resources. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food and Natural Resources pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Animal Science I

Course Number: AA21

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the impact animal physiology has on animal nutrition and health. Identify animals using physical traits and characteristics. Implement best management practices to select healthy animals. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Animal Science pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Animal Science II – Companion Animal

Course Number: AA23

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AA21 Animal Science I

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Integrate safe handling practices to groom and care for companion animals and identify companion animals using physical traits and characteristics. Illustrate knowledge of nutritional and digestive needs through experiential activities. Establish a foundation of veterinary medical terminology and procedures. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Animal Science pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Animal Science II – Food Animal

Course Number: AA22

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AA21 Animal Science I

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Expand knowledge of animal anatomy and physiology and utilize genetics to improve animal performance. Formulate nutrition plans to produce food animals and design facilities to manage animal production systems. Develop an understanding of veterinary terminology and practices. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Animal Science pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Drone Technology Fundamentals

Course Number: ID10

Please refer to the Trade and Industrial Education Program Area for the full course description.

Drone Technology I

Course Number: ID11

Please refer to the Trade and Industrial Education Program Area for the full course description.

Drone Technology II

Course Number: ID12

Please refer to the Trade and Industrial Education Program Area for the full course description.

Equine Science I

Course Number: AA31

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Connect environmental factors to equine behavior. Conceptualize how anatomy influences equine movement and internal organs. Build knowledge of nutritional physiology and feeding management of horses. Explore the tools and equipment used to support equine sports and recreation through hands on activities. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Equine Science pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Equine Science II

Course Number: AA32

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AA31 Equine Science I

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop advanced applications in feeding and management of equine. Participate in the selection of horses for multiple equine disciplines based on the structure and functionality of the animal. Develop facility and management plans for horses. Monitor equine health through diagnostic procedures. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Equine Science pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Exploring Agricultural Issues

Course Number: AY23

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the production process for agriculture products and the connection between science and research. Analyze current issues affecting the agriculture industry and economy through exploratory activities. Build agricultural advocacy through leadership development and authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food and Natural Resources career cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Exploring Animal and Plant Science

Course Number: AY21

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the fundamentals of the animal and plant industry through classroom and exploratory settings. Foster an understanding of the importance of plant and animal products through hands-on activities. Generate knowledge of plant physiology in laboratory settings. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food and Natural Resources career cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Exploring Environmental and Natural Resources

Course Number: AY20

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Foster knowledge of the relationship between natural resources and how it supports the environment. Conceptualize the role of alternative energy. Develop environmental stewardship practices through hands-on activities. Connect animal and plant production to best management practices. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food and Natural Resources career cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Exploring Food and Agricultural Products

Course Number: AY22

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Become an informed consumer of agricultural products by experiencing the process to produce safe agricultural products for consumption. Participate in the process to convert agricultural products into food and fiber through hands-on activities. Discover the purpose of marketing and labeling agriculture products to enhance consumption. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food and Natural Resources career cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Fundamentals of the Agricultural Science Program

Course Number: AY24

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the importance of stewardship through hands-on experiences. Discover appropriate safety procedures for various agricultural education learning environments. Implement foundational work-based learning experiences and develop leadership skills through agriculture and community settings. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food and Natural Resources career cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Fundamentals of Biotechnology

Course Number: AY10

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Discover terminology and mathematical concepts used in the biotechnology industry through hands-on activities. Build laboratory safety skills through classroom activities. Investigate cellular design and DNA through exploratory activities. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food and Natural Resources career cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Horticulture I – Introduction to Plants

Course Number: AP41

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Grow your knowledge of plant biology and environmental conditions plants need to thrive. Cultivate plant identification skills and experiment with propagation and production practices. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in Plant Systems pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Horticulture II – Plant Production

Course Number: AP42

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AP41 Horticulture I – Introduction to Plants

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Cultivate skills related to greenhouse, nursery, floral, and edible plant production, and maintenance practices. Experience the requirements to grow and maintain healthy plants and floral products through work-based learning opportunities. Build leadership development and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Plant Systems pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Horticulture II Landscape Construction

Course Number: AP44

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AP41 Horticulture I - Introduction to Plants

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Design landscapes that meet client demands. Implement landscape installation and maintenance skills through work-based learning opportunities. Gain the knowledge and skills for landscape careers in the horticulture pathway. Build leadership development and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Plant Systems pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Introduction to Biotechnology

Course Number: AY11

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop an understanding of historical developments through exploratory activities. Investigate theories of biotechnology progress to improve agriculture. Create a career development plan to demonstrate leadership skills in a program of activities. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Agriculture, Food and Natural Resources career cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Natural Resources I

Course Number: AN51

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop knowledge of renewable and non-renewable natural resources in an agricultural education setting. Explore forestry and wildlife habitat management procedures through hands-on activities. Practice skills and methods used to evaluate and classify soils. Examine land use regulations to support environmental quality. Build leadership development and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Natural Resources pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Natural Resources II

Course Number: AN52

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AN51 Natural Resources I

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Examine best management practices and sampling techniques to support natural resource conservation. Develop forestry identification and management skills. Discover prescribed conservation techniques to enhance forestry and wildlife habitats and explore a variety of natural resources recreational opportunities. Build leadership development and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in Natural Resources pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Natural Resources II - Forestry

Course Number: AN53

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AN51 Natural Resources I

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore forest cultivation, conservation and management, and timber harvesting and processing to prepare students for a career in the forestry industry. Implement skills in tree identification and timber measurement. Develop forestry knowledge and skills to attain an industry recognized credential. Gain the knowledge and skills for careers in Natural Resources pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Project Management I

Course Number: CS11

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Project Management II

Course Number: CS12

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Sustainable Agriculture Production I

Course Number: AU21

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Investigate the increasingly complex world of producing enough food and fiber to meet the growing world demand through exploration activities. Examine the ecological balance to conserve natural resources in a local and global setting. Implement environmentally sound practices for various facets of agricultural production such as agroforestry, foods safety, and the farm-to-fork continuum. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Sustainable Agriculture pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Sustainable Agriculture Production II

Course Number: AU22

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AU21 Sustainable Agriculture Production I

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Enhance knowledge of 21st century agriculture through the continued exploration of renewable energy, precision agriculture biotechnology and sustainable agriculture breeding programs in an experiential setting. Implement production methods to sustain a growing population in the areas of bees, aquaponics, mushrooms, and vermicomposting. Facilitate the business and marketing aspects of agriculture production systems. Convey food safety practices in each facet of agriculture production. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Sustainable Agriculture pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

Veterinary Assisting

Course Number: AA41

Recommended Maximum Enrollment: 15

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: AA22 Animal Science II – Food Animal or AA23 Animal Science II - Companion Animal (Designed for 11th or 12thgrade students with an interest in animal medicine) or AA32 Equine Science II

Aligned Career Technical Student Organization(s): North Carolina FFA Association and National FFAOrganization

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop the skills, techniques, and knowledge to earn a veterinary assistant credential. Perform proper veterinary practice management and client relations through hands-on skills. Formulate veterinary medical dosages using appropriate medical terminology. Establish animal handling skills in practicum settings and establish surgical and radiological procedures through skill-based scenarios. Build leadership and employability skills through authentic experiences from Supervised Agricultural Experience (SAE), classroom instruction, and FFA participation. Gain the knowledge and skills for careers in the Animal Science pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes		**Supervised Agricultural Experience (SAE)**	Yes
****Work-based Learning descriptions can be found on page 3.**				

CTE Advanced Studies

Course Number: WB01 (AGNR)

Recommended Maximum Enrollment: 25

Hours of Instruction: 120 minimum

Prerequisite: Two technical credits in one Career Pathway

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for postsecondary education and future careers through analysis and research of selected career pathway. Experience real-world application of course/pathway content through a work-based learning lens acquired by utilizing employability skills in an authentic workforce activity. Evaluate and plan for a postsecondary career while educating others. Gain the knowledge and skills for careers in the pathway of choice.

CTE Apprenticeship

Course Number: WB02 (AGNR)

Recommended Maximum Enrollment: 20

Hours of Instruction: 120 minimum

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Perform the job duties and related education required as an employed apprentice in a career field registered by ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce environment. Evaluate and plan for a postsecondary career in the career cluster/pathway culminating in a State Certificate and a National Journeyworker Certificate issued by the USDOL. Gain the knowledge and skills for careers in the pathway of choice.

CTE Career and College Promise

Course Number: Various

Recommended Maximum Enrollment: Varies

Hours of Instruction: Does not apply

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Career and College Promise provides a way for any North Carolina high school student in good academic standing who meets eligibility requirements to take community college courses while still in high school. Students can combine high school and postsecondary courses to earn a credential, certificate, or diploma in a technical field and meet requirements for CTE concentration. Credit may be transferrable to another North Carolina community college, to UNC System institutions, and to many of the state's independent colleges and universities. Students should work with their school counselor to determine what CTE pathways are available at their local community college or in what other ways they can access this program.

CTE Entrepreneurial Experience

Course Number: WB04 (AGNR)

Recommended Maximum Enrollment: 20

Hours of Instruction: 120 minimum

Prerequisite: Two CTE course credits: one must be a concentrator course.

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization;Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for the management, responsibilities, and risks of operating a business in a career pathway. Experience real-world application of workplace and employability skills in business management and operations. Learn skills and approaches to successfully evaluate and create new business opportunities. Gain the knowledge and skills for careers in the pathway of choice.

CTE Internship

Course Number: WB03 (AGNR)

Recommended Maximum Enrollment: 20

Hours of Instruction: 120 minimum

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for postsecondary education and future careers through observation and participation in the daily operations of a career in a general career field. Experience real-world application of job tasks acquired by utilizing durable employability skills in an authentic workforce activity. Gain the knowledge and skills for careers in the pathway of choice.

CTE Pre-apprenticeship

Course Number: WL65 (AGNR)

Recommended Maximum Enrollment: 20

Hours of Instruction: 120 minimum

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for opportunities for postsecondary education and employment in an apprenticeship in a career field registered with ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce activity. Evaluate and plan for a postsecondary career in the career cluster/pathway. Gain the knowledge and skills for careers in the pathway of choice.

BUSINESS, FINANCE, AND MARKETING EDUCATION
PROGRAM DESCRIPTION

Business, Finance, and Marketing (BFM) provides students with meaningful instruction for and about business. Instruction in Business, Finance, and Marketing Education encompasses business skills and techniques, an understanding of basic economics, an understanding of making socioeconomic decisions and producing goods and services for consumption, and business attitudes essential to become a globally engaged and productive citizen. BFM plays a key role in preparing a competent, business-literate, and skilled workforce. The associated curricula have real-life relevance that empowers and helps young adults to compete in a global marketplace while managing their own financial affairs and making intelligent consumer and business-related choices.

Career pathways that students may pursue include:

- Accounting
- Business Ethics and Law
- Economics
- Entrepreneurship
- Financial Planning
- General Management
- Marketing Management
- Project Management
- Sales
- Sport and Event Marketing

Future Business Leaders of America (FBLA) inspires and prepares students to become community-minded business leaders in a global society through relevant career preparation and leadership experiences. FBLA programs focus on leadership development, which includes essential soft skills; academic competitions; educational programs in which members create career portfolios, enhancing their knowledge with world-recognized skills certifications; and access to select college scholarships.

An Association for Marketing Education Students (DECA), the Career and Technical Student Organization for marketing students, complements the class and work experiences by allowing students to develop practical presentation, decision making, and leadership skills. Work-based learning experiences, including Cooperative Education, are strongly encouraged to add relevancy to classroom instruction.

For specific information about BFM pathways, courses, credentials, and standards, please refer to the NC CTE CourseManagement System website: https://center.ncsu.edu/nccte-cms/

Business, Finance, and Marketing Education
Course Descriptions

Accounting I

Course Number: BA10

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Investigate the basic principles of the accounting cycle. Analyze business transactions and the proper recording of these records. Interpret financial statements, accounting systems, banking and payroll activities, and basic types of business ownership. Gain the knowledge and skills for careers in accounting.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Accounting II

Course Number: BA20

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: BA10 Accounting I

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop in-depth knowledge of accounting procedures and techniques utilized in solving business problems and making managerial decisions. Explore departmental accounting, corporate accounting, cost accounting, and inventory control systems. Amplify accounting skills to accurately complete specialized accounting procedures. Gain the knowledge and skills for careers in accounting.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

AP Macroeconomics

Course Number: 4A03

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: AP Macroeconomics is a college-level course that introduces students to the principles that apply to an economic system as a whole. The course places particular emphasis on the study of national income and price-level determination. It also develops students' familiarity with economic performance measures, the financial sector, stabilization policies, economic growth, and international economics. Students learn to use graphs, charts, and data to analyze, describe, and explain economic concepts.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

AP Microeconomics

Course Number: 4A04

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: AP Microeconomics is a college-level course that introduces students to the principles of economics that apply to the functions of individual economic decision-makers. The course also develops students' familiarity with the operation of product and factor markets, distributions of income, market failure, and the role of government in promoting greater efficiency and equity in the economy. Students learn to use graphs, charts, and data to analyze, describe, and explain economic concepts.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Business Essentials

Course Number: BF10

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore realistic business principles by examining the business environment and primary business activities. Conceptualize ethics, customer relations, and human resource management through workplace scenarios. Investigate the usage of financial analysis, economics, information management, marketing, operations, and technology in the business world of the 21st century. Gain the knowledge and skills for careers in multiple business pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Business Ethics and Law I

Course Number: BB30

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Cultivate the knowledge of basic legal and ethical principles governing the business industry and its consumers. Explore the role federal and state government plays in criminal and civil court cases. Investigate issues that arise in the topics of business ownership, contract law, employment law, cyber law, property law, and environmental law. Gain the knowledge and skills for careers in business law.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Business Ethics and Law II

Course Number: BB32

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: BB30 Business Ethics and Law I

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Analyze complex legal and ethical issues that impact today's modern business models. Explore e-commerce law, agency law, and business financial law. Investigate the protection provided by business contracts and their importance. Gain the knowledge and skills for careers in business law.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Business Management I

Course Number: BB40

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: BF10 Business Essentials

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Cultivate core management concepts. Investigate how managers plan, organize, staff, and direct the business's resources that enhance the effectiveness of the decision-making process. Explore ethical dilemmas and real-world situations utilizing customer service, academic, and critical-thinking skills. Gain the knowledge and skills for careers in general management.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Business Management II

Course Number: BB42

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: BB40 Business Management I

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Nurture the appreciation and significance of management to business organizations. Investigate how managers control financial resources, inventory, ensure employee safety, and protect customer data to enhance the effectiveness of their decision making. Investigate ethical dilemmas, practice problem solving, and build teamwork skills. Gain the knowledge and skills for careers in business management.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drone Technology Fundamentals

Course Number: ID10

Please refer to the Trade and Industrial Education Program Area for the full course description.

Drone Technology I

Course Number: ID11

Please refer to the Trade and Industrial Education Program Area for the full coursedescription.

Drone Technology II

Course Number: ID12

Please refer to the Trade and Industrial Education Program Area for the full course description.

