

Career & Technical Education



Pathways & Program Guide

What is a Pathway?

Career & Technical Education at Greene County Public Schools offers students a number of different career pathways to explore.

Pathways are courses within a career cluster that stack on each other to form a Sequence. Students who complete two or more courses that sequence within a pathway will graduate with CTE Completer status.

Additionally, CTE Completers who also pass their Industry Certification exams earn a CTE Seal on their high school diploma.





Who Can Participate?

Career and Technical Education (CTE) is an integral part of Greene County Public Schools. In compliance with federal law, the Greene County Public School system does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. To ensure all students have access to CTE and are successful, support services are provided by the CTE Career Development.

Haga clic [aquí](#) para la versión en español.



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Agriculture

INTRODUCTION TO AGRICULTURE

GRADES 9-10

1 CREDIT

This introductory course prepares students for careers in agricultural mechanics, fabrication, and construction. Students receive hands-on experience with the operation, maintenance, and repair of agricultural equipment. Other experiences will include the use of tools and equipment for agricultural structures, electricity, welding, and carpentry.

AGRICULTURAL CONCEPTS I

GRADES 10-12

1 CREDIT

PREREQUISITES: INTRODUCTION TO AGRICULTURE.

Instruction in agricultural structural systems will provide students with the knowledge and skills necessary to consider a career in constructing agricultural and building systems. Instruction will focus on the specific components of building systems and on developing leadership and career skills.

AGRICULTURAL CONCEPTS II

GRADES 11-12

1 CREDIT

PREREQUISITES: AGRICULTURAL CONCEPTS I

Students gain positive experiences through fundamental agricultural competencies needed for rural or urban living. Areas of instruction include food production, handling, and preparation; introduction to the livestock and poultry industry; soil, soil fertility, and cultural practices; mechanical applications; plant systems and disease/pest management for shrubs, lawns, pastures, gardens, and fruit trees. The course emphasizes leadership development and participation in FFA activities. Supervised Agricultural Experiences will allow for enhanced learning and growth opportunities for students. Electrical, plumbing, carpentry, and metalworking lab competencies are incorporated throughout the course.

Agriculture

HORTICULTURE

GRADES 9-12

1 CREDIT

This course prepares students for postsecondary educational career programs and entry-level positions in the horticulture industry. Instruction includes safety in the horticulture industry, the science of horticulture and nursery plant production, greenhouse operation and management, landscape design, and turf management. Through hands-on activities, students will identify and manage plant-growing substrates and propagate and grow horticultural plants in the greenhouse and land laboratory.

GREENHOUSE PLANT PRODUCTION & MANAGEMENT

GRADES 10-12

1 CREDIT

PREREQUISITES: HORTICULTURE

Students are taught the operating procedures for a greenhouse. Units of instruction include developing plant production facilities, science application in plant production, and identification of plants. Business management, leadership development, and marketing skills are emphasized to prepare students for careers in the greenhouse plant production and management industry.





Automotive Technology

AUTOMOTIVE TECHNOLOGY I

GRADES 10

1 CREDIT

In this course, students explore, handle, and perform basic functions in engine repair, automatic transmission and transaxle, manual drivetrain and axles, suspension and steering systems, and brakes. Students who successfully complete the Automotive Technology program may be eligible to take the Automotive Service Excellence (ASE) Student Certification examination. The ASE Student Certification is the first step in building a career as a service professional in the automotive industry.

AUTOMOTIVE TECHNOLOGY II

GRADES 11

2 CREDITS

PREREQUISITES: AUTOMOTIVE TECHNOLOGY I

In this course, students build upon their basic knowledge of automotive technology, exploring more advanced tasks in engine repair, automatic transmission and transaxle, manual drive train and axles, suspension and steering systems, and brakes. They also learn about electrical, electronic, and HVAC systems in automobiles. Upon successful completion of the course, students may be eligible to take the Automotive Service Excellence (ASE) Student Certification examination.



Automotive Technology

AUTOMOTIVE TECHNOLOGY III

PREREQUISITES: AUTOMOTIVE TECHNOLOGY II

GRADES 12

2 CREDITS

This course prepares students to perform automotive diagnosis and repairs in the following areas: engine repair, cooling systems, transmission and transaxle, manual drive trains and axles, suspension and steering, wheel and tire, brakes, electrical/electronic systems, HVAC, and engine performance. Students are provided with more advanced instruction in all systems as they prepare for the Automotive Service Excellence (ASE) certification examinations. The Automotive Technology program provides the fundamental skills necessary to succeed in an ever-changing and challenging industry as an automotive technician.





