



Program of Studies 2024-2025



AUTOMOTIVE TECHNOLOGY

Introduction to Automotive Technology (Intro. Trans./Dis./Log.) (601500CW)

Grade: 10, 11

Prerequisite: None

Credit Hours: 1

Introduction to Automotive Technology is designed for students who are exploring an interest in a career within the automotive repair industry. The one-credit course will cover the theory, diagnostic techniques, and repair procedures common to the automotive industry. The specific content of this course will include the history of the automobile and the industry that produced it, safety working processes, an introduction to the repair career, and wheel/tire diagnostics/repair techniques. Students who are successful in this course will have the opportunity to apply for the remaining courses within the Automotive Technology program.

Automotive Technology 1 (603000CD)

Grade: 11, 12

Prerequisite: Introduction to Automotive Technology

Credit Hours: 2

Automotive Technology 1 is designed to prepare students for a career in the automotive repair industry. The course will cover the mechanical theory, diagnostic techniques, and repair procedures common to the specific automotive content areas of brake systems, suspension systems, steering systems, and HVAC.

Automotive Technology 2 (603100CD)

Grade: 11, 12

Prerequisite: Automotive Technology 1 and teacher recommendation

Credit Hours: 2

Automotive Technology 2 is designed to prepare students for a career in the automotive repair industry. The course will cover the mechanical theory, diagnostic techniques, and repair procedures common to the specific automotive content areas of engine fundamentals, engine rebuilding, ignition systems, fuel injection systems, and computer diagnostics.

Automotive Technology 3/4 (603200CD)/(603300CD)

Grade: 11, 12

Prerequisite: Automotive Technology 2 and teacher recommendation

Credit Hours: 2

Automotive Technology 3 and 4 are designed to prepare students for a career in the automotive repair industry. The course will cover the mechanical theory, diagnostic techniques, and repair procedures common to the specific automotive content areas of manual transmission, automatic transmission, driveline, and electrical theory/repair. The level 4 students will frequently work independently on projects in addition to mentoring and collaborating with level 1, 2, and 3 students. Senior students will take multiple ASE exams including Brakes, Maintenance and Light Repair, Engine Repair, Engine Performance, Electric/Electrical Systems, Heating and Air Conditioning, Suspension and Steering, and Manual Drivetrains during exam week. The ASE certification tests are only valid for 18 months, so they will only be offered to graduating seniors who can use them upon graduating.

Certifications Offered:

Microburst Soft skills

ASE Brakes

ASE Maintenance and Light Repair

ASE Engine Repair

ASE Engine Performance

ASE Electric/Electrical Systems

ASE Heating and Air Conditioning

ASE Suspension and Steering

ASE Manual Drivetrains

** Snap-on/NC3: 504 Multimeter (Pending approval)

** Snap-on/NC3: ShopKey Pro & SureTrak Advanced Level 2

PRE-ENGINEERING

PLTW Engineering Essentials (EE) (614400CW)

Grade: 9, 10

Prerequisite: None

Engineering Essentials is a brand-new course designed as a first-exposure experience to inspire students of all backgrounds to explore the breadth of engineering-related career opportunities. Throughout the course, students explore global engineering challenges and sustainability goals, the impact of engineering, and the variety of career paths available to them. Engineering Essentials is geared toward a first-year engineering high school student who has not been exposed to the appropriate math background in middle and/or high school yet.

PLTW Introduction to Engineering Design H (IED) (605100HW)

Grade: 9, 10, 11

Prerequisite: Algebra 1 with an 80% + or Algebra 1 H

Introduction to Engineering Design is an introductory course that develops student problem-solving skills with emphasis placed on the development of three-dimensional computer models. Students will learn a problem-solving design process and how it is used in the industry to manufacture a product. A Computer-Aided Design System (CAD) will also be used to analyze and evaluate the product design. The techniques learned and equipment used are state-of-the-art and are currently being used by engineering throughout the industry. Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3-D modeling software and use an engineer's notebook to document their work. Students will be introduced to Autodesk Inventor and Convert.

****This is a rigorous honors-level course with the opportunity to earn Dual Credit weighting towards your GPA.**

PLTW Principles of Engineering H (POE) (605000HW)

Grade: 10, 11, 12

Prerequisite: PLTW Introduction to Engineering Design H or PLTW Engineering Essentials

Principles of Engineering is a course that helps students understand the field of engineering/engineering technology. Exploring various technology systems and manufacturing processes helps students learn how engineers and technicians use math, science, and technology in an engineering problem-solving process to benefit people. The course also includes concerns about the social and political consequences of technological change. Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem-solving, research, and design while learning strategies for design process documentation, collaboration, and presentation. Students will be introduced to a variety of software that may include Autodesk Inventor, RobotC, MDSolids, and/or Vernier LoggerPro.

PLTW Aerospace Engineering H (AE) (605500HW)

Grade: 11, 12

Prerequisite: PLTW Intro to Engineering H/PLTW Engineering Essentials and Principles of Engineering H

In Aerospace Technology, students learn about aerodynamics, astronautics, space-life sciences, and systems engineering (which includes the study of intelligent vehicles like the Mars rovers Spirit and Opportunity) through hands-on engineering projects developed with NASA. This course propels students' learning in the fundamentals of atmospheric and space flight as they explore the physics of flights. Students bring the concepts to life by designing an airfoil, propulsion system, and rockets. They learn basic orbital mechanics using industry-standard software. They also explore robot systems through projects such as remotely operated vehicles. Students will be introduced to a variety of software that may include Autodesk Inventor, Aery, RobotC, and/or FoilSim.

PLTW Civil Engineering and Architecture H (CEA) (605800HW)

Grade: 11,12

Prerequisite: PLTW Intro to Engineering H/PLTW Engineering Essentials and Principles of Engineering H

The Civil Engineering and Architecture course provides an overview of the fields of Civil Engineering and Architecture while emphasizing the interrelationship and dependence of both fields on each other. Students use state-of-the-art software to solve real-world problems and communicate solutions