Entrepreneurship I

Course Number: ME11
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Conceptualize starting, opening, working for, and operating a small business. Explore feasibility, design thinking, entrepreneurial mindset, and the Lean Canvas Business Model. Investigate channel management, pricing, product/service management, and promotion. Gain the knowledge and skills for careers in entrepreneurship.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Entrepreneurship II

Course Number: ME12
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: ME11 Entrepreneurship I
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Utilize business planning strategies to accelerate the implementation of a business idea. Construct plans for risk management, staffing, and promotions. Develop a business plan complete with a SWOT analysis and action plan. Gain the knowledge and skills for careers in entrepreneurship.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Business Activities

Course Number: BY12

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Analyze the basics of business activities and various careers. Investigate careers related to finance, management, information technology, marketing, and entrepreneurship. Gain the knowledge and skills for careers in business, finance, and marketing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Business and Entrepreneurship

Course Number: BY10

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the purpose and functions of business and the concepts of entrepreneurship. Focus on the characteristics of an entrepreneur and the entrepreneurial process. Gain the knowledge and skills for careers in business, finance, and marketing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Business Procedures and Leadership

Course Number: BY13
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore business procedures and basics of leadership. Establish durable skills including business etiquette, ethical decision-making, and how to seek, gain, and maintain employment. Gain the knowledge and skills for careers in business, finance, and marketing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Economic Systems

Course Number: BY11
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Discover the basics of economics. Research the types of economic systems and explore the United States economic system. Investigate concepts including supply and demand, the stock market, e-commerce, and the Federal Reserve. Gain the knowledge and skills for careers in business, finance, and marketing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Fashion Merchandising

Course Number: MI21
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Family, Career, and Community Leaders of America (FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description Experience a comprehensive approach to the business of fashion. Engage in the economics, distribution, promotion, and retail of fashion. Prepare for entry-level fashion employment or post-secondary education. Gain knowledge and skills for careers in the fashion industry.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Internship**	Yes
Apprenticeship	Yes		**Job Shadowing**	Yes
Business and Industry Field Trip	Yes		**Mentorship**	Yes
Cooperative Education	Yes		**School-based Enterprise**	Yes
			Service Learning	Yes
****Work-based Learning descriptions can be found on page 3.**				

Financial Planning I

Course Number: BF21
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: BF10 Business Essentials
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop techniques to enhance personal wealth building for a secure financial future. Establish key strategies for wealth building through evaluating businesses for investment opportunities while incorporating current headlines and trends, financial resources, and stock market simulation. Gain the knowledge and skills for careers in financial planning.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Financial Planning II

Course Number: BF22

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: BF21 Financial Planning I

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop the knowledge and skills to create a business financial plan; including loans, insurance, taxes, and corporate governance. Explore the various risks and returns associated with business activities and the impact of the global economy. Analyze ethical situations in various aspects of financial leadership in local, national, and global business environments. Gain the knowledge and skills for careers in financial planning.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Business Management

Course Number: BI50

Recommended Maximum Enrollment: 30

Hours of Instruction: 150

Prerequisite: BF10 Business Essentials

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Students learn to analyze, discuss, and evaluate business activities at local, national, and international levels. The course covers a range of organizations from all sectors, as well as the socio-cultural and economic contexts in which those organizations operate.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Economics HL

Course Number: 4I02
Recommended Maximum Enrollment: 30
Hours of Instruction: 150
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students will study topics such as economic theories, microeconomics, macroeconomics, and the global economy in significant breadth and depth.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Economics SL

Course Number: 4I01
Recommended Maximum Enrollment: 30
Hours of Instruction: 150
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: This course uses economic theories, models, and key concepts to examine the ways in which these choices are made: at the level of producers and consumers in individual markets (microeconomics); at the level of the government and the national economy (macroeconomics); and at an international level, where countries are becoming increasingly interdependent (the global economy).

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Marketing I

Course Number: MM51
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Implement dynamic marketing processes and activities. Develop an understanding of marketing functions and their impact on business operations. Conceptualize a comprehensive marketing plan. Gain the knowledge and skills for careers in marketing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Marketing II

Course Number: MM52
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: MM51 Marketing I
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Understand marketing mix strategies and the marketing model. Explore the role of marketing research, marketing data, and marketing communications. Apply knowledge to prepare a strategic marketing plan. Gain knowledge and skills for careers in marketing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Project Management I

Course Number: CS11
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore the principles, concepts, and software applications used in the management of projects from conception to completion. Utilize project-based learning to exemplify the framework of initiating, planning, executing, monitoring and controlling, and closing a project in authentic situations. Analyze the core concepts of scope, time, cost, and integration. Gain the knowledge and skills for careers across multiple pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Project Management II

Course Number: CS12
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: CS11 Project Management I
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop advanced project management skills. Utilize project-based learning to understand how to use the framework of initiating, planning, executing, monitoring and controlling, and closing a project in authentic situations. Explore concepts of quality management, human resources, communication management, risk management, procurement management, and stakeholder management. Gain the knowledge and skills for careers across multiple pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Sales I

Course Number: MI31
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore careers in selling and customer service. Recommend specific products to meet customer needs. Develop communication skills through public speaking opportunities. Gain the knowledge and skills for careers in sales.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Sales II

Course Number: MI32
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: MI31 Sales I
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Realize the art of selling and build upon the content from the MI31 Sales I course. Develop a personal brand while enhancing communication and customer service skills. Utilize role plays to engage in the selling process; learn to improvise and think critically. Gain the knowledge and skills for careers in sales.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Sport and Event Marketing I

Course Number: MH31
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore sport and event industries, associated marketing strategies, and branding concepts. Develop an understanding of promotion and marketing data related to sports and events. Weave together the concepts to create a proposal for a unique event. Gain the knowledge and skills for careers in sport and event marketing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Sport and Event Marketing II

Course Number: MH32
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: MH31 Sport and Event Marketing I
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Utilize knowledge of promotion and marketing to create a plan for a unique event. Extrapolate marketing data to make informed communication decisions. Analyze the financial and economic impacts of sports and events. Gain the knowledge and skills for careers in sport and event marketing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

CTE Advanced Studies

Course Number: WB13 (BMA), WB21 (FINA), WB25 (GOVT), WB53 (MRKT)
Recommended Maximum Enrollment: 25
Hours of Instruction: 120 minimum
Prerequisite: Two technical credits in one Career Pathway
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFAOrganization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for postsecondary education and future careers through analysis and research of selected career pathway. Experience real-world application of course/pathway content through a work-based learning lens acquired by utilizing employability skills in an authentic workforce activity. Evaluate and plan for a postsecondary career while educating others. Gain the knowledge and skills for careers in the pathway of choice.

CTE Apprenticeship

Course Number: WB14 (BMA), WB22 (FINA), WB26 (GOVT), WB54 (MRKT)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFAOrganization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Perform the job duties and related education required as an employed apprentice in a career field registered by ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce environment. Evaluate and plan for a postsecondary career in the career cluster/pathway culminating in a State Certificate and a National Journeyworker Certificate issued by the USDOL. Gain the knowledge and skills for careers in the pathway of choice.

CTE Career and College Promise

Course Number: Various

Recommended Maximum Enrollment: Varies

Hours of Instruction: Does not apply

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFAOrganization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Career and College Promise provides a way for any North Carolina high school student in good academic standing who meets eligibility requirements to take community college courses while still in high school. Students can combine high school and postsecondary courses to earn a credential, certificate, or diploma in a technical field and meet requirements for CTE concentration. Credit may be transferrable to another North Carolina community college, to UNC System institutions, and to many of the state's independent colleges and universities. Students should work with their school counselor to determine what CTE pathways are available at their local community college or in what other ways theycan access this program.

CTE Entrepreneurial Experience

Course Number: WB16 (BMA), WB24 (FINA), WB28 (GOVT), WB56 (MRKT)

Recommended Maximum Enrollment: 20

Hours of Instruction: 120 minimum

Prerequisite: Two CTE course credits: one must be a concentrator course.

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization;Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for the management, responsibilities, and risks of operating a business in a career pathway. Experience real-world application of workplace and employability skills in business management and operations. Learn skills and approaches to successfully evaluate and create new business opportunities. Gain the knowledge and skills for careers in the pathway of choice.

CTE Internship

Course Number: WB15 (BMA), WB23 (FINA), WB27 (GOVT), WB55 (MRKT)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFAOrganization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for postsecondary education and future careers through observation and participation in the daily operations of a career in a general career field. Experience real-world application of job tasks acquired by utilizing durable employability skills in an authentic workforce activity. Gain the knowledge and skills for careers in the pathway of choice.

CTE Pre-apprenticeship

Course Number: WL68 (BMA), WL70 (FINA), WL71 (GOVT), WL78 (MRKT)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for opportunities for postsecondary education and employment in an apprenticeship in a career field registered with ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce activity. Evaluate and plan for a postsecondary career in the career cluster/pathway. Gain the knowledge and skills for careers in the pathway of choice.

CAREER DEVELOPMENT EDUCATION
PROGRAM DESCRIPTION

Career Development curriculum provides the foundation to prepare students for careers and education in the 21st century; it is designed to introduce students to the opportunity to understand and make connections between their interests, attitudes, values, personality, learning styles, skills, and career choices. Students understand the lifelong, sequential process of determining self and career identity.

Middle school and high school career development curriculum includes competencies in self-assessment, matching interests to career choices, exploring the world of work, career research, education and career awareness, career exploration evaluation of career information, and creation of a career plan. NC Career Development curriculum is the foundation for NC Career and Technical Education and Pathways.

Student participation in Career and Technical Student Organization (CTSO) competitive events, community service, and leadership activities additionally provide the opportunity to apply essential standards and workplace readiness skills through authentic experiences.

Opportunities for leadership development, critical and creative thinking, decision-making, problem-solving, teamwork, technology, and work-based learning are provided. The NC Career Development curriculum is based on the National Career Development Guidelines and National Standards for School Counseling Programs, endorsed by the North Carolina State Board of Education.

For specific information about CD pathways, courses, credentials, and standards, please refer to the NC CTE Course Management System (CMS) website: https://center.ncsu.edu/nccte-cms/

Career Development Education
Course Descriptions

Career Exploration

Course Number: EY30*
Recommended Maximum Enrollment: 30
Hours of Instruction: 30 - 90 hours
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Engage in activities that illuminate the vital knowledge, skills, and purpose of careers in these areas: Agriculture; Business, Finance, and Marketing; Computer Science, IT and Technology; Health Science; Family and Consumer Sciences; Trade and Industrial - Construction and Manufacturing; and Trade and Industrial - Transportation and Public Safety. Become empowered to self-assess personal aptitudes, skills, values, personality, and career interests. Evaluate aligned pathways to identify career education, training, and certifications. Gain information on the most cost-efficient path to entry and discover opportunities within the school setting to explore and prepare for the chosen career.
* Course code EY30 should be used for all Career Exploration units based on local needs.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Career Management

Course Number: CC45

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Focus on leadership, career development and management, essential employability skills, and career exploration through hands-on experiences. Develop an understanding of personal learning styles, speaking skills development, and team management skills. Build understanding of the National Career Development Guidelines, including communications skills, personal management, and teamwork. Gain the knowledge and skills for careers in all CTE pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Careers and Employment

Course Number: EY11

Recommended Maximum Enrollment: 30

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFAOrganization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop an orientation to career planning and future employment success. Explore the world of work, skills needed for employment success, and the career planning and preparation process. Build understanding of the National Career Development Guidelines, including communications skills, personal management, and teamwork. Gain the knowledge and skills for careers in all CTE pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Personal Characteristics and Careers

Course Number: EY10
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFAOrganization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA**)**
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop an orientation to self-awareness and the world-of-work. Explore how interests, attitudes, values, learning styles, skills, and personality influence career choices. Build an understanding of the National Career Development Guidelines, including communications skills, personal management, and teamwork. Gain the knowledge and skills for careers in all CTE pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Financial Literacy

Course Number: EY12
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFAOrganization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA**)**
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore the basics of financial literacy to build confidence in making financial decisions. Understand decision-making principles related to banking, budgeting, and credit. Discover careers in the financial industry while exhibiting mindful money management behaviors needed for adult life. Gain the knowledge and skills for careers in all Career and Technical Education pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

IB Personal and Professional Skills

Course Number: 0I00

Recommended Maximum Enrollment: 30

Hours of Instruction: 150

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA); Technology Student Association (TSA); North Carolina FFA Association; National FFA Organization; An Association for Marketing Education Students (DECA); Family, Career, and Community Leaders of America (FCCLA); SkillsUSA; HOSA - Future Health Professionals

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Students develop attitudes, skills, and strategies to be applied to personal and professional situations and contexts now and in the future.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

COMPUTER SCIENCE, IT, AND TECHNOLOGY EDUCATION
PROGRAM DESCRIPTION

Computer Science, IT, and Technology (CSITT) is a discipline focusing on the understanding and creation of information and technological systems to be a digital age learner. As part of the CSITT career pathways, students can experience computing systems and applications, networks and the internet, data analytics, programming and algorithms, impacts of technology, STEM, information processing, design thinking, engineering and advanced manufacturing, artificial intelligence and robotics, and cybersecurity and privacy. CSITT career pathways align to the NC CS K-12 Standards and Course of Study.

Career pathways that students may pursue include:

- Adobe Academy
- Adobe Video Design
- AP Computer Science
- Cisco Network Engineering
- Computer Engineering
- Computer Science Principles
- Data Science
- 3D Modeling and Animation
- Game Art Design
- Network Administration
- Network Security
- PLTW Engineering
- Python Programming
- SREB AC Career Pathway – Aerospace Engineering
- SREB AC Career Pathway – Innovations in Science and Technology
- Swift Develop
- Technology Engineering and Design

For specific information about CSITT pathways, courses, credentials, and standards, please refer to the NC CTE CourseManagement System website: https://center.ncsu.edu/nccte-cms/.

Students may pursue more than one intracurricular CTSO.

Future Business Leaders of America (FBLA) inspires and prepares students to become community-minded business leaders in a global society through relevant career preparation and leadership experiences. FBLA programs focus on leadership development, which includes essential soft skills; academic competitions; educational programs in which members create career portfolios, enhancing their knowledge with world-recognized skills certifications; and access to select college scholarships. FBLA programs also place a strong emphasis on community service through support of the March of Dimes to help end premature births. Finally, FBLA members can build a portfolio of accomplishments with a wide range of awards programs with regional, state, and national recognition.

SkillsUSA is the premier student leadership organization in the country with over 300,000 members nationwide. SkillsUSA-NC offers many activities to enrich our students, advisors, and professional members throughout the year. The activities include professional and leadership development conferences, competitions that measure both technical and employability skills, and opportunities for scholarships, employment, networking, and competitive skills. Leadership events are held for regional, state, national, andinternational levels.

Technology Student Association (TSA) is an essential element of the state's Technology Education Program. This student organization provides the opportunity for students to engage in activities directly reflecting the curriculum. Along with learning collaboration and leadership skills, students can engage in student-centered, complex tasks that are authentic and developed over an extended period. Beyond the powerful influence of the activities, participation in the TSA helps transform programs by affording both the teacher and students the opportunity to learn from others by attending regional, state, and national conferences.