Business & Marketing

PRINCIPLES OF BUSINESS & MARKETING

GRADES 9-12

1 CREDIT

Students discover the roles of business and marketing in the free enterprise system and the global economy. Basic financial concepts of banking, insurance, credit, inheritance, taxation, and investments are investigated to provide a strong background as students prepare to make sound decisions as consumers, wage earners, and citizens. The real-world impact of technology, effective communication, and interpersonal skills is evident throughout the course. This course also supports career development skills and explores career options.

BUSINESS LAW

GRADES 10-12

1/2 CREDIT

Students examine the foundations of the American legal system and learn the rights and responsibilities of citizens. Students gain practical knowledge and life skills by exploring economic and social concepts related to laws governing business and individuals. Focus areas include contracts, consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and careers in the legal fields.

BUSINESS MANAGEMENT

GRADES 10-12

1/2 CREDIT

Students study basic management concepts and leadership styles as they explore business ownership, planning, operations, marketing, finance, economics, communications, the global marketplace, and human relations. Quality concepts, project management, problem solving, and ethical decision making are an integral part of the course. Student leadership skills may be enhanced by participation in school-based or virtual enterprises, job shadowing, internships, cooperative education, and/or the Future Business Leaders of America (FBLA).



Business & Marketing

ENTREPRENEURSHIP

GRADES 10-12

1 CREDIT

This course introduces students to the exciting world of creating, owning, and launching their own business. Students will learn concepts and techniques for planning an entrepreneurial venture, using design thinking and business model development. Students will learn about financial statements, marketing principles, sales and customer service, and basic economic principles for a successful operation.

LEADERSHIP DEVELOPMENT

GRADES 9-12

1 CREDIT

Students develop competencies in identifying individual aptitudes in relation to effective leadership skills, understanding organizational behavior, using effective communication in the workplace, handling human resources and organizational problems, supervising and training employees, resolving conflict, and planning for the future. Continuing education in leadership is emphasized as well as practical leadership experiences in cooperation with school and community leaders.

LEADERSHIP DEVELOPMENT

GRADES 9-12

1 CREDIT

Marketing provides students with instruction that enables them to obtain and succeed in their chosen marketing occupations and explores a variety of marketing topics. Students concentrate on developing competencies needed by marketing workers in the areas of selling, advertising, display, operations, and product/service technology. Students will identify career opportunities in marketing, develop a resume, generate a career portfolio, and identify current job opportunities in marketing using traditional and nontraditional job search strategies.



Career Connections

CAREER CONNECTIONS

GRADES 9

1 CREDIT

Career Strategies consists of an in-depth study of career clusters and pathways through a variety of investigative activities. Students analyze career assessment results, compare various educational options, and develop or revise a plan related to their academic and career-related goals. Students enjoy many guest speakers experiential hands-on field trips throughout the duration of the course.



Carpentry

CARPENTRY I

1 CREDIT

GRADES 10

Carpentry I is the building block for achieving high-level construction industry skills that can result in an exciting and lucrative career. With an emphasis on safety, students are taught to use hand and power tools, cut stock, apply construction mathematics, and interpret blueprints. Students will become proficient in identifying types of residential construction components to form foundations and frame walls, floors, ceilings, roofs, doors, and windows.

CARPENTRY II

PREREQUISITES: CARPENTRY I 2 CREDITS

GRADES 11

Carpentry II leads to successful transition into postsecondary education for careers in carpentry and related fields, such as construction management, architecture, and others. Students are taught the safe use of hand and power tools common to the industry to complement their OSHA 10 safety credential that will be earned in Carpentry II. Successfully passing this course leads to CTE program completion.

CARPENTRY III

PREREQUISITES: CARPENTRY II 2 CREDITS

GRADES 12

Carpentry III is an advanced course that allows students to gain in-depth knowledge and hands-on experience in construction industry skills. Work-based learning methods of instruction for this course would provide the student with practical, on-the-job experience in addition to what he or she has already mastered in Carpentry I and II. Additional exploration of the carpentry profession and postsecondary options for continuing education and professional opportunities are also emphasized.