Adobe Digital Design I

Course Number: II43
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Build creative websites using techniques in Adobe Dreamweaver. Explore principles for web authoring and maintaining website content. Train to earn the industry-recognized Adobe Certified Professional Dreamweaver credential. Gain the knowledge and skills for careers in the Adobe Academy pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Adobe Video Design I

Course Number: II45
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Discover the legal, technical, and editorial principles employed in the video industry necessary to understand ethical implications before engaging in a film project. Work collaboratively to conceive, plan, and execute production plans to create audio and video assets. Use Adobe Premiere Pro features to edit audio and video clips to create and publish a range of video products. Gain the knowledge, skills, and credentials necessary for career possibilities in the Adobe Video Design pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Adobe Video Design II

Course Number: II46
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Engage in the preproduction, production, and postproduction processes of video creation. Develop digital media products in the fields of audio, news-style video, and interview-style video. Design social media products to be used on multiple platforms using cinematic storytelling elements. Gain knowledge and skills for careers in the Adobe Video Design pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Adobe Visual Design I

Course Number: II41
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Build logos and vector images using features in Adobe Illustrator. Enhance photographs using features in Adobe Photoshop. Produce images to be used in business publications and communications. Gain knowledge and skills for careers in the Adobe Academy pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Adobe Visual Design II

Course Number: II42
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: II41 Adobe Visual Design I
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore elements that make an exceptional digital and print publications. Create print and digital publications in Adobe InDesign. Train to earn the industry-recognized Adobe Certified Professional InDesign credential. Gain knowledge and skills for careers in the Adobe Academy pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Advanced Game Art and Design

Course Number: TS32
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: TS31 Game Art and Design
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore advanced game theory to continue the journey of the gaming industry. Level up production management skills on a real-world inspired game development team. Create 3D game levels and more using industry standard software. Gain the knowledge and skills for careers in the Game Art and Design pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

AP Computer Science A

Course Number: 2A02
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: AP Computer Science A is an introductory college-level computer science course. Students cultivate their understanding of coding through analyzing, writing, and testing code as they explore concepts like modularity, variables, and control structures.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

AP Computer Science Principles

Course Number: 0A02
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: AP Computer Science Principles introduces students to the foundational concepts of the field and challenges them to explore how computing and technology can impact the world.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

AP Statistics

Course Number: 2A03
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Learn about the major concepts and tools used for collecting, analyzing, and drawing conclusions from data. Explore statistics through discussion and activities, and design surveys and experiments.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Apple: Everyone Can Code I - Puzzles

Course Number: CY13
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA),SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore Swift Playgrounds to begin to learn the basics of coding. Devise programs that use basic computing concepts like variables, loops, conditionals, and functions. Explore the power of commands in digital technologies and how coding impacts everyday life. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Apple: Everyone Can Code II - Adventures

Course Number: CY14

Recommended Maximum Enrollment: 30

Hours of Instruction: 45

Prerequisite: CY13 Apple: Everyone Can Code I - Puzzles

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Experiment with Swift Playgrounds to learn more advanced coding concepts. Code programs that use event-driven programming to express creative ideas. Build computing programs that make effective use of multiple hardware components. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Artificial Intelligence I

Course Number: BN41

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore artificial intelligence and its impact on society. Utilize artificial intelligence with coding in multiple programming languages. Develop artificial intelligence programs that make use of sensory data, numerical data, and data sets. Gain the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Business Essentials

Course Number: BF10

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Cisco Network Engineering Technology I

Course Number: II11

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the devices, concepts, and tools that allow the internet to flow to various devices. Build simple local area networks. Configure routers, switches, and implement IP addressing schemes. Gain the knowledge, skills, and industry credential for careers in the Cisco Network Engineering pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Cisco Network Engineering Technology II

Course Number: II12

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: II11 Cisco Network Engineering Technology I

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Configure and troubleshoot routers and switches in a network. Use monitoring tools and network management protocols to troubleshoot data networks. Implement access control lists to filter traffic. Gain the knowledge, skills, and industry credential for careers in the Cisco Network Engineering pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Coding in Minecraft - Introductory

Course Number: CY30

Recommended Maximum Enrollment: 30

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Design algorithms using the Minecraft platform. Investigate how to determine the outcome of running a series of programming statement. Perform the process of debugging and resolving problems in algorithms. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Coding in Minecraft - Intermediate

Course Number: CY31

Recommended Maximum Enrollment: 30

Hours of Instruction: 45

Prerequisite: CY30 Coding in Minecraft - Introductory

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop programs in the Minecraft platform with block-based coding and using MakeCode. Build programs that utilize variables, logic statements, and loops. Produce a program that effectively solves a problem. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Coding in Minecraft - Advanced

Course Number: CY32
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: CY31 Coding in Minecraft - Intermediate
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop programs in the Minecraft platform with text-based coding and using JavaScript. Establish where code can be reused, follow JavaScript code, and predict the outcome. Code programs in JavaScript that make use of logic statements, comparison operators, and iteration. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Coding in Minecraft – Expert Coding

Course Number: BP05
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: CY32 Coding in Minecraft - Advanced
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Deepen knowledge and skills of JavaScript or Python Programming in the Minecraft platform. Code complex programs in JavaScript or Python that make use of variables and data types, selection and branching, iteration loops, error handling, and modularity. Work toward earning the Coding in Minecraft Expert Capstone credential. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

CompTIA IT Fundamentals

Course Number: BI12

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Set up and install common peripheral devices to a laptop or PC and secure a basic wireless network. Manage applications software while understanding the various components of an operating system. Interpret programming language categories and interpret the logic and purpose of programming. Gain the knowledge, skills, and industry credential for careers in the Computer Engineering pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Computer Engineering Technology I

Course Number: II21

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: BI12 CompTIA IT Fundamentals

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Install and configure laptops and other mobile devices. Support and troubleshoot Windows OS, Mac OS, and Linux OS environments. Troubleshoot real-world device and network issues. Gain the knowledge, skills, and industry credential for careers in the Computer Engineering pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Computer Engineering Technology II

Course Number: II22
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: II21 Computer Engineering Technology I
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Troubleshoot PC and mobile device issues including common OS, malware, and security issues. Identify and protect against security vulnerabilities for devices and their network connections. Perform critical IT support tasks. Gain the knowledge, skills, and industry credential for careers in the Computer Engineering pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Computer Science I

Course Number: BP41
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore how data is stored, transmitted, and used by computers. Investigate the benefits and harms of quickly advancing technology on society. Produce unique and interactive computer programs. Gain the knowledge and skills for careers in the Computer Science Principles pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Computer Science II

Course Number: BP42
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: BP41 Computer Science I
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description Code programs that use advanced creativity and large data sets. Create computer programs that make use of advanced algorithms and procedures. Explore the impacts of computers on a global scale. Gain the knowledge and skills for careers in the Computer Science Principles pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Computer Science Discoveries I

Course Number: CY20
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Solve a series of puzzles, challenges, and real-world scenarios using problem-solving processes. Explore how computers take input, output, store, and process information to help humans resolve problems. Design original content and share it on a webpage using HTML and CSS. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Computer Science Discoveries II

Course Number: CY21
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: CY20 Computer Science Discoveries I
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Code program animations, interactive art, and games in the Game Lab. Program various apps, from simple shapes up to sophisticated sprite-base game, using multiple programming concepts. Enhance problem-solving abilities by analyzing the needs of others and develop programs to meet them. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Internship**	No
Apprenticeship	No		**Job Shadowing**	Yes
Business and Industry Field Trip	Yes		**Mentorship**	Yes
Cooperative Education	No		**School-based Enterprise**	Yes
			Service Learning	Yes
****Work-based Learning descriptions can be found on page 3.**				

Computer Science Discoveries III

Course Number: CY22
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: CY21 Computer Science Discoveries II
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Utilize the App Lab and Adafruit's Circuit Playground to develop programs that take advantage of hardware inputs and outputs. Participate in the design process from simple prototype to finished product. Explore the role of hardware platforms in computing and how different sensors can provide more effective input and output than the traditional keyboard, mouse, and monitor. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Develop in Swift Fundamentals

Course Number: BL53

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: BL52 Develop in Swift Explorations

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop fundamental iOS app development skills with Swift. Explore the UIKit and demonstrate how to use the basic functions that are part of it. Code programs that use workflows, optionals, and enumerations. Gain the knowledge and skills for careers in the Swift Develop pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Develop in Swift Data Collections

Course Number: BL54

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: BL53 Develop in Swift Fundamentals

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop complex and capable apps as part of the iOS app development process with Swift. Utilize tables and web protocols when building complex apps. Analyze advanced data and code it to display properly. Gain the knowledge and skills for careers in the Swift Develop pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Develop in Swift Explorations

Course Number: BL52

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Build a solid foundation in programming using the Swift programming language. Analyze the impact of computing and apps have on society. Participate in the app design process to develop critical app creation skills through converting prototypes into full apps. Gain the knowledge and skills for careers in the Swift Develop pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

3D Modeling and Animation I

Course Number: TS24

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Design 2D graphics using bitmap and vector editing applications. Record audio and video using electronic devices for editing. Build a scene in a 3D modeling program. Gain the knowledge and skills for careers in the 3D Modeling and Animation pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

3D Modeling and Animation II

Course Number: TS25
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: TS24 3D Modeling and Animation I
Aligned Career Technical Student Organization(s): SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Amplify 3D models into reality by applying real-world materials and shaders. Deliver 3D character model to life with rigging and animation techniques. Forge creative potential with lights and cameras on a digital stage. Gain the knowledge, skills, and industry credential for careers in the 3D Modeling and Animation pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Digital Literacy

Course Number: CY04
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore critical digital literacy skills and evaluate content for accuracy and motive. Research the benefits of online communities and how to effectively navigate potential pitfalls in their digital lives. Formulate practical steps to protect privacy and safety online. Explore the knowledge and skills for the careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Drone Technology I
Course Number: ID11
Please refer to the Trade and Industrial Education Program Area for the full course description.

Drone Technology II
Course Number: ID12
Please refer to the Trade and Industrial Education Program Area for the full course description.

Drone Technology Fundamentals
Course Number: ID10
Please refer to the Trade and Industrial Education Program Area for the full course description.

Engineering Design
Course Number: TE13
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: TE11 Technology Engineering and Design
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore the elements of design as a team to analyze factors that lead to design improvements. Establish constraints from outside factors within designs. Engineer a solution for a problem within one of the grand challenges of engineering. Gain the knowledge and skills for careers in the Technology, Engineering, and Design pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Engineering: Exploring Technology I

Course Number: TY00
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Discover and use technology, engineering, and design journals and the Engineering Design Process. Construct and test prototypes to various design challenges. Experiment with different types of energy sources. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Engineering: Exploring Technology II

Course Number: TY01
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: TY00 Engineering: Exploring Technology I
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop an invention timeline that includes the major innovations to the product. Design and build prototypes, solve design problems, and write interactive stories using the design process. Discover and use the upcycling process. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Engineering: Invention and Innovation I

Course Number: TY02
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Design and engineer systems to accomplish specific goals or processes. Dissect objects to locate and troubleshoot potential sources of failure. Design, build, and document prototypes for various engineering design challenges. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Engineering: Invention and Innovation II

Course Number: TY03
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: TY02 Engineering: Invention and Innovation I
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Discover and use the upcycling process. Design and build prototypes, solve design problems, and write interactive stories using the design process. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Engineering: Technological Systems I

Course Number: TY04
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Design and engineer systems to accomplish specific goals or processes. Design, build, and document prototypes for various engineering design challenges. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Engineering: Technological Systems II

Course Number: TY05
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: TY04 Engineering: Technological Systems I
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Dissect objects to locate and troubleshoot potential sources of failure. Design, build, and document prototypes for various engineering design challenges. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Entrepreneurship I

Course Number: ME11

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Entrepreneurship II

Course Number: ME12

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Game Art and Design

Course Number: TS31

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TS24 3D Modeling and Animation I

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the basics of game theory and begin a journey into the gaming industry. Develop real-world soft skills by participating in a game development team. Design a prototype game to play with friends and family. Gain the knowledge and skills for careers in the Game Art Design pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Computer Science HL

Course Number: 2I01
Recommended Maximum Enrollment: 30
Hours of Instruction: 240
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students investigate in greater depth current issues in computer science that are not included in the syllabus.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Computer Science SL

Course Number: 2I00
Recommended Maximum Enrollment: 30
Hours of Instruction: 150
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students learn programming skills as a critical element of developing higher-level skills applicable to virtually all fields of study.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Design Technology HL

Course Number: 3I07
Recommended Maximum Enrollment: 30
Hours of Instruction: 240
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students examine user-centered design (UCD), sustainability, innovation and markets, and commercial production further to extend and deepen their understanding of the subject.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Design Technology SL

Course Number: 3I06
Recommended Maximum Enrollment: 30
Hours of Instruction: 150
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students use design cycle as a tool, which provides the methodology used to structure the inquiry and analysis of problems, the development of feasible solutions, and the testing and evaluation of the solution.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Information Technology in a Global Society

Course Number: BI05
Recommended Maximum Enrollment: 30
Hours of Instruction: 150
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students examine individuals and societies. The course uses an integrated approach, encouraging students to make informed judgements and decisions about the role of information and communication technologies in contemporary society.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Introduction to Computer Science

Course Number: BP01
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore components of computation, programming, ethics, and variables in computer science. Utilize Microsoft's MakeCode block-based coding environment and micro:bit micro controller board to develop simple apps. Build programming skills in block-based JavaScript programming. Gain the skills and knowledge for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Introduction to Data Science

Course Number: BM21

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: BM20 Microsoft Excel

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore introductory concepts to data science, such as data organization and data visualization. Build data analysis and data visualizations using advanced Microsoft Excel techniques. Compose data structures and apply database relationships to help solve deep-level data question. Gain the skills and knowledge for careers in the Data Science pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Introduction to Office Productivity

Course Number: CY02

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Research word processing features and their uses. Explore the purpose and procedures for effectively delivering a multimedia presentation. Investigate the components and operations of spreadsheet software. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Keyboarding and Basic Word Processing

Course Number: CY01

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Improve in the application of the touch method of keyboarding. Draft basic documents using proper formatting techniques. Establish a foundation for effective technology use by learning to type. Explore the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Microsoft Excel

Course Number: BM20

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop spreadsheets in Microsoft Excel using fundamentals, formulas, and functions. Illustrate data with tables and graphs. Manage workbooks, manipulate data, and use simple macros. Gain the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Microsoft Word and PowerPoint

Course Number: BM10

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Craft, enhance, customize, and create various documents using Microsoft Word. Design, customize, and present presentations using Microsoft PowerPoint. Utilize the various features of both programs to produce relevant 21st Century documents. Gain the knowledge and skills for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Network Administration I

Course Number: BN20

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Deploy ethernet solutions and configure wireless technologies. Explore basic networking concepts including networking services, physical connections, and cloud connectivity. Monitor networks to ensure business continuity. Gain the knowledge, skills, and industry credential for careers in the Network Administration pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Network Administration II

Course Number: BN22
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: BN20 Network Administration I
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA); SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore security concepts and network attacks to harden networks against threats. Troubleshoot common cable, connectivity, and software issues. Optimize networks to ensure business continuity. Gain the knowledge, skills, and industry credential for careers in the Network Administration pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Network Security I

Course Number: BN31
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Establish the core knowledge for jobs in cybersecurity. Secure and monitor enterprise networked environments. Detect potential threats and risks found when devices are connected online. Gain the knowledge, skills, and industry credential for careers in the Network Security pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Network Security II

Course Number: BN32
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: BN31 Network Security I
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Identify, analyze, and respond to security events and threats. Enhance security settings on devices to meet U.S. Department of Defense Standards. Monitor and secure hybrid environments, including cloud, mobile, and IoT. Gain the knowledge, skills, and industry credential for careers in the Network Security pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Office Productivity Applications

Course Number: CY03
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Utilize advanced functions, graphs, and charts in spreadsheet software. Explore the purpose and basic components of database software. Investigate the purpose and basic principles of business publications. Explore the skills and knowledge for careers in the Computer Science, IT, and Technology pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Aerospace Engineering

Course Number: TP25
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: TP11 PLTW Introduction to Engineering Design or TP12 PLTW Principles of Engineering
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: In this specialization Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students design problems related to aerospace information systems, astronautics, rocketry, propulsion, the physics of space science, space life sciences, the biology of space science, principles of aeronautics, structures and materials, and systems engineering. Using 3-D design software, students work in teams utilizing hands-on activities, projects, and problems and are exposed to various situations encountered by aerospace engineers. Art, English, language arts, mathematics, and science are reinforced.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Civil Engineering and Architecture

Course Number: TP23
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: TP11 PLTW Introduction to Engineering Design or TP12 PLTW Principles of Engineering
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: In this specialization Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students learn important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3-D architectural design software. Art and English language arts are also reinforced.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Cybersecurity

Course Number: BC10

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: PLTW Cybersecurity introduces the tools and concepts of cybersecurity and encourages students to create solutions that allow people to share computing resources while protecting privacy. Nationally, computational resources are vulnerable and frequently attacked; in PLTW Cybersecurity, students solve problems by understanding and closing these vulnerabilities. This course raises students' knowledge of and commitment to ethical computing behavior. It also aims to develop students' skills as consumers, friends, citizens, and employees who can effectively contribute to communities with a dependable cyber-infrastructure that moves and processes information safely. Strong communication skills are necessary and English language arts, mathematics, and science standards are reinforced.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Digital Electronics

Course Number: TP21

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TP11 PLTW Introduction to Engineering Design or TP12 PLTW Principles of Engineering

Aligned Career Technical Student Organization(s): Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: In this foundation Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students explore the foundations of computing by engaging in circuit design processes to create combinational logic and sequential logic (memory) as electrical engineers do in industry. Art, English language arts, mathematics and science are reinforced.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Engineering Design and Development

Course Number: TP31

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TP21 PLTW Digital Electronics or TP22 PLTW Computer Integrated Manufacturing or TP23 PLTW Civil Engineering and Architecture or TP25 PLTW Aerospace Engineering or PLTW Environmental Sustainability

Aligned Career Technical Student Organization(s): Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: In this capstone Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students identify a real-world challenge and then research, design, and test a solution, ultimately presenting their unique solutions to a panel of engineers.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Engineering Essentials

Course Number: TP13

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Students explore the breadth of engineering career opportunities and experiences asthey solve engaging and challenging real-world problems like creating a natural relief center system or creating a solution to improve the safety and well-being of local citizens.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: App Creators

Course Number: TY22
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students are exposed 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: Automation and Robotics

Course Number: TY21
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students learn about the history and impact of automation and robotics as they explore mechanical systems, energy transfer, machine automation, and computer control systems. Using the VEX Robotics® platform, students apply what they know to design and program traffic lights, robotic arms, and more.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: Computer Science for Innovators and Makers

Course Number: TY23
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students will learn about 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: Design and Modeling

Course Number: TY20
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They are then challenged and empowered to use and apply what they have learned to design a therapeutic toy for a child who has cerebral palsy.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: Energy and the Environment

Course Number: TY24
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students are challenged to think big and toward the future as they explore sustainable solutions to our energy needs and investigate the impact of energy on our lives and the world. They use what they have learned to design and model alternative energy sources, as well as evaluate options for reducing energy consumption.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: Flight and Space

Course Number: TY25
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: The exciting world of aerospace comes alive through Flight and Space (FS). Students become engineers as they design, prototype, and test models to learn about the science of flight and what it takes to travel and live in space. They solve real-world aviation and space challenges and plan a mission to Mars.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: Green Architecture

Course Number: TY28
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students learn how to apply green concepts to the fields of architecture and construction. They explore dimensioning, measuring, and architectural sustainability and apply what they have learned to design affordable housing units using Autodesk's® 3D architectural design software.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: Magic of Electrons

Course Number: TY27
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students examine the behavior and parts of atoms as well as the impact of electricity on the world around them. They learn skills in basic circuitry design and use what they know to propose designs such as a burglar alarm for an art museum.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: Medical Detectives

Course Number: TY29
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students play the role of real-life medical detectives as they collect and analyze medical data to diagnose disease. They solve medical mysteries through hands-on projects and labs, measure and interpret vital signs, examine nervous system structure and function, investigate disease outbreaks, and explore how a breakdown within the human body can lead to dysfunction.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Gateway: Science of Technology

Course Number: TY26
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Science impacts the technology of yesterday, today, and the future. Students apply the concepts of physics, chemistry, and nanotechnology to activities and projects, including making ice cream, cleaning up an oil spill, and discovering the properties of nanomaterials.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Introduction to Engineering Design

Course Number: TP11
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: In this foundation Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students are exposed to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. Students use 3D solid modeling design software to help them design solutions to solve proposed problems and learn how to document their work and communicate solutions to peer and members of the professional community. Art, English, language arts, mathematics and science are reinforced.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Principles of Engineering

Course Number: TP12
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: In this foundation Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students survey engineering and are exposed to major concepts they will encounter in a postsecondary engineering course of study. Students employ engineering and scientific concepts in the solution of engineering design problems. They develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges, documenting their work and communicating solutions to peers and members of the professional community. Art, English language arts, mathematics and science are reinforced.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Project Management I

Course Number: CS11
Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Project Management II

Course Number: CS12
Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Python Programming I

Course Number: BP14
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA,Technology Student Association
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Craft basic programs utilizing Python programming language. Execute functions, loops, operations, and data sets in various programs. Design programs with considerations for ethics, security, and how to implement the problem-solving process throughout the coding process. Gain the knowledge and skills for careers in the Python Programming pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Python Programming II

Course Number: BP16
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: BP14 Python Programming I
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Design, write, debug, and run programs encoded in the Python language. Formulate program using Internet of Things (IoT) programs. Develop stories utilizing data sets, visualizations, and Python programming. Gain the knowledge and skills for careers in the Python Programming pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SAS Base Programming

Course Number: BP20
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: BM21 Introduction to Data Science
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Build SAS programs to solve common data analysis problems. Illustrate data using custom formats and tables. Synthesize data to help develop a story with data. Gain the knowledge and skills for careers in the Data Science pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Advanced Aerospace Technology

Course Number: TV17

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TV16 SREB AC Fundamentals of Aerospace Technology

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This course builds on the foundation of SREB AC Fundamentals of Aerospace Technology 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 planeto 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. Students will work collaboratively, manage projects, be creative and innovative, think critically, and solve problems as well as propose solutions to design problems. Further, they will learn to apply literacy, mathematics and science concepts and use technology to effectively solve real-world, challenging problems with business and industry partners. Through project-based learning, students will explore the future of the aerospace industry and learn to apply those habits of behavior and mind unique to the field.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Aeronautics Engineering Applications

Course Number: TV18

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TV17 SREB AC Advanced Aerospace Technology

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This project-based learning course is for students who have successfully completed SREB AC Fundamentals of Aerospace Technology and SREB AC Advanced Aerospace Technology. 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 VOR navigation system to a GPS system and determine the cost savings. In addition, students will develop rotor blades for helicopters and design and program an unmanned flying vehicle. Students will work collaboratively, manage projects, be creative and innovative, think critically, and solve problems as well as propose solutions to design problems. Further, they will learn to apply literacy, mathematics and science concepts and use technology to effectively solve real-world, challenging problems with business and industry partners. Through project-based learning, students will explore the future of the aerospace industry and learn to apply those habits of behavior and mind unique to the field.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Astronautics Engineering Applications

Course Number: TV19

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TV18 SREB AC Aeronautics Engineering Applications

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: 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. Students will work collaboratively, manage projects, be creative and innovative, think critically, and solve problems as well as propose solutions to design problems. Further, they will learn to apply literacy, mathematics and science concepts and use technology to effectively solve real-world, challenging problems with business and industry partners. Through project-based learning, students will explore the future of the aerospace industry and learn to apply those habits of behavior and mind unique to the field.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Fundamentals of Aerospace Technology

Course Number: TV16

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This project-based learning course engages students who are curious about aviation and aerospace careers. Th is 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. Students will work collaboratively, manage projects, be creative and innovative, think critically, and solve problems as well as propose solutions to design problems. Further, they will learn to apply literacy, mathematics and science concepts and use technology to effectively solve real-world, challenging problems with business and industry partners. Through project-based learning, students will explore the future of the aerospace industry and learn to apply those habits of behavior and mind unique to the field.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC IST Nature of Science and Technology

Course Number: TR15

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC IST: Core Applications of Science and Technology

Course Number: TR16

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TR15 SREB AC IST Nature of Science and Technology

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This course uses the concepts learned from SREB AC IST: The Nature of Science and Technology 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Internship**	Yes
Apprenticeship	Yes		**Job Shadowing**	Yes
Business and Industry Field Trip	Yes		**Mentorship**	Yes
Cooperative Education	No		**School-based Enterprise**	Yes
			Service Learning	Yes
****Work-based Learning descriptions can be found on page 3.**				

SREB AC IST: Impacts of Science and Technology

Course Number: TR17

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TR16 SREB AC IST: Core Applications of Science and Technology

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: 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 someproblems 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC IST: Creativity and Innovations

Course Number: TR18

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TR17 SREB AC IST: Impacts of Science and Technology

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Technological Design

Course Number: TE12

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TE11 Technology Engineering and Design

Aligned Career Technical Student Organization(s): Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore engineering through energy, manufacturing, and other industries. Fabricate prototypes to test design concepts. Engineer a solution to a problem in a community. Gain the knowledge and skills for careers in the Technology Engineering, and Design pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Technology Engineering and Design

Course Number: TE11
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore how technology evolved throughout human history. Discover the universal systems model in products and processes society uses every day. Build a scale model of a structure by applying the Engineering Design Process. Gain the knowledge and skills for careers in the Technology Engineering, and Design pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

CTE Advanced Studies

Course Number: WB09 (AAVC), WB41 (INFO)
Recommended Maximum Enrollment: 25
Hours of Instruction: 120 minimum
Prerequisite: Two technical credits in one Career Pathway
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for postsecondary education and future careers through analysis and research of selected career pathway. Experience real-world application of course/pathway content through a work-based learning lens acquired by utilizing employability skills in an authentic workforce activity. Evaluate and plan for a postsecondary career while educating others. Gain the knowledge and skills for careers in the pathway of choice.

CTE Apprenticeship

Course Number: WB10 (AAVC), WB42 (INFO)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Perform the job duties and related education required as an employed apprentice in a career field registered by ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce environment. Evaluate and plan for a postsecondary career in the career cluster/pathway culminating in a State Certificate and a National Journeyworker Certificate issued by the USDOL. Gain the knowledge and skills for careers in the pathway of choice.

CTE Career and College Promise

Course Number: Various
Recommended Maximum Enrollment: Varies
Hours of Instruction: Does not apply
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Career and College Promise provides a way for any North Carolina high school student in good academic standing who meets eligibility requirements to take community college courses while still in high school. Students can combine high school and postsecondary courses to earn a credential, certificate, or diploma in a technical field and meet requirements for CTE concentration. Credit may be transferrable to another North Carolina community college, to UNC System institutions, and to many of the state's independent colleges and universities. Students should work with their school counselor to determine what CTE pathways are available at their local community college or in what other ways they can access this program.

CTE Entrepreneurial Experience

Course Number: WB12 (AAVC), WB44 (INFO)

Recommended Maximum Enrollment: 20

Hours of Instruction: 120 minimum

Prerequisite: Two CTE course credits: one must be a concentrator course.

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization;Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for the management, responsibilities, and risks of operating a business in a career pathway. Experience real-world application of workplace and employability skills in business management and operations. Learn skills and approaches to successfully evaluate and create new business opportunities. Gain the knowledge and skills for careers in the pathway of choice.

CTE Internship

Course Number: WB11 (AAVC), WB43 (INFO)

Recommended Maximum Enrollment: 20

Hours of Instruction: 120 minimum

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for postsecondary education and future careers through observation and participation in the daily operations of a career in a general career field. Experience real-world application of job tasks acquired by utilizing durable employability skills in an authentic workforce activity. Gain the knowledge and skills for careers in the pathway of choice.

CTE Pre-apprenticeship

Course Number: WL67 (AAVC), WL75 (INFO)

Recommended Maximum Enrollment: 20

Hours of Instruction: 120 minimum

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for opportunities for postsecondary education and employment in an apprenticeship in a career field registered with ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce activity. Evaluate and plan for a postsecondary career in the career cluster/pathway. Gain the knowledge and skills for careers in the pathway of choice.

FAMILY AND CONSUMER SCIENCES EDUCATION
PROGRAM DESCRIPTION

Family and Consumer Sciences (FCS) provides the bridge needed by all students to deal with major societal issues such as work-and-family, health care, child and elder care, family and community violence and crime, global economics and politics, and technology usage. FCS Education is a catalyst to bring these issues into action-oriented, skill-building educational programs. The North Carolina FCS Education program provides a platform for students to transition into adult life by gaining a strong foundation of the knowledge and skills needed for successfully living and working in a diverse, global society.

Students develop personal effectiveness and industry-relevant technical skills as they explore and pursue career pathways aligned to the FCS Body of Knowledge and Family and Consumer Sciences National Standards 3.0.

Career pathways that students may pursue include:

- Apparel and Textile Production
- Counseling and Mental Health
- Culinary Arts Applications
- Culinary Arts Internship
- Early Childhood Development and Services
- Food and Nutrition
- Food Products and Processing Systems
- Hospitality and Tourism
- Human Services
- Interior Design
- Teaching and Training

For specific information about FCS pathways, courses, credentials, and standards, please refer to the NC CTE CourseManagement System website: https://center.ncsu.edu/nccte-cms/

Family, Career, and Community Leaders of America (FCCLA) is an integral component of a quality FCS Education program. FCCLA provides teacher-developed and student-tested project-based learning strategies and materials that shift the responsibility for achieving CTE and FCS program outcomes to students. Through intracurricular chapter programs and projects, students further their understanding of FCS standards.

Family and Consumer Sciences Education
Course Descriptions

Apparel and Textile Production I

Course Number: FA31
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Introduce the business of fashion through the lens of design and merchandising. Investigate the use of fibers, construction of fabrics, and care of textiles with a focus on the North Carolina textile industry. Construct quality projects utilizing sewing skills. Gain the knowledge and skills for careers in apparel and textile production.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Apparel and Textile Production II

Course Number: FA32
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: FA31 Apparel and Textile Production I
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Design apparel utilizing the design process. Implement advanced sewing skills to engineer an apparel product. Simulate marketing and business experience to explore the apparel industry. Gain the knowledge and skills for careers in apparel and textile production.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Child Development

Course Number: FE60
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate the major influences on child development including culture, heredity, and environmental factors. Explore the importance of early relationships and how they promote healthy brain development while identifying characteristics of children birth through age five. Identify the different theories of child development and their impact on the physical, social, emotional, and cognitive domains of development in children. Gain the knowledge and skills for careers in early childhood development and services.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Counseling and Mental Health I

Course Number: FC13
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop an understanding of healthy relationships on an individual's personal development. Engage in effective communication strategies for strengthening relationships. Explore the correlation of family systems on an individual's well-being throughout one's lifespan. Gain the knowledge and skills for careers in counseling and mental health.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Counseling and Mental Health II

Course Number: FC14
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: FC13 Counseling and Mental Health I
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Focus on the classification of mental health disorders. Inspire an understanding of mental health theories and treatments. Explore how human brain functions affect mental health. Gain the knowledge and skills for careers in counseling and mental health.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Culinary Arts and Hospitality I

Course Number: FH10
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Utilize foodservice equipment and tools in preparation of numerous types of cuisines. Practice culinary skills in baking, garde manger, and basic cooking methods. Practice safety and sanitation to prepare for the foodservice industry. Gain the knowledge and skills for careers in culinary arts and hospitality.
***** For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Culinary Arts and Hospitality II Applications

Course Number: FH11

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: FH10 Culinary Arts and Hospitality I

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America (FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Execute the planning of foodservice operations in a school-based enterprise. Design a variety of cuisines to apply learned cooking methods. Explore United States' regional soups and global baking and pastry arts. Gain the knowledge, skills, and certification for careers in culinary arts and hospitality.

***** For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Culinary Arts and Hospitality II Internship

Course Number: FH12

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: FH10 Culinary Arts and Hospitality I

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America (FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Participate in a mentored internship in the foodservice industry to apply learned cooking methods. Grow in application of skills in basic food preparation and baking. Explore United States regional soups or global baking and pastry arts. Gain the knowledge, skills, and certifications for careers in culinary arts and hospitality.

* For safety reasons and intern placement, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	No
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Culinary Arts and Hospitality III

Course Number: FH13

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: FH11 Culinary Arts and Hospitality II Applications OR FH12 Culinary Arts and Hospitality II Internship

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Build knowledge of management and menu planning within a foodservice operation. Establish understanding of food preservation techniques, yeast bread and pastries preparation. Learn the skills to earn a certification for advancement in the food service industry. Gain the knowledge, skills, and industry credential for careers in culinary arts and hospitality.

***** For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Culinary Arts and Hospitality IV Applications

Course Number: FH14

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: FH13 Culinary Arts and Hospitality III

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America (FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Design menus for a food service operation. Demonstrate advanced skills in food operation, baking, and pastry. Operate a school-based enterprise by preparing, marketing, and selling a variety of food products. Gain the knowledge and skills for careers in culinary arts and hospitality.