Cosmetology

COSMETOLOGY I

GRADES 10

2 CREDITS

In this introductory course, students study hair, skin, and nails and their related care. Students are grounded in theory as they prepare to practice procedures in a clinical lab setting or classroom, using manikins for manipulative skill practice. The first-year course emphasizes personal safety, professionalism, and sanitation and disinfection of equipment and facilities. Students develop skills in shampooing and conditioning hair, as well as styling and cutting hair.

COSMETOLOGY II

PREREQUISITES: COSMETOLOGY I

GRADES 11

2 CREDITS

In this continuing course, students build on their theoretical foundation of general sciences and practices in cosmetology to increase proficiency in hair cutting and styling on live models, with attention to professionalism, client consultation, safety, and infection control. Students are trained in safe chemical processes related to permanent waves, relaxers, lightening, and coloring hair. In addition, students learn to care for skin, hands, and feet, developing experience in providing facials, manicures, pedicures, and nail enhancements.

COSMETOLOGY III

PREREQUISITES: COSMETOLOGY II

GRADES 12

2 CREDITS

In this advanced course, students build on their theoretical foundation of general sciences and practices in cosmetology to increase proficiency in hair cutting and styling on live models, with attention to professionalism, client consultation, safety, and infection control. They also develop artistic skills with wigs and hair additions. Competency completion prepares the student for the Virginia State Licensing Exam. Students can combine classroom instruction and supervised on-the-job training in an approved position or internship with continuing supervision throughout the school year.



Creative Medias

GRAPHIC DESIGN

GRADES 9-12

1 CREDIT

Students gain experiences related to computer animation by using graphics and design concepts. Students solve problems involving 3-D object manipulation, storyboarding, texturing/mapping, lighting concepts, and environmental geometry. Students create a variety of animations that reflect real-world applications and are introduced to interactive and 3-D animation software. Production of a portfolio showcasing examples of original student work is included.

VIDEO & MEDIA TECHNOLOGY

GRADES 9-12

1 CREDIT

This course offers students a hands-on opportunity to study all aspects of video and media production. Students will conceptualize, plan, and contribute through all production phases: preproduction, production, and postproduction. In addition, students will practice various methods of gathering and recording information and creating novel content to create a variety of video and media productions while operating studio editing software and video and audio equipment.

SOCIAL MEDIA PRODUCTIONS (COMMUNICATIONS)

GRADES 9-12

1 CREDIT

This course provides experiences in the fields of imaging technology, graphic productions, video and media, technical design, and various modes of communicating information through the use of data. Students develop critical-thinking and problem-solving skills using the universal systems model. Students also learn about the impact of communication on society and potential career fields relating to communications. Students will create content for communications throughout the school in this course.



Culinary Arts

INTRODUCTION TO CULINARY ARTS

GRADES 10

1 CREDIT

The Introduction to Culinary Arts curriculum provides students with opportunities to explore career options within the foodservice industry. Students explore culinary preparation foundations, practice basic culinary skills, explore diverse cuisines and service styles, investigate nutrition and menu development, and examine the economics of food all with an emphasis on food safety and sanitation.

CULINARY ARTS I

PREREQUISITES: INTRODUCTION TO CULINARY ARTS

GRADES 11

2 CREDITS

Students will take learning from Culinary I and apply it to direct, hands on kitchen production. It will include restaurant operations, catering and special event opportunities. We will be incorporating in depth planning, production and serving of foods. Critical thinking, practical problem solving and food service industry opportunities will be emphasized. Students will begin to focus on the various areas of food service operations such as cooking, baking, serving and management. Our on premises café will serve as the focal point for the curriculum.

CULINARY ARTS II

PREREQUISITES: CULINARY ARTS I

GRADES 12

2 CREDITS

Students will take learning from Culinary II and apply it to direct, hands on kitchen production. It will include restaurant operations, catering and special event opportunities. We will be incorporating in depth planning, production and serving of foods. Critical thinking, practical problem solving and food service industry opportunities will be emphasized. Students will begin to focus on the various areas of food service operations such as cooking, baking, serving and management. Our on premises café will serve as the focal point for the curriculum as well as catering and banquet servicing.



Family & Consumer Sciences

FASHION DESIGN I/II

GRADES 9-12 **1 CREDIT**

Fashion Design will offer the student an opportunity to explore principles of clothing design through pattern methods. Emphasis is placed on design principles, garment construction techniques, and exploring textiles.. Learning experiences will consist of classroom instruction, lab, work, field trips, and guest speakers.

LIFE 101

GRADES 9-12 **1 CREDIT**

This course covers: career education, and job searches; basic cooking and nutrition; laundry; finding a life partner or not; sexual wellness; wedding planning; divorce; having a baby and parenting; renting and buying a house; buying a car and general maintenance; purchasing furniture; how to build credit and keep it; what to do if you lose your job; how to clean just about everything; handling health issues and finding a doctor; planning funerals and dealing with grief; manners and etiquette. The course content will be taught using experience based learning methods including hands-on work, field trips, role play, and case study models.

NUTRITION & WELLNESS

GRADES 9-12 **1 CREDIT**

Students enrolled in Nutrition and Wellness focus on understanding wellness, investigating principles of nutrition, using science and technology in food management, ensuring food safety, planning menus, preparing food, and exploring careers in the field of nutrition and wellness. Critical thinking and practical problem solving are emphasized. Food preparation labs are an integral part of this curriculum and students should expect group work





Health & Medical Sciences

INTRODUCTION TO HEALTH & MEDICAL SCIENCES

GRADES 9-12

1 CREDIT

This course introduces the student to a variety of healthcare careers and develops basic skills required in all health and medical sciences. It is designed to help students understand the key elements of the U.S. healthcare system and to learn basic healthcare terminology, anatomy and physiology for each body system, pathologies, diagnostic and clinical procedures, therapeutic interventions, and the fundamentals of traumatic and medical emergency care.

INTRODUCTION TO MEDICAL TERMINOLOGY

GRADES 9-12

1 CREDIT

This course is designed to help students learn common medical terms essential for safe patient care. Topics are presented in logical order, beginning with each body system's anatomy and physiology and progressing through pathology, laboratory tests and clinical procedures, therapeutic interventions, and pharmacology. Students learn concepts, terms, and abbreviations for each topic.



NURSE AIDE I / NURSE AIDE II

GRADES 12

2 CREDITS

Nurse Aide I, offered as an occupational preparation course beginning at the 11th-grade level, emphasizes the study of nursing occupations as related to the healthcare system. Nurse Aide II is an occupational preparation course, emphasizing advanced skill training in areas such as catheter care, range of motion, bowel and bladder training, care of the dying, selected procedures for maternal and infant care, and admission and discharge procedures. Upon completion of the nurse aide program, the student is eligible to take the CNA exam that leads to employment as a certified nurse aide in hospitals and nursing homes.

Health & Medical Sciences

SPORTS MEDICINE / ATHLETIC TRAINING

GRADES 10-12 1 CREDIT

This course is designed for students in grades tenth through twelfth who are interested in pursuing the fields of sports medicine, physicians/doctor, physical therapy, nursing, human anatomy/physiology, personal trainer, exercise physiology and/or becoming a certified athletic trainer. This class will offer students a foundation of human anatomy and physiology and apply this knowledge in the rapidly growing field of sports medicine.

ADVANCED SPORTS MEDICINE

PREREQUISITES: SPORTS MEDICINE / ATHLETIC TRAINING

GRADES 9-12 1 CREDIT

Students will apply their knowledge of muscle and joint anatomy, function to design and implement rehabilitation programs, as well as strength and conditioning programs. Students will also learn advanced taping, splinting, and first aid techniques. This course will also cover nutrition, performance enhancing drugs and other current topics as they relate to sports medicine and athletic training. Advanced Sports Medicine students will be required to serve after school hours assisting the athletic trainer during sporting events and practices. This will count toward WBL Mentorship hours.





HVAC-R

HEATING, VENTILATION, AC, & REFRIGERATION I GRADES 10-12 2 CREDITS

In this first course of the instructional program, students are taught to professionally install, repair, and maintain the operating conditions of heating, air-conditioning, and refrigeration systems. Students work with piping and tubing, study the principles of heat and electricity, install duct systems, and comply with EPA regulations. Completion of the two-course sequence may prepare students for a number of certification exams, which are helpful for employment in a variety of HVACR occupations.