***** For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drone Technology I
Course Number: ID11
Please refer to the Trade and Industrial Education Program Area for the full course description.

Drone Technology II
Course Number: ID12
Please refer to the Trade and Industrial Education Program Area for the full course description.

Drone Technology Fundamentals
Course Number: ID10
Please refer to the Trade and Industrial Education Program Area for the full course description.

Early Childhood Education I
Course Number: FE11
Recommended Maximum Enrollment: 20*
Hours of Instruction: 270 (block) 300 (regular)
Prerequisite: FE60 Child Development. Students must be 15 years old by the 10th day of class
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Acquire the knowledge and skills needed to provide developmentally appropriate practices in high quality early childhood education programs. Explore ways of creating a child-centered approach to curriculum planning that includes the use of space, materials, relationships, play, and observations. Participate in practical hands-on internship working within the early childhood classroom, learn how to meet the individual needs of children with varying abilities, and reflect on learning experiences and their impact on children. Gain the knowledge, skills, and industry credential for careers in early childhood development and services.
* Students are required to complete a TB screening, health questionnaire, and criminal background check.
* For safety reasons and intern placement, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Early Childhood Education II

Course Number: FE12*

Recommended Maximum Enrollment: 20*

Hours of Instruction: 270 (block) 300 (regular)

Prerequisite: FE11 Early Childhood Education I. Students must be 15 years old by the 10th day of class.

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Participate in the planning, creation, and adaptation of developmentally appropriate learning environments. Focus on curriculum, teaching practices, and learning materials through the internship experience. Teach children the importance of art and creativity. Gain the knowledge and skills for careers in early childhood education and services.

* Students are required to complete a TB screening, health questionnaire, and criminal background check.

* For safety reasons and intern placement, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Apparel and Interior Design

Course Number: FY12

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Examine the field of apparel by exploring the elements of design, basic clothing construction, and the impact of marketing on clothing choices. Characterize the basics of interior design, including the basic principles of design. Practice managing living spaces and learn how sustainable design impacts housing. Gain the knowledge and skills for careers in apparel, textile, and interior design.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Childcare

Course Number: FY14
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate children's development from birth to age seven. Practice basic care of infants, toddlers, and preschoolers, discuss proper nutrition, understand how to prevent accidents, and how to use positive guidance while working with children. Illustrate the importance of well-prepared and trained babysitters and how to prepare for the diverse responsibility of being a babysitter. Gain the knowledge and skills for careers in early childhood education.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Nutrition and Wellness

Course Number: FY11
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Gain an understanding of the impact of choices on wellness by examining the current USDA Food Guidelines. Practice nutritious meal planning and preparation. Explore basic kitchen skills, safety needs, and sanitation. Gain the knowledge and skills for careers in hospitality and tourism or human services.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Social and Emotional Skills

Course Number: FY10

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Gain an understanding of social and emotional learning. Explore communication skills, self-awareness, self-management, and careers in the human services field. Cultivate responsible decision-making skills, social awareness, and interpersonal relationships. Gain the knowledge and skills for careers in human services.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Fashion Merchandising

Course Number: MI21

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Food and Nutrition I

Course Number: FN41

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Formulate an understanding of nutrition for a healthy lifestyle by preparing foods in each food group. Develop kitchen skills that promote proper food handling practice. Plan and execute meal management. Gain the knowledge, skills, and industry credential for careers in food and nutrition.

*For safety and sanitation reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Food and Nutrition II

Course Number: FN42

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: FN41 Foods and Nutrition I

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Expand knowledge of nutrient needs for a healthy lifestyle through the lifespan. Discover the impact of food systems on the environment, economy, society, and the individual. Develop an entrepreneurial venture idea using the Lean Canvas Business Model. Gain the knowledge, skills, and industry credential in food protection management for careers in food and nutrition.

*For safety and sanitation reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Food Science and Technology

Course Number: FN43

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: FN41 Food and Nutrition I

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the food industry from the farm to the table using skills in food science and technology. Realize the functions of food and how it affects the food individuals eat. Design food packaging to deploy a new food product to the market. Gain the knowledge and skills careers in food products and processing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Hospitality and Tourism Management I

Course Number: FH31
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Family, Career, and Community Leaders of America (FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Discover the limitless possibilities in the hospitality and tourism industry. Explore this multi-faceted industry and the impact on society, environment, and economy. Investigate ways to engage in exceptional guest service. Gain the knowledge, skills, and industry certification for careers in hospitality and tourism management.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	No
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Hospitality and Tourism Management II

Course Number: FH32
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: FH31 Hospitality and Tourism Management I
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Family, Career, and Community Leaders of America (FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Recognize career opportunities for management in the hospitality and tourism industry. Apply knowledge of the industry to develop a marketing plan for a company. Practice financial management, sales, and leadership for this dynamic industry. Gain the knowledge, skills, and industry credential for careers in hospitality and tourism management.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Interior Design Fundamentals

Course Number: FI21
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Build the knowledge and technical skills necessary to provide a foundational knowledge of the design industry. Explore design thinking and utilize the interior design process. Apply interior design principles and illustrate design solutions through visual communication. Gain the knowledge and skills for careers in interior design.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Interior Design Studio

Course Number: FI22
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: FI21 Interior Design Fundamentals
Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America (FCCLA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Devise an understanding of the multiple roles of an interior designer. Utilize artistic and design factors in planning, selection, and arrangement of interior spaces to meet the needs of families in the interior environment. Participate in creating a portfolio that includes a diverse understanding of multiple areas of design. Gain the knowledge and skills for careers in interior design.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Interior Design Technology

Course Number: FI23

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: FI21 Interior Design Fundamentals

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America (FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Integrate interior design skills and building information modeling (BIM) using the AutoDesk Revit architecture program. Become familiar with digital drafting tools that enable designers to create fully coordinated plans, sections, elevations, 3-D perspectives, and renderings. Utilize drafting software to create a diverse portfolio of interior design skills. Gain the knowledge, skills, and industry certification for careers in interior design.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Principles of Family and Human Services

Course Number: FC11

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop skills needed for personal and professional success. Integrate life literacy abilities through understanding food management, financial skills, and housing options to achieve optimal well-being. Understand individual, family, and community systems. Gain the knowledge and skills for careers in human services.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Project Management I

Course Number: CS11

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Project Management II

Course Number: CS12

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Teaching as a Profession I Honors

Course Number: FE21

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: Students must be in 10th-12th grade and have a GPA of at least 2.5.

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Analyze the present-day education system with emphasis on historical background and development, aims of education, duties of the teacher, purpose and development of curriculum, facilities, support, and control of schools. Create a foundation for understanding learners, the teaching environment, and the impact on student achievement. Develop a vision for teaching, learning, and leading in the 21st century school. Gain the knowledge and skills for careers in teaching and training.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Teaching as a Profession II Honors

Course Number: FE22

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: FE21 Teaching as a Profession I Honors

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America (FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop a perspective into the teaching-learning process by exploring the role of the teacher and studying the nature of the learner in the classroom environment. Analyze educational instructional activities and their value to the classroom while discovering the lesson planning process. Expand on the foundation for understanding learners, the teaching environment, and the impact on student achievement. Gain the knowledge and skills for careers in the teaching and training.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Teaching as a Profession Field Experience Honors

Course Number: FE23

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: FE22 Teaching as a Profession II Honors

Aligned Career Technical Student Organization(s): Family, Career, and Community Leaders of America(FCCLA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Integrate course knowledge into practical application while completing a hands-on field experience. Facilitate learning opportunities for students that align with NC Standard Course of Study while assisting cooperating teachers. Develop pedagogical skills and characteristics necessary for effective teaching. Gain the knowledge and skills for careers in teaching and training.

* This course can be taken at the same time as FE22 Teaching as a Profession II Honors.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

CTE Advanced Studies

Course Number: WB05 (ARCH), WB09 (AAVC), WB17 (EDUC), WB33 (HOSP), WB37 (HUMA)
Recommended Maximum Enrollment: 25
Hours of Instruction: 120 minimum
Prerequisite: Two technical credits in one Career Pathway
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for postsecondary education and future careers through analysis and research of selected career pathway. Experience real-world application of course/pathway content through a work-based learning lens acquired by utilizing employability skills in an authentic workforce activity. Evaluate and plan for a postsecondary career while educating others. Gain the knowledge and skills for careers in the pathway of choice.

CTE Apprenticeship

Course Number: WB06 (ARCH), WB10 (AAVC), WB18 (EDUC), WB34 (HOSP), WB38 (HUMA)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Perform the job duties and related education required as an employed apprentice in a career field registered by ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce environment. Evaluate and plan for a postsecondary career in the career cluster/pathway culminating in a State Certificate and a National Journeyworker Certificate issued by the USDOL. Gain the knowledge and skills for careers in the pathway of choice.

CTE Career and College Promise

Course Number: Various
Recommended Maximum Enrollment: Varies
Hours of Instruction: Does not apply
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Career and College Promise provides a way for any North Carolina high school student in good academic standing who meets eligibility requirements to take community college courses while still in high school. Students can combine high school and postsecondary courses to earn a credential, certificate, or diploma in a technical field and meet requirements for CTE concentration. Credit may be transferrable to another North Carolina community college, to UNC System institutions, and to many of the state's independent colleges and universities. Students should work with their school counselor to determine what CTE pathways are available at their local community college or in what other ways they can access this program.

CTE Entrepreneurial Experience

Course Number: WB08 (ARCH), WB12 (AAVC), WB20 (EDUC), WB36 (HOSP), WB40 (HUMA)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: Two CTE course credits: one must be a concentrator course.
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization;Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for the management, responsibilities, and risks of operating a business in a career pathway. Experience real-world application of workplace and employability skills in business management and operations. Learn skills and approaches to successfully evaluate and create new business opportunities. Gain the knowledge and skills for careers in the pathway of choice.

CTE Internship

Course Number: WB07 (ARCH), WB11 (AAVC), WB19 (EDUC), WB35 (HOSP), WB39 (HUMA)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for postsecondary education and future careers through observation and participation in the daily operations of a career in a general career field. Experience real-world application of job tasks acquired by utilizing durable employability skills in an authentic workforce activity. Gain the knowledge and skills for careers in the pathway of choice.

CTE Pre-apprenticeship

Course Number: WL66 (ARCH), WL67 (AAVC), WL69 (EDUC), WL73 (HOSP), WL74 (HUMA)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for opportunities for postsecondary education and employment in an apprenticeship in a career field registered with ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce activity. Evaluate and plan for a postsecondary career in the career cluster/pathway. Gain the knowledge and skills for careers in the pathway of choice.

HEALTH SCIENCE EDUCATION
PROGRAM DESCRIPTION

Health Science Education provides a comprehensive program to meet present and projected needs in the healthcare industry. Curriculum concepts incorporate technological advances to motivate students and prepare them to pursue a career as a future health professional. Emphasis is placed on the various domains of healthcare and related skills such as employability, prevention (wellness), diagnostics, therapeutics, and rehabilitation. Students are encouraged to pursue work-based learning opportunities that include job shadowing, internships, and apprenticeships to support their areas of interest in healthcare.

Career pathways that students may pursue include:

- Biomedical Technology
- Healthcare Professional
- PLTW Biotechnology Research and Development
- SREB AC Career Pathway – Health Informatics

For specific information about HS pathways, courses, credentials, and standards, please refer to the NC CTE CourseManagement System website: https://center.ncsu.edu/nccte-cms/

Opportunities for expanded leadership and technical skills are available through membership in the intracurricular student organization HOSA- Future Health Professionals. HOSA instills pride, commitment, and professionalism in its members by empowering students to become leaders in the global health community. Members are afforded the opportunity to participate in local, regional, state, national, and international levels.

Health Science Education
Course Descriptions

Biomedical Technology

Course Number: HB11
Recommended Maximum Enrollment: 30
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: HU40 Health Science I or HP71 PLTW Human Body Systems
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate trends in healthcare and research to include ethics and medicine. Explore trends in forensic medicine, infectious disease(s), and organ transplants. Examine cell biology related to cancer and biomedical research. Gain the knowledge and skills for careers in the Biomedical Technology pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drone Technology I

Course Number: ID11
Please refer to the Trade and Industrial Education Program Area for the full coursedescription.

Drone Technology II

Course Number: ID12
Please refer to the Trade and Industrial Education Program Area for the full course description.

Drone Technology Fundamentals

Course Number: ID10
Please refer to the Trade and Industrial Education Program Area for the full course description.

Exploring Healthcare: Medical Terms and Body Systems in Biotechnology Careers

Course Number: HY12
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore medical terminology used in biotechnology careers. Investigate structures and functions of human body systems in biotechnology careers. Gain the knowledge and skills for careers in the Health Science cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Healthcare: Medical Terms and Body Systems in Diagnostic Service Careers

Course Number: HY11
Recommended Maximum Enrollment: 30
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore medical terminology used in diagnostic service careers. Investigate structures and functions of human body systems in diagnostic careers. Gain the knowledge and skills for careers in the Health Science cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Healthcare: Medical Terms and Body Systems in Therapeutic Service Careers

Course Number: HY10

Recommended Maximum Enrollment: 30

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore medical terminology used in therapeutic service careers. Investigate structures and functions of human body systems in therapeutic careers. Gain the knowledge and skills for careers in the Health Science cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Foundations of Health Science

Course Number: HU10

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore medical history from the primitive era to the 21st century. Understand mathematics used in healthcare, medical terminology, and abbreviations. Initiate learning about healthcare professions through career exploration. Gain knowledge and skills for careers in the Health Science cluster.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Internship**	No
Apprenticeship	No		**Job Shadowing**	Yes
Business and Industry Field Trip	Yes		**Mentorship**	Yes
Cooperative Education	No		**School-based Enterprise**	Yes
			Service Learning	Yes
****Work-based Learning descriptions can be found on page 3.**				

Fundamentals of Gerontology

Course Number: HN44

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: HU42 Health Science II

Aligned Career Technical Student Organization(s): HOSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Focus on the unique physical and psychological changes related to aging. Explore options for pain management and palliative care methods utilized in caring for the elderly. Enhance nurse aide skills specific to elder care. Gain the knowledge, skills, and credentials for careers in the Healthcare Professional pathway.

* For safety reasons, the recommended enrollment should not exceed 20 students.

* Internship and apprenticeship participation outside the school learning environment would require the student to have completed Nurse Aide I credential before the internship and apprenticeship experience.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	No
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	No		**School-based Enterprise**	No
Cooperative Education	No		**Service Learning**	No
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Health Science I

Course Number: HU40

Recommended Maximum Enrollment: 30

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore anatomy, physiology, diseases, and disorders within human body systems. Understand structural organization of the human body as it applies to recognizing and responding to first aid emergencies. Engage in projects, teamwork, collaboration, and demonstration to reinforce curriculum content. Gain knowledge, skills, and industry credentials for careers in the Healthcare Professional pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Health Science II

Course Number: HU42
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: HU40 Health Science I OR HP71 PLTW Human Body Systems
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Understand the healthcare industry, including employability skills, cultural awareness, safety, and infection control procedures used by healthcare professionals. Develop an understanding of the cardiovascular and respiratory systems to apply knowledge and skills toward earning industry recognized credentials. Demonstrate understanding of curriculum content through projects, collaborations, and teamwork. Gain the knowledge, skills, and credentials for careers in the Healthcare Professional pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Sports Exercise and Health Science HL

Course Number: 3I10
Recommended Maximum Enrollment: 30
Hours of Instruction: 240
Prerequisite: None
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students deepen their knowledge and understanding necessary to apply scientific principles and analyze human performance.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

IB Sports Exercise and Health Science SL

Course Number: 3I08
Recommended Maximum Enrollment: 30
Hours of Instruction: 150
Prerequisite: None
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Students explore the concepts, theories, models, and techniques that underpin each subject area and through these develop their understanding of the scientific method.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Nursing Fundamentals and Non-Practicum

Course Number: HN42
Recommended Maximum Enrollment: 10*
Hours of Instruction: 270 (block) 300 (regular)
Prerequisite: HU42 Health Science II
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore the role of a nurse aide as defined by North Carolina Department of Health and Human Services, Health Care Personnel Education and Credentialing Section. Perform nurse aide skills to care for patients and residents in a healthcare setting. Build communication skills and learn to function as a healthcare team member. Gain the knowledge and skills for careers in the Healthcare Professional pathway.