HEATING, VENTILATION, AC, & REFRIGERATION II PREREQUISITES: INTRODUCTION TO CULINARY ARTS GRADES 10-12 2 CREDITS

This instructional program teaches students to professionally install, repair, and maintain the operating conditions of heating and cooling systems. Students also explore emerging technologies, EPA regulations and conservation techniques, and R-410A systems. Completion of this sequence may prepare students for the EPA 608 Industry Certification, helpful for employment in a variety of HVAC-R occupations.



HVAC Excellence Accredited Program
Greene County Technical Education Center
Stanhurville, VA
Met and Exceeds Standards of Excellence required by
HVAC Excellence for Accreditation of their
Heating, Ventilation, Air Conditioning and Refrigeration Program
Issued November 15, 2019 Expires November 15, 2022

Interior Design

INTRODUCTION TO INTERIOR DESIGN

GRADES 9-12 **1 CREDIT**

Introduction to Interior Design students explore influences on the design of interior spaces, investigate careers in the interior design industry, and focus on the technical and soft skills necessary for employment in the interior design profession. Students develop an interior design project that meets specific criteria and includes the elements and principles of design.

INTERIOR DESIGN I

PREREQUISITES: INTRODUCTION TO INTERIOR DESIGN

GRADES 10-12 **1 CREDIT**

Interior Design I students explore career options and professional practices in interior design. Students acquire skills in the design of interior spaces, including selection and application of furnishings, fixtures, equipment, and textiles. Students apply the elements and principles of design, think critically, solve problems, and explore entrepreneurship opportunities within the interior design profession.

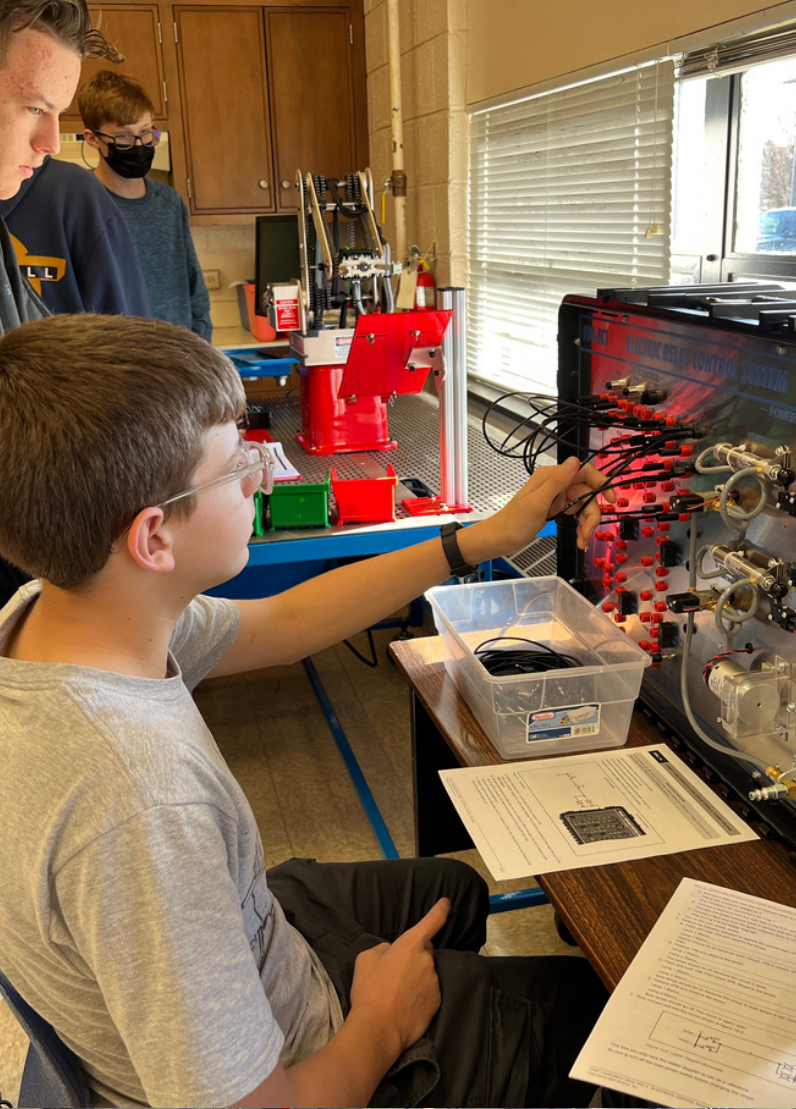
INTERIOR DESIGN II

PREREQUISITES: INTERIOR DESIGN I

GRADES 10-12 **1 CREDIT**

Interior Design II students examine professional practices and deepen their knowledge of interior design. Students apply the elements and principles of design in the development of design projects. This course emphasizes critical thinking, practical problem solving, and entrepreneurship opportunities within the profession of interior design.





Manufacturing Engineering

MANUFACTURING ENGINEERING I

GRADES 9-12

1 CREDIT

This course provides an orientation to careers in various fields of manufacturing. Emphasis will be placed on manufacturing systems, safety, materials, production, business concepts, and the manufacturing process. Students participate in individual and team activities to create products that demonstrate critical elements of manufacturing.

MANUFACTURING ENGINEERING II

PREREQUISITES: MANUFACTURING ENGINEERING I

GRADES 10-12

1 CREDIT

Students develop an in-depth understanding of automation and its applications in manufacturing. Activities center on flexible manufacturing processes and computer integrated manufacturing (CIM). Students work in teams to solve complex interdisciplinary problems that stem from the major systems in automated manufacturing.



Science, Technology, Engineering, & Mathematics

CYBERSECURITY FUNDAMENTALS

GRADES 9-12

1 CREDIT

Cybersecurity affects every individual, organization, and nation. This course focuses on the evolving and all-pervasive technological environment with an emphasis on securing personal, organizational, and national information. Students will be introduced to the principles of cybersecurity, explore emerging technologies, examine threats and protective measures, and investigate the diverse high-skill, high-wage, and high-demand career opportunities in the field of cybersecurity.

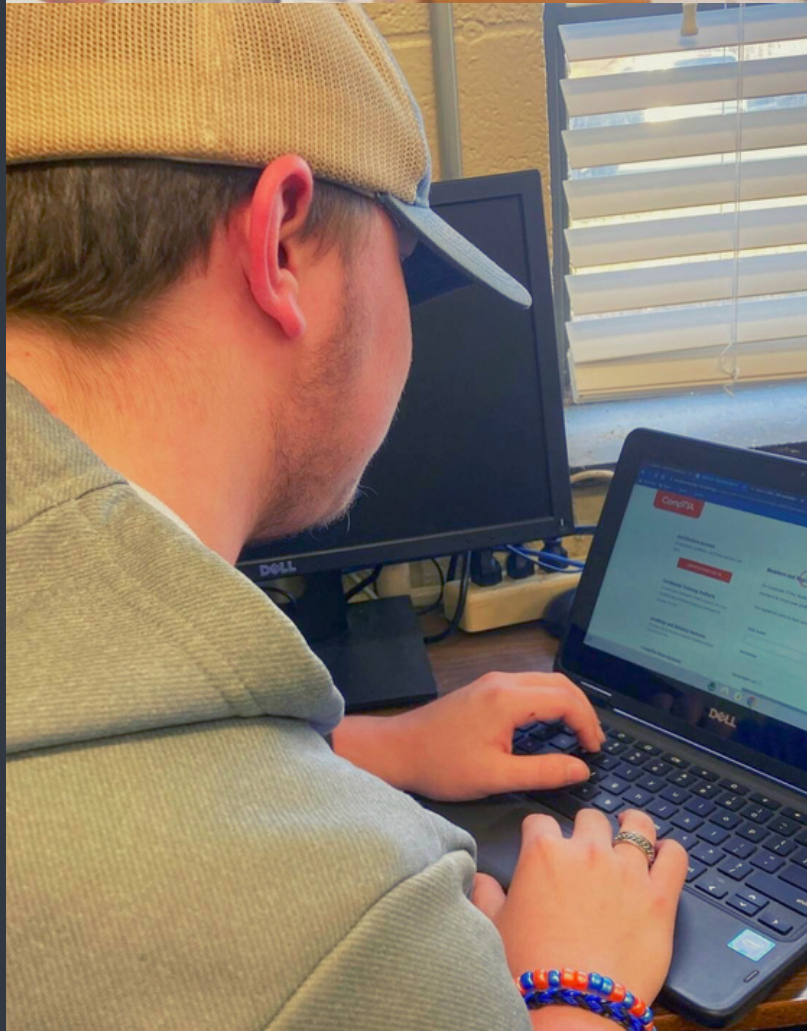
CYBERSECURITY II

PREREQUISITES: CYBERSECURITY FUNDAMENTALS

GRADES 10-12

1 CREDIT

Cybersecurity II is designed to teach computer and network administration and security. Students learn cybersecurity concepts, including the practice of protecting systems, networks, and programs from digital attacks. Cybersecurity is defined as the steps and processes taken to protect networks, devices, programs, and data from unauthorized access that can result in theft or damage. Students learn to establish, implement, and maintain security networks.





Teacher Education

TEACHERS FOR TOMORROW I

GRADES 9-12

1 CREDIT

Virginia Teachers for Tomorrow (VTfT) fosters student interest, understanding, and appreciation of the teaching profession and allows secondary students to explore careers in education. Students build a foundation for education; learn the history, structure and governance of teaching; apply professional teaching techniques in the classroom and field experience; and reflect on their teaching experiences. Additional educational leadership opportunities are offered through the student organization, Educators Rising.

TEACHERS FOR TOMORROW II

PREREQUISITES: TEACHERS FOR TOMORROW I

GRADES 10-12

1 CREDIT

Students continue to explore careers in the Education and Training Cluster and pathways. This course provides the opportunity for students to prepare for careers in education as they research postsecondary options, learn about the process of teacher certification in Virginia, and participate in a practicum experience.