*North Carolina Board of Nursing BON Administrative Rule 21 NCAC 36.0318 (i) requires the ratio of teacher to nurse aide students to be 1:10 or less while in the clinical area. North Carolina Department of Health and Human Services, Health Care Personnel Education and Credentialing Section applies the 1:10 ratio in the classroom laboratory training and clinical. Students who are unable to complete/attend clinical hours in HN43 Nursing Fundamentals and Practicum are transferred to this course.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	No
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	No		**School-based Enterprise**	No
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Nursing Fundamentals and Practicum

Course Number: HN43

Recommended Maximum Enrollment: 10*

Hours of Instruction: 270 (block) 300 (regular)

Prerequisite: HU42 Health Science II

Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the role of a Nurse Aide as defined by North Carolina Department of Health and Human Services, and Health Care Personnel Education and Credentialing Section. Perform nurse aide skills to care for patients and residents in a healthcare clinical setting. Build communication skills and learn to function as a healthcare team member. Gain the knowledge, skills, and industry credentials for careers in the Healthcare Professional pathway.

*North Carolina Board of Nursing BON Administrative Rule 21 NCAC 36.0318 (i) requires the ratio of teacher to nurse aide students to be 1:10 or less while in the clinical area. DHSR applies the 1:10 ratio in the classroom laboratory training and clinical. NCBON recommends students are 16 ½ on the first day of the Nursing Fundamentals and Practicum class.

*Internship and apprenticeship participation outside the school learning environment would require the student to have completed credentialing before the internship and apprenticeship experience.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes	**Job Shadowing**	No	
Apprenticeship	Yes	**Mentorship**	Yes	
Business and Industry Field Trip	No	**School-based Enterprise**	No	
Cooperative Education	No	**Service Learning**	No	
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Pharmacy Technician

Course Number: HH32

Recommended Maximum Enrollment: 20

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: HU42 Health Science II OR HB11 Biomedical Technology

Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the science of how medications act on biological systems and how the body responds to specific medications as it relates to the role of the pharmacy technician in preparing prescriptions. Understand pharmacy law and regulation, product inventory, compounding procedures, and medication safety. Learn the practices for billing and reimbursement in pharmacy operations. Gain the knowledge, skills, and credentials for careers in the Healthcare Professional pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes	**Job Shadowing**	Yes	
Apprenticeship	Yes	**Mentorship**	Yes	
Business and Industry Field Trip	Yes	**School-based Enterprise**	No	
Cooperative Education	Yes	**Service Learning**	Yes	
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Biomedical Innovations

Course Number: HP73
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: HP72 PLTW Medical Interventions
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: This course allows students to apply their knowledge and skills to answer questions or solve problems related to biomedical sciences. Students design innovative solutions to the health care challenges of the 21st century. Students work on independent projects and may work with a mentor in the healthcare industry. English language arts and science are reinforced in this course.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Human Body Systems

Course Number: HP71
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: HP70 PLTW Principles of Biomedical Sciences
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: This course is designed for students to examine interactions of human body systems and apply knowledge to solve real-world medical cases.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Medical Interventions

Course Number: HP72
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: HP71 PLTW Human Body Systems
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: This course allows students to investigate the interventions involved in the prevention, diagnosis,and treatment of disease. English language arts and science are reinforced in this course.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Principles of Biomedical Sciences

Course Number: HP70
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: From design and data analysis to outbreaks, clinical empathy, health promotion, and more, students explore the vast range of careers in biomedical sciences. They develop not just technical skills, but also in-demand, transportable skills that they need to thrive in life and career.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Project Management I

Course Number: CS11
Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Project Management II

Course Number: CS12
Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Public Health Fundamentals

Course Number: HN45
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: HU42 Health Science II
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Discover the unique challenges and strategies in delivering healthcare outside traditional facilities and without the traditional supervision structure. Focus on the role of the home care aide, legal and ethical issues, cultural considerations, and safety in the home environment. Explore palliative and end-of-life care in the home environment. Gain the knowledge, skills, and industry credentials for careers in the Healthcare Professional pathway.
* For safety reasons, the recommended enrollment should not exceed 20 students.
* Internship and apprenticeship participation outside the school learning environment would require the student to have completed Nurse Aide I credential before the internship and apprenticeship experience.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	No
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	No		**School-based Enterprise**	No
Cooperative Education	No		**Service Learning**	No
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Health Informatics I - Data and Use

Course Number: HV11
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals, SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: This foundational course 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.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Health Informatics II - Transforming Data

Course Number: HV12

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: HV11 SREB AC Health Informatics I - Data and Use

Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals, SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: In this 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?

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Health Informatics II - Transforming Information Honors

Course Number: HV13

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: HV12 SREB AC Health Informatics II -Transforming Data

Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals, SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This advanced course 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.

*For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Internship**	Yes
Apprenticeship	Yes		**Job Shadowing**	Yes
Business and Industry Field Trip	Yes		**Mentorship**	Yes
Cooperative Education	No		**School-based Enterprise**	Yes
			Service Learning	Yes
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Health Informatics IV - Problems and Solutions Honors

Course Number: HV14

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: HV13 SREB AC Health Informatics II - Transforming Information Honors

Aligned Career Technical Student Organization(s): HOSA - Future Health Professionals, SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: In this advanced 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.

*For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

CTE Advanced Studies

Course Number: WB29 (HLTH)

Recommended Maximum Enrollment: 25

Hours of Instruction: 120 minimum

Prerequisite: Two technical credits in one Career Pathway

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for postsecondary education and future careers through analysis and research of selected career pathway. Experience real-world application of course/pathway content through a work-based learning lens acquired by utilizing employability skills in an authentic workforce activity. Evaluate and plan for a postsecondary career while educating others. Gain the knowledge and skills for careers in the pathway of choice.

CTE Apprenticeship

Course Number: WB30 (HLTH)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Perform the job duties and related education required as an employed apprentice in a career field registered by ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce environment. Evaluate and plan for a postsecondary career in the career cluster/pathway culminating in a State Certificate and a National Journeyworker Certificate issued by the USDOL. Gain the knowledge and skills for careers in the pathway of choice.

CTE Career and College Promise

Course Number: Various
Recommended Maximum Enrollment: Varies
Hours of Instruction: Does not apply
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Career and College Promise provides a way for any North Carolina high school student in good academic standing who meets eligibility requirements to take community college courses while still in high school. Students can combine high school and postsecondary courses to earn a credential, certificate, or diploma in a technical field and meet requirements for CTE concentration. Credit may be transferrable to another North Carolina community college, to UNC System institutions, and to many of the state's independent colleges and universities. Students should work with their school counselor to determine what CTE pathways are available at their local community college or in what other ways they can access this program.

CTE Entrepreneurial Experience

Course Number: WB32 (HLTH)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: Two CTE course credits: one must be a concentrator course.
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for the management, responsibilities, and risks of operating a business in a career pathway. Experience real-world application of workplace and employability skills in business management and operations. Learn skills and approaches to successfully evaluate and create new business opportunities. Gain the knowledge and skills for careers in the pathway of choice.

CTE Internship

Course Number: WB31 (HLTH)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for postsecondary education and future careers through observation and participation in the daily operations of a career in a general career field. Experience real-world application of job tasks acquired by utilizing durable employability skills in an authentic workforce activity. Gain the knowledge and skills for careers in the pathway of choice.

CTE Pre-apprenticeship

Course Number: WL72 (HLTH)

Recommended Maximum Enrollment: 20

Hours of Instruction: 120 minimum

Prerequisite: None

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Prepare for opportunities for postsecondary education and employment in an apprenticeship in a career field registered with ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce activity. Evaluate and plan for a postsecondary career in the career cluster/pathway. Gain the knowledge and skills for careers in the pathway of choice.

TRADE AND INDUSTRIAL EDUCATION
PROGRAM DESCRIPTION

Trade and Industrial Education (TI) programs provide students with the skills andconceptual knowledge needed for careers in industry, engineering, and design. Students can focus on industrycertifications for careers immediately after graduation or develop skills and knowledge needed for higher level professional degrees in engineering and design fields.

Career pathways that students may pursue include:

- Advanced Manufacturing
- Automotive Service *
- Carpentry
- Collision Repair
- Drafting Architectural
- Drafting Engineering
- Drone Technology
- Electrical Trades
- Emergency Management
- Emergency Medical Technology
- Firefighter Technology
- HVAC/R
- Law and Justice
- Masonry
- Metals Manufacturing
- Plumbing
- Public Safety
- Solar Photovoltaics
- SREB AC Career Pathway – Automated Materials Joining
- SREB AC Career Pathway – Clean Energy Technology
- SREB AC Career Pathway – Energy and Power
- SREB AC Career Pathway – Global Logistics and Supply Chain Management
- SREB AC Career Pathway – Integrated Production Technologies
- Welding
- Woodworking

* Automotive Service programs receiving career-technical state or federal monies must be ASE (Automotive Service Excellence) accredited. Requirements for ASE accreditation include:

1. Local review of current automotive program standards
2. Local program self-evaluation performed by the local program advisory committee
3. Local program review by the ASE Education Foundation
4. On-site evaluation by an Education Team Leader (ETL).

For specific information about TI pathways, courses, credentials, and standards, please refer to the NC CTE CourseManagement System website: https://center.ncsu.edu/nccte-cms/

SkillsUSA is the premier student leadership organization in the country with over 300,000 members nationwide. SkillsUSA-NC offers many activities to enrich our students, advisors, and professional members throughout the year. The activities include professional and leadership development conferences, competitions that measure bothtechnical and employability skills, and opportunities for scholarships, employment, networking, and competitive skills. Leadership events are held for regional, state, national, and international levels.

Trade and Industrial Education
Course Descriptions

Advanced Manufacturing I

Course Number: IM11
Recommended Maximum Enrollment: 15
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for an entry-level production worker in the manufacturing environment. Develop basic manufacturing skills in safety and maintenance. Engage in group activities utilized in manufacturing, including the use of personal protective equipment. Gain the knowledge, skills, and industry credentials for careers in advanced manufacturing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Advanced Manufacturing II

Course Number: IM12
Recommended Maximum Enrollment: 15
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IM11 Advanced Manufacturing I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop procedures that can be used in manufacturing to produce products in a safe and productive environment. Develop basic skills in statistical process controls used in the manufacturing environment. Engage in teams to better understand the manufacturing process. Gain the knowledge, skills, and industry credentials for careers in advanced manufacturing.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Automotive Service Fundamentals

Course Number: IT11
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for an entry-level position in the Automotive Service industry. Develop basic skills in shop safety, shop equipment, and hand tool usage. Engage in identifying vehicle systems, system components, and various vehicle fluids. Gain the knowledge, skills, and industry credentials for careers in the Automotive Services pathway.

All secondary automotive programs are required to be ASE Accredited.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Automotive Service I

Course Number: IT16
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IT11 Automotive Service Fundamentals
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop skills and knowledge needed to service modern vehicles. Perform basic brake inspection and service. Explore Ohm's law in basic electrical service applied to vehicles. Gain the knowledge, skills, and industry credentials for careers in the Automotive Services pathway.

All secondary automotive programs are required to be ASE accredited.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Automotive Service II

Course Number: IT17
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IT16 Automotive Service I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Perform basic suspension and steering inspections and service. Research vehicle information, service bulletins, and recalls on vehicles being serviced. Gather information on vehicle codes and module data used to diagnose vehicle systems. Gain the knowledge, skills, and industry credentials for careers in the Automotive Services pathway.

All secondary automotive programs are required to be ASE accredited.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Automotive Service III

Course Number: IT18
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IT17 Automotive Service II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore more advanced and in-depth vehicle repairs and services. Perform basic system diagnosis. Expand knowledge in heating and air conditioning system operations. Gain the knowledge, skills, and industry credentials for careers in the Automotive Services pathway.

All secondary automotive programs are required to be ASE accredited.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Carpentry I

Course Number: IC21
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC00 Construction Core
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop basic skills to interpret and lay out basic construction plans and documents used by carpenters. Engage in procedures for laying out and constructing floor and wall systems. Practice essential stairway design and construction techniques. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.
*For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Carpentry II

Course Number: IC22
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC21 Carpentry I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Engage in procedures for laying out, constructing, and installing roofing components for residential and commercial buildings. Practice skills related to moisture and insulation control concepts for building envelop systems installation. Participate in exterior finish materials installation procedures. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Carpentry III

Course Number: IC23
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC22 Carpentry II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop a working knowledge of skills required to read and interpret commercial drawings and specifications. Engage in procedures for drywall installation and finishing. Participate in the installation of door and door hardware installation procedures. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Collision Repair Fundamentals

Course Number: IT30
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop an understanding of hazardous materials, personal safety, and refinishing safety. Gain an understanding of tools, equipment, and the numerous attachment methods used in collision repair. Focus on various hands-on activities used in vehicle detailing. Gain the knowledge, skills, and industry credentials for careers in the Collision Repair pathway.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Collision Repair I

Course Number: IT31

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: IT30 Collision Repair Fundamentals

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore the talents needed for non-structural vehicle repairs using the I-CAR curriculum. Develop basic skills in plastic repair. Focus on hands-on activities involving vehicle trim, hardware, and bolted-on parts replacement. Gain the knowledge, skills, and industry credentials for careers in the Collision Repair pathway.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Collision Repair II - Non-Structural

Course Number: IT32

Recommended Maximum Enrollment: 20*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: IT31 Collision Repair I

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop the basic skills needed to produce non-structural vehicle repairs for damaged vehicles. Develop the basic skills needed using body filler and sanding in the vehicle repair process. Engage in activities involving cosmetic straightening of steel panels. Gain the knowledge, skills, and industry credentials for careers in the Collision Repair pathway.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Collision Repair II - Refinishing

Course Number: IT33
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IT31 Collision Repair I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare vehicle surfaces for topcoat applications. Develop the basic skills needed for minor paint repairs. Practice environmentally safe approaches when refinishing vehicles. Gain the knowledge, skills, and industry credentials for careers in the Collision Repair pathway.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Construction Core

Course Number: IC00
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Perform basic safety procedures required for construction and industrial project sites. Engage in proper techniques required to safely operate hand and power tools used in the construction industry. Practice material handling tasks using appropriate personal protective equipment (PPE) procedures and techniques. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drafting I

Course Number: IC61
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate essential concepts, trends, and career options in the architectural and engineering industry. Practice fundamental sketching skills and techniques required in architectural and engineering graphic communications. Perform CAD (computer aided drafting/design) procedures required to produce basic technical drawings. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drafting II- Architectural

Course Number: IC62
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC61 Drafting I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate commonly accepted styles, trends, trade terminology, and career options found in the architectural industry. Practice procedures to plan and draw a single-floor residential floor plan using CAD (computer aided drafting/design). Engage in the design of foundation, roof, and floor system to create a complete set of residential construction documents. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drafting II - Engineering

Course Number: IV22
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC61 Drafting I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate design concepts, principles, trade terminology, and career options found in the engineering industry. Practice techniques to create 3D-solid modeled parts and working drawings using CAD (computer aided drafting/design). Practice conventional dimensioning and tolerancing techniques used in engineering design and production. Gain the knowledge, skills, and industry credentials for careers in science, technology, engineering, and mathematics.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drafting III- Architectural

Course Number: IC63
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC62 Drafting II - Architectural
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Practice procedures to create a multi-floor residential structure using CAD (computer aided drafting/design). Engage in the design of electrical systems, stair/railing, and advanced kitchen and bath details used in residential architectural planning. Engage in the development of a site plan for a residential structure. Gain the knowledge and skills for careers in architecture and construction.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drafting III- Engineering

Course Number: IV23
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IV22 Drafting II - Engineering
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate education and professional requirements for engineering and manufacturing employment. Practice advanced techniques to create parametric 3D-solid modeled parts, assemblies, and working drawings using CAD (computer aided drafting/design). Engage in procedures of geometric dimensioning and tolerancing techniques used in engineering design and production. Gain the knowledge and skills for careers in science, technology, engineering, and mathematics.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drone Technology Fundamentals

Course Number: ID10
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore the basic skills and knowledge needed to be a recreational drone pilot. Develop a sectional chart using legends for planned drone mission flights. Develop a basic program to conduct an autonomous flight using small drones in the classroom. Gain the knowledge, skills, and industry credentials for careers in drone technology.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drone Technology I

Course Number: ID11
Recommended Maximum Enrollment: 15
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA), SkillsUSA, Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop drone piloting knowledge and skills needed to obtain an FAA Remote Pilot certification. Participate in drone mission planning, basic flight operations, and drone aircraft maintenance. Execute communication needed as a flight crew team member. Gain the knowledge, skills, and industry credentials for careers in drone technology.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Drone Technology II

Course Number: ID12
Recommended Maximum Enrollment: 15
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: ID11 Drone Technology I
Aligned Career Technical Student Organization(s): Future Business Leaders of America (FBLA); SkillsUSA,Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Execute drone missions that include autonomous flight and mapping. Utilize mapping software to produce 2D and 3D images. Develop a business plan needed to start a drone piloting company. Gain the knowledge, skills, and enhanced industry credentials for careers in drone technology.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Electrical Trades I

Course Number: IC41
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC00 Construction Core
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop a working knowledge of basic electrical theory, Ohm's law, and methods for calculating electrical energy. Utilize the National Electric Code (NEC) to find installation requirements. Engage in basic skills required for installation of electrical device boxes, conduit, and raceways systems. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Electrical Trades II

Course Number: IC42
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC41 Electrical Trades I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop a working knowledge of skills required to read and interpret electrical construction drawings and specifications. Practice laying out branch circuits, sizing outlet boxes, and wiring device installation for residential electrical systems. Develop a working knowledge of AC and DC motor theory and application. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Electrical Trades III

Course Number: IC43
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC42 Electrical Trades II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Practice the techniques required to make conduit bends and to install pull and junction boxes. Engage in a cable pulling operation including conductor installation and cable end preparation. Develop a working knowledge of the operation of circuit breakers, fuses, contactors, and relays used in electrical systems. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Emergency Management I

Course Number: IP51
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IP11 Public Safety I OR IP22 Emergency Medical Technology II OR IP32 Firefighter Technology II OR IP42 Law and Justice II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore fundamentals of Emergency Management operations. Develop knowledge and skills to lead all emergency resources in a public safety emergency. Perform basic communication skills required to coordinate with all other public safety agencies during an emergency. Gain the knowledge, skills, and industry credentials for careers in emergency management.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Emergency Management II

Course Number: IP52
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IP51 Emergency Management I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop knowledge and skills used in an Emergency Management Operation Center. Develop rapid needs assessments, including weather-related data used in hazard mitigation of Emergency Management operations. Perform advanced communication skills required to lead other professionals in public safety during an emergency. Gain the knowledge, skills, and industry credentials for careers in emergency management.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Emergency Medical Technology I

Course Number: IP21
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: English II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Discover how to provide medical care for patients of all ages in the pre-hospital environment. Learn emergency medical systems and the roles and responsibilities of the emergency medical responder in the pre-hospital setting. Establish an introductory understanding of anatomy and physiology related to medical and traumatic emergencies. Gain the knowledge, skills, and industry credentials for careers in the Emergency Medical Technology pathway.
*Per the NCOEMS and NCDPI education plan, this course is limited to 20 students per teacher.
*Per the NCOEMS candidate handbook and education program requirements, students must be 17 years of age on or before the official end date of the course.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Emergency Medical Technology II

Course Number: IP22

Recommended Maximum Enrollment: 16*

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: IP21 Emergency Medical Technology I and English III

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Discover how to provide medical care for patients of all ages in the pre-hospital environment. Learn emergency medical systems, relevant skills, roles, and responsibilities of the emergency medical technician in the pre-hospital setting. Understand anatomy and physiology related to medical and traumatic emergencies. Gain the knowledge, skills, and industry credentials for careers in the Emergency Medical Technology pathway.

*Per the NCOEMS and NCDPI education plan, this course is limited to 16 students per teacher.

*Per the NCOEMS candidate handbook and education program requirements, students must be 17 years of age on or before the official end date of the course.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	No		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	No
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Automotive Service

Course Number: TY56

Recommended Maximum Enrollment: 25

Hours of Instruction: 45

Prerequisite: None

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Explore various career options found in the automotive industry. Engage in hands-on activities with tires, fluids, and exterior lighting. Gather information on all the various vehicle systems and fuels used in today's vehicles. Gain the knowledge and skills for careers in the Automotive Services pathway.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Carpentry

Course Number: TY50
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate safety, trends, trade terminology, and career options found in the carpentry construction industry. Develop an understanding of the skills needed in carpentry related careers. Practice career exploration to develop awareness of the carpentry construction industry. Gain the knowledge and skills for careers in architecture and construction.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Electrical Trades

Course Number: TY52
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate safety, trends, trade terminology, and career options found in the electrical trades construction industry. Develop an understanding of skills needed in electrical trades related careers. Practice career exploration to develop awareness to the electrical trades construction industry. Gain the knowledge and skills for careers in architecture and construction.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Masonry

Course Number: TY54
Recommended Maximum Enrollment: 25
Hours of Instruction: 45
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Investigate safety, trends, trade terminology, and career options found in the masonry construction industry. Develop an understanding of skills needed in masonry related careers. Practice career exploration to develop awareness of the masonry construction industry. Gain the knowledge and skills for careers in architecture and construction.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Exploring Safety and Tools in the Trades

Course Number: TY40
Recommended Maximum Enrollment: 25
Hours of Instruction: 15-20
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Explore key terminology used commonly in the various trades. Develop knowledge to reinforce basic safety practices and identify basic tools. Create a safety inspection checklist to help identify hazards in the lab. Gain the knowledge and skills for careers in a variety of pathways.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	No		**Job Shadowing**	Yes
Apprenticeship	No		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	No			
****Work-based Learning descriptions can be found on page 3.**				

Firefighter Technology I

Course Number: IP31
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Gather basic knowledge and skills required in firefighting. Develop skills in communications, use of personal protective equipment, forcible entry, fire extinguishers, and building construction. Perform basic firefighter skills associated with the knowledge obtained in this course. Gain the knowledge, skills, and industry credentials for careers in firefighter technology.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Firefighter Technology II

Course Number: IP32
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IP31 Firefighter Technology I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Enhance knowledge and skills required in firefighting. Develop skills in ladders, ventilation, ropes and knots, water supplies, hoses, appliances for search and rescue, and emergency medical care operations. Perform intermediate firefighter skills associated with the knowledge obtained in this course. Gain the knowledge, skills, and industry credentials for careers in firefighter technology.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Firefighter Technology III

Course Number: IP33
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IP32 Firefighter Technology II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Maximize knowledge and skills required in firefighting. Develop tasks related to skills used in rescue, fire protection, fire and life safety, mayday, HAZMAT, and traffic incident management. Perform advanced firefighter skills associated with the knowledge obtained in this course. Gain the knowledge, skills, and industry credentials for careers in firefighter technology.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Internship**	Yes
Apprenticeship	Yes		**Job Shadowing**	Yes
Business and Industry Field Trip	Yes		**Mentorship**	Yes
Cooperative Education	No		**School-based Enterprise**	Yes
			Service Learning	Yes
****Work-based Learning descriptions can be found on page 3.**				

HVACR I

Course Number: IL55
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC00 Construction Core
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Practice basic skills required to read and interpret wiring diagrams as it relates to common electrical components used in the HVACR field. Develop a working knowledge of fundamental heating and cooling types and components found in typical HVACR systems. Utilize the National Electric Code (NEC) to find installation requirements. Engage in basic copper, carbon steel, and plastic piping practices used in preparation and installation of HVACR systems. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

HVACR II

Course Number: IL56
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IL55 HVACR I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop a working knowledge of principles and operating cycles of heat pumps found in HVACR systems. Engage in troubleshooting procedures for heat pumps and cooling components found in HVACR systems. Practice refrigerant handling and equipment servicing procedures for HVACR systems. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

HVACR III

Course Number: IL57
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IL56 HVACR II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop a working knowledge of the principles and operation of compressors found in HVACR systems. Engage in the operation, application, installation, and adjustment of expansion devices used in HVACR equipment. Practice troubleshooting gas-fired components, control circuits, and electric motors found in HVACR equipment. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Law and Justice I

Course Number: IP41
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop an understanding of the history of law enforcement, including the criminal justice system. Understand the responsibilities of policing, and the classification of crimes. Practice basic skills such as communication with diverse groups, conflict resolution, operation of equipment, and courtroom testimony. Gain the knowledge, skills, and industry credentials for careers in law and justice.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Law and Justice II

Course Number: IP42
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IP41 Law and Justice I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Gaither knowledge and skills required in private security protection. Practice communication skills required of protection officers. Perform tasks including crime prevention, risk and threat management, and physical security. Gain the knowledge, skills, and industry credentials for careers in law and justice.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Manufacturing Robotics I

Course Number: IM14
Recommended Maximum Enrollment: 20
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IM11 Advanced Manufacturing I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Perform tasks associated with robotics in manufacturing. Program robotic equipment to execute commands in the manufacturing environment. Utilize manufacturing robots to accomplish tasks as programmed. Gain the knowledge, skills, and industry credentials for careers in advanced manufacturing technology.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Masonry I

Course Number: IC11
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC00 Construction Core
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop basic skills to interpret measurements, drawings, and specifications common in masonry work. Engage in safely operating masonry tools and equipment. Participate in setting up, laying out, and bonding block and brick using an appropriate mortar mixture. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.
* For safety reasons, the recommended enrollment should not exceed 20 students.

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Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Masonry II

Course Number: IC12
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC11 Masonry I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Participate in masonry construction techniques for residential and small structure foundations. Focus on the use of grout and the application of other reinforced masonry elements. Engage in the installation of metal components and masonry openings. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Masonry III

Course Number: IC13
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC12 Masonry II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Participate in advanced masonry construction techniques and the interaction with structural components. Develop an understanding of the effects of hot and cold weather climate conditions on masonry construction. Develop a working knowledge of quality control requirements for masonry construction. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Metals Manufacturing Technology I

Course Number: IM41
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop knowledge for the proper use of personal protective equipment. Engage in quality control and inspection tasks. Explore metal classifications, properties, and numbering systems. Gain the knowledge, skills, and industry credentials for careers in the Metals Manufacturing pathway.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Metals Manufacturing Technology II

Course Number: IM42
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IM41 Metals Manufacturing Technology I
Aligned Career Technical Student Organization(s):
SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Transform steel using a process plan and blueprints. Produce items with small tolerances by performing precise measurements. Develop skills using basic sawing, drilling, and milling. Gain the knowledge, skills, and industry credentials for careers in the Metals Manufacturing pathway.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Metals Manufacturing Technology III

Course Number: IM43
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IM42 Metals Manufacturing Technology II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop knowledge of milling machine components. Engage in basic milling operations. Explore various process improvements related to metals manufacturing. Gain the knowledge, skills, and industry credentials for careers in the Metals Manufacturing pathway.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Plumbing I

Course Number: IL58
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC00 Construction Core
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Perform basic procedures and techniques designed to reduce safety risks and workplace injuries in the plumbing industry. Develop basic skills to interpret and apply drawing information when laying out and installing plumbing systems. Engage in copper, cast-iron, steel, and plastic pipe and fittings practices used in plumbing applications. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Plumbing II

Course Number: IL59
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IL58 Plumbing I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop a working knowledge of drain, waste, vent (DWV), and water distribution systems and the connection to municipal and private sewer systems. Engage in methods for adjusting structural members, insulating pipe, and installing insulation for fire-stopping practices. Practice the installation and testing of drain, waste, vent (DWV), and roof, floor, and area drain systems. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Plumbing III

Course Number: IL60
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IL59 Plumbing II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop a working knowledge of how to locate, install, and test complete water service systems. Engage in methods for installing basic plumbing fixtures and appliances that use water connections found in residential construction. Practice techniques for the safe handling natural gas, liquefied petroleum gas, and fuel oil used in associate systems installation. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Computer Integrated Manufacturing

Course Number: TP22

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TP11 PLTW Introduction to Engineering Design or TP12 PLTW Principles of Engineering

Aligned Career Technical Student Organization(s): Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: In this specialization Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students discover and explore manufacturing processes, product design, robotics, and automation, and then they apply what they have learned to design solutions for real-world manufacturing problems. Art, English language arts, mathematics and science are reinforced.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

PLTW Environmental Sustainability

Course Number: TP27

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TP11 PLTW Introduction to Engineering Design or TP12 PLTW Principles of Engineering

Aligned Career Technical Student Organization(s): Technology Student Association (TSA)

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: In this specialization Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply, and renewable energy. Art, English language arts, mathematics, and science are reinforced.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Project Management I

Course Number: CS11

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Project Management II

Course Number: CS12

Please refer to the Business, Finance, and Marketing Education Program Area for the full course description.

Public Safety I

Course Number: IP11

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop a basic understanding of careers and skills in the public safety pathway. Perform basic skills with these different careers, including firefighting, EMT, and law enforcement. Create a student personal plan for a career in public safety. Gain the knowledge, skills, and industry credentials for careers in public safety.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Public Safety II

Course Number: IP12

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: IP11 Public Safety I

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Develop a deeper understanding of careers and skills in the public safety pathway. Perform skills associated with being part of a community emergency response team. Prepare for a career in 9-1-1 telecommunication through demonstrated activities. Gain the knowledge, skills, and industry credentials for careers in public safety.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Solar Photovoltaics I

Course Number: IC71
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC00 Construction Core
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop a working knowledge of basic concepts of Photovoltaics (PV) systems and their components, along with general sizing and electrical/mechanical design requirements. Practice conducting a site survey, identifying a suitable location, and interpreting radiation and temperature data for installing a PV array. Engage in system design and configurations for PV installation. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Solar Photovoltaics II

Course Number: IC72
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IC00 Construction Core and IC71 Solar Photovoltaics I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Engage in using site assessment and system design to safely install an PV array and other system components. Practice basic system performance monitoring and record-keeping requirements for a PV system. Develop a working knowledge of troubleshooting procedures for maintaining a PV system. Gain the knowledge, skills, and industry credentials for careers in architecture and construction.

* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Advanced Technology for Design and Production

Course Number: TR11

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This course will engage students in the use of modern technologies in the design and improvement of products. Students will use three-dimensional 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Introduction to Automated Materials Joining

Course Number: IM71

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This project-based learning course introduces students to the fundamentals of automated materials joining. Students learn how to design, build, and virtually test their designs using Solid Edge software. Using the engineering design process, students learn how to manage projects; research topics; plan for the building and testing of a prototype; analyze their results; make recommendations for improvement and communicate solutions to an authentic audience. Student teams create jigs, fixtures, and an automated clamping system to fasten material. They program a robotic arm to control the spreading of adhesive, and design, build and test an automation system for joining the materials. Automated materials joining technology/industry standards and academic literacy, mathematics and science standards are applied to develop prototypes. Students learn how to collaborate within diverse teams, manage projects, think critically, document research, write reports and communicate results to authentic audiences. Further, students apply science, literacy, mathematics, and technical skills to effectively solve challenging real-world problems with business and industry partners.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Applications in Automated Materials Joining

Course Number: IM72

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: IM71 SREB AC Introduction to Automated Materials Joining

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Building on the concepts learned in SREB AC Introduction to Automated Materials Joining, students engage in more complex materials science applications beginning with a reverse engineering project. Students disassemble and analyze a product to determine how they might improve its performance. Heat is applied to materials to change their molecular structure and LabVIEW is used to measure the changes. Different joints are explored and tested using filler metals. Students collaborate to create an automated quality control vision system to govern placement in an automated assembly system. They learn how to write quality engineering reports that communicate the process used and detail their findings. Students sharpen their skills by presenting to authentic audiences. Students learn how to collaborate within diverse teams, manage projects, think critically, document research, write reports and communicate results to authentic audiences. Further, students apply science, literacy, mathematics, and technical skills to effectively solve challenging real-world problems with business and industry partners.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Advanced Concepts in Materials Joining

Course Number: IM73

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: IM72 SREB AC Applications in Automated Materials Joining

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Students apply their knowledge and skills to produce new prototypes. They begin with programming a robot to create acceptable welds. They work with industry partners in a quality control lab where they examine the molecular changes in a tank that failed and test their recommendations to determine if they solved the problem. Students experiment with welding dissimilar metals utilized in battery applications. Working with a business partner, students automate a process to decrease assembly time and solve real-world problems through the application of Total Quality Management principles. Students focus on proposal writing as well as math and science standards integrated in the projects. Students learn how to collaborate within diverse teams, manage projects, think critically, document research, write reports and communicate results to authentic audiences. Further, students apply science, literacy, mathematics, and technical skills to effectively solve challenging real-world problems with business and industry partners.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Projects in Automated Materials Joining

Course Number: IM74

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: IM72 SREB AC Advanced Concepts in Materials Joining

Aligned Career Technical Student Organization(s): SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This is a culminating course where students apply what they have learned to real-world scenarios. Teams work collaboratively to analyze problems, create solutions, and focus on methods of automation analysis to solve the seven issues of waste. They create a conceptual model of an amusement park ride that uses welds that can withstand high impact loads. Students design, build and test a product for automated assembly and create and test an automated process to assemble the prototype. Two projects require students to write a white paper. Depending on state policy, students who successfully complete the course may be eligible for articulated or dual college credit. Students learn how to collaborate within diverse teams, manage projects, think critically, document research, write reports and communicate results to authentic audiences. Further, students apply science, literacy, mathematics, and technical skills to effectively solve challenging real-world problems with business and industry partners.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Energy and Power Foundations

Course Number: TV21

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This course engages students in a variety of hands-on, authentic projects to learn about energy and power methods through the design and construction of motors, pumps, heat exchangers, hydraulics,and pipeline systems. These are the technologies used in large power plant systems to run and maintainprocesses in energy generation plants. Through contextual projects, students will learn and apply physics, chemistry, fluid mechanics, thermodynamics, algebra, and statistics in learning how these systems interact in the energy and power arena. Students will learn how engineers and technicians use these systems in the real world to optimize efficiency.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Energy Transmission and Distribution

Course Number: TV22

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TV21 SREB AC Energy and Power Foundations

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This course focuses on energy transmission and consumer usage. Through projects, students will be introduced to AC and DC power, transformers, the electrical grid and Smart Grid, and consumer load on the electrical system. To complete projects, students will use Ohm's law, Joule's law of heating, root mean square, Pythagorean Theorem, and trigonometric principles to understand how energy travelsalong power lines and is converted from direct current to alternating current to end up, ultimately, in homes and businesses. Students will gain an understanding of how power companies move power — stepping it up and down to meet the needs of the end-user — by designing working transformers, capacitors, inverters, and a power supply.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Electronics and Control Systems

Course Number: TV23

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TV22 SREB AC Energy Transmission and Distribution

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: In this course, students will build on the knowledge and experience gained in the SREB AC Energy Transmission and Distribution course. Through projects, students will apply their knowledge to more advanced systems and learn how to program and use National Instrument's LabVIEW software and the myDAQ data acquisition device to work as engineers in making and analyzing countless scientific measurements. Students will study advanced topics in energy and power such as smart-home automation, plant-level process control, natural gas pipeline monitoring, energy storage and wind power. Each project presents students with a design problem that will require them to not only design and build a prototype, but also develop the software program that will test the prototype and gather measurable, quantifiable data.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Advanced Science and Engineered Systems

Course Number: TV24

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TV23 SREB AC Electronics and Control Systems

Aligned Career Technical Student Organization(s): Technology Students Association (TSA), SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Through well-developed projects in this advanced course, students will assume the roles of building technicians, design engineers, recreational engineers, electrical technicians, and CEOs, while learning about real-world energy and power issues. Students will work with industry mentors to independently tackle real-world scenarios in the energy and power field. The projects in this course scaffold to allow students more choice in determining the final product for each project. This course incorporates knowledge of multiple sources of energy, engineered systems, societal impact and "the business of energy" as students engage in projects involving maglev trains, advanced concepts in steam energy, carbon sequestration and coal, hydraulic fracturing, alternative forms of fuel in transportation and environmental compliance.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Clean Energy Technology I – Clean Energy Systems

Course Number: TV11

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: None

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This course 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 thevarious forms of clean energy.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Clean Energy Technology II – Clean Energy Applications

Course Number: TV12

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TV11 SREB AC Clean Energy Technology I – Clean Energy Systems

Aligned Career Technical Student Organization(s): Technology Students Association (TSA), SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This course builds on the foundation of SREB AC Clean Energy Systems 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Clean Energy Technology III – Clean Energy Strategies

Course Number: TV13

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TV12 SREB AC Clean Energy Technology II – Clean Energy Applications

Aligned Career Technical Student Organization(s): Technology Students Association (TSA), SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Students in this course 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Clean Energy Innovations

Course Number: TV14

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TV13 SREB AC Clean Energy Technology III – Clean Energy Strategies

Aligned Career Technical Student Organization(s): Technology Students Association (TSA), SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: The innovations course 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Systems of Advanced Technology

Course Number: TR12

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: SREB AC Advanced Technology for Design and Production

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: In this course, students will 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Mechatronic Systems for Advanced Technology

Course Number: TR13

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: TR12 SREB AC Systems of Advanced Technology

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: Students will 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Design for the Production of Advanced Products

Course Number: TR14

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: SREB AC Mechatronic Systems for Advanced Production

Aligned Career Technical Student Organization(s): Technology Students Association (TSA) or SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Introduction to Logistics

Course Number: IK41
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students(DECA), SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: This 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Functional Areas in Logistics

Course Number: IK42
Recommended Maximum Enrollment: 25
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IK41 SREB AC Introduction to Logistics
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students(DECA), SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: This 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Global Logistics Management

Course Number: IK43

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: IK42 SREB AC Functional Areas in Logistics

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students(DECA), SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This advanced 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	No		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

SREB AC Logistics and Supply Chain Management

Course Number: IK44

Recommended Maximum Enrollment: 25

Hours of Instruction: 135 (block) 150 (regular)

Prerequisite: IK43 SREB AC Global Logistics Management

Aligned Career Technical Student Organization(s): An Association for Marketing Education Students(DECA), SkillsUSA

Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.

Description: This advanced 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.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Internship**	Yes
Apprenticeship	Yes		**Job Shadowing**	Yes
Business and Industry Field Trip	Yes		**Mentorship**	Yes
Cooperative Education	No		**School-based Enterprise**	Yes
			Service Learning	Yes
****Work-based Learning descriptions can be found on page 3.**				

Welding Technology I

Course Number: IM61
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Engage in thermal cutting tasks. Cultivate safety practices and the importance of personal protective equipment. Explore the procedures for metal preparation and its characteristics. Gain the knowledge, skills, and industry credentials for careers in welding.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Welding Technology II

Course Number: IM62
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IM61 Welding Technology I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Analyze various welding defects by inspection and testing methods. Explore various drawing and welding symbol used in blueprints. Produce multiple position shielded metal arc welding (SMAW) welds. Gain the knowledge, skills, and industry credentials for careers in welding.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Welding Technology III

Course Number: IM63
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IM62 Welding Technology II
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Improve overall welding skills. Create accurate welds from a variety of positions. Produce flux-cored arc welding (FCAW) and gas metal arc welding (GMAW) fillet and groove welds. Gain the knowledge, skills, and industry credentials for careers in welding.
* For safety reasons, the recommended enrollment should not exceed 20 students. .

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Woodworking I

Course Number: IM21
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: None
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Develop a working knowledge of Health and Safety Hazards practices in the woodworking industry. Practice techniques required to safely operate hand tools, portable power tools, and stationary power tools used in the woodworking industry. Engage in procedures for designing, laying out, and constructing a cabinet assembly. Gain the knowledge, skills, and industry credentials for careers in manufacturing.
* For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

Woodworking II

Course Number: IM22
Recommended Maximum Enrollment: 20*
Hours of Instruction: 135 (block) 150 (regular)
Prerequisite: IM21 Woodworking I
Aligned Career Technical Student Organization(s): SkillsUSA
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Practice advanced techniques required to safely operate hand tools, portable power tools, and stationary power tools used in the woodworking industry. Develop a working knowledge of material characteristics, advanced surface preparation, and finish techniques used in the woodworking industry. Engage in advanced procedures for designing, laying out, and constructing a cabinet assembly. Gain the knowledge, skills, and industry credentials for careers in manufacturing.

***** For safety reasons, the recommended enrollment should not exceed 20 students.

Work-based Learning Opportunities appropriate for this course include:				
Pre-apprenticeship	Yes		**Job Shadowing**	Yes
Apprenticeship	Yes		**Mentorship**	Yes
Business and Industry Field Trip	Yes		**School-based Enterprise**	Yes
Cooperative Education	Yes		**Service Learning**	Yes
Internship	Yes			
****Work-based Learning descriptions can be found on page 3.**				

CTE Advanced Studies

Course Number: WB05 (ARCH), WB45 (LAW), WB49 (MANU), WB57 (STEM), WB61 (TRAN)
Recommended Maximum Enrollment: 25
Hours of Instruction: 120 minimum
Prerequisite: Two technical credits in one Career Pathway
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for postsecondary education and future careers through analysis and research of selected career pathway. Experience real-world application of course/pathway content through a work-based learning lens acquired by utilizing employability skills in an authentic workforce activity. Evaluate and plan for a postsecondary career while educating others. Gain the knowledge and skills for careers in the pathway of choice.

CTE Apprenticeship

Course Number: WB06 (ARCH), WB46 (LAW), WB50 (MANU), WB58 (STEM), WB62 (TRAN)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Perform the job duties and related education required as an employed apprentice in a career field registered by ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce environment. Evaluate and plan for a postsecondary career in the career cluster/pathway culminating in a State Certificate and a National Journeyworker Certificate issued by the USDOL. Gain the knowledge and skills for careers in the pathway of choice.

CTE Career and College Promise

Course Number: Various
Recommended Maximum Enrollment: Varies
Hours of Instruction: Does not apply
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Career and College Promise provides a way for any North Carolina high school student in good academic standing who meets eligibility requirements to take community college courses while still in high school. Students can combine high school and postsecondary courses to earn a credential, certificate, or diploma in a technical field and meet requirements for CTE concentration. Credit may be transferrable to another North Carolina community college, to UNC System institutions, and to many of the state's independent colleges and universities. Students should work with their school counselor to determine what CTE pathways are available at their local community college or in what other ways theycan access this program.

CTE Entrepreneurial Experience

Course Number: WB08 (ARCH), WB48 (LAW), WB52 (MANU), WB60 (STEM), WB64 (TRAN)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: Two CTE course credits: one must be a concentrator course.
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA);Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization;Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for the management, responsibilities, and risks of operating a business in a career pathway. Experience real-world application of workplace and employability skills in business management and operations. Learn skills and approaches to successfully evaluate and create new business opportunities. Gain the knowledge and skills for careers in the pathway of choice.

CTE Internship

Course Number: WB07 (ARCH), WB47 (LAW), WB51 (MANU), WB59 (STEM), WB63 (TRAN)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for postsecondary education and future careers through observation and participation in the daily operations of a career in a general career field. Experience real-world application of job tasks acquired by utilizing durable employability skills in an authentic workforce activity. Gain the knowledge and skills for careers in the pathway of choice.

CTE Pre-apprenticeship

Course Number: WL66 (ARCH), WL76 (LAW), WL77 (MANU), WL79 (STEM), WL80 (TRAN)
Recommended Maximum Enrollment: 20
Hours of Instruction: 120 minimum
Prerequisite: None
Aligned Career Technical Student Organization(s): An Association for Marketing Education Students (DECA); Future Business Leaders of America (FBLA); North Carolina FFA Association; National FFA Organization; Family, Career, and Community Leaders of America (FCCLA); HOSA - Future Health Professionals; SkillsUSA; and Technology Student Association (TSA)
Aligned Industry Credential: Refer to the NC CTE Course Management System (CMS) for the current list of aligned credentials.
Description: Prepare for opportunities for postsecondary education and employment in an apprenticeship in a career field registered with ApprenticeshipNC. Experience real-world application of technical skills, employability skills, and related education in an authentic workforce activity. Evaluate and plan for a postsecondary career in the career cluster/pathway. Gain the knowledge and skills for careers in the pathway of choice.

APPENDIX A. LOCAL COURSE OPTIONS

LOCAL COURSE OPTIONS

If a Public School Unit (PSU) recognizes needs that are not addressed by courses in this document, that PSU can apply to offer a Local Course Option (LCO). A Local Course Option requires considerable advanced planning and preparation. Each local course must be applied for and approved or renewed before it is advertised and offered to students. Please consult the appropriate CTE Regional Coordinator for more information.

A Local Course Option should be used to:

- provide for innovation, but not duplication, of courses in the Course Inventory.
- meet unique local needs.
- work in partnership with local stakeholders.
- offer career potential that is permanent and not transitory or temporary in nature.
- assure employment opportunities for local students.
- support the purposes of CTE.
- promote high-skill, high-wage, high-demand, and emerging occupations.

APPENDIX B. DEFINITIONS USED IN THIS DOCUMENT

Career Clusters™ are groupings of occupations used as an organizing tool for curriculum design and instruction. The Career Cluster approach makes it easier for students to understand the relevance of their required courses and helps them select their elective courses more wisely.

Career Pathway Major is one that provides aligned specificity in a Career Pathway and can include either an Advanced Studies course, Work-based Learning course, or a course with aligned content.

Career pathways are sub-groupings of occupations within a Career Cluster used as an organizing tool for curriculum design and instruction. Occupations are grouped into pathways based on the set of common knowledge and skills required for career success.

Certification is industry recognition or confirmation of subject knowledge or the ability to perform specific tasks. The focus is on assessing the attainment of current experience, knowledge, and skill base.

Foundational prerequisite provides fundamental knowledge and skills needed for student success in secondary and postsecondary education and careers in the Career Pathway.

Concentrator is a student who has successfully completed a Concentrator course in an approved Career Pathway.

Concentrator course is a second- or third-level course in the Career Pathway (CPPOS) that builds upon technical skills acquired in a prerequisite course.

Credential provides evidence of authority, status, rights, and entitlement to privileges. Typically, a credential is a paper document.

Curriculum partnering opportunities are developed by national organizations, foundations, consortia, industry, and other curriculum providers. Partnering opportunities are approved by the Division of Career and Technical Education. To be approvable, curriculum partnering opportunities must include a valid and reliable measure of technical attainment that meets the state timeline for federal reporting.

Field test course is complete with all components. The primary intent of the field test year is to collect reliability data on all assessment items before the items are divided into the classroom and secure assessment banks. A secondary intent of the field test year is to collect feedback from teachers about the blueprint weighting, unpacked content, and instructional activities and resources used in the course.

License is permission from a government authority to perform certain tasks.

Maximum enrollment indicates the maximum number of students who can be enrolled in a course based on legal and safety requirements.

Pilot course is used to test and evaluate student interest and feasibility of a new course before full-scale development and implementation of all course components. During the pilot course year, adjustments will be made to improve or enhance course materials. At some designated point, a decision will be made whether or not to continue or terminate the development of the course.

Recommended maximum enrollment indicates the recommended maximum number of students who should be enrolled in a course based on best educational practice.