Welding

WELDING I

GRADES 11

1 CREDIT

Welding is required by a wide variety of industries - anywhere fusible materials and high heat are needed to manufacture, repair, or alter tools and products. Students in Welding I are taught to use manual welding, cutting, and electrical arc welding processes to fabricate and join metal parts according to diagrams, blueprints, and specifications. Students will also learn all safety related practices and techniques, including earning the Occupational Safety and Health Administration (OSHA) 10 card.

WELDING II

PREREQUISITES: WELDING I

GRADES 12

2 CREDITS

This course teaches advanced welding students how to fine-tune their craft and to perform welds in various positions, using multiple welding processes. Welding is required by a wide variety of industries anywhere fusible materials and high heat are needed to manufacture, repair, or alter products. Professional welders are in high demand and can earn accordingly. Industry Credential will be offered in this course





Work Based Learning

HIGH QUALITY WORK BASED LEARNING OPPORTUNITIES

PREREQUISITES: ENROLLED IN CTE COURSE & TEACHER RECOMMENDED TO PARTICIPATE

GRADES 11-12 1 CREDIT

Work Based Learning opportunities include Internships, Mentorships, School-Based Enterprises, Job Shadowing, and Supervised Agricultural Experiences. In order to participate in a Work Based Learning/BOLT opportunity, students must be enrolled in a correlating CTE course. Speak with the Work Based Learning Facilitator as well as the CTE Director to determine your options.

BOLT (BUILDING OCCUPATIONAL LATITUDE & TRAINING)

PREREQUISITES: ENROLLED IN CTE COURSE & TEACHER RECOMMENDED TO PARTICIPATE

GRADES 11-12 1 CREDIT

BOLT is a job-training model for students to participate in supervised on-the-job instruction to develop competencies needed to advance in full-time employment. Students work 280 hours annually in order to gain a stand alone credit. The work is to be continuous on-the-job training throughout the school year and students must maintain employment in order to have early release. For grading purposes and credit students will be required to have a job evaluation sheet, training plan, and time sheets updated each nine weeks.



Our Mission: The 3 E's

All WMHS Graduates Will Be...



ENROLLED



ENLISTED



EMPLOYED

CTE SIGNING DAY



Seniors celebrate their after graduation choices publicly at our CTE Signing Day event each year. Any student who is Enrolled, Enlisted, or Enrolled has the opportunity to sign a "letter of intent" declaring what they are going to be doing after graduation. Much like athletes are celebrated for playing sports at the college level, our students are highlighted for their career goals and choices beyond high school. Any student with a concrete plan in place that is tied to a career are eligible to participate. More information is sent out to the senior class via email and English classes as we approach the end of the school year.





2023-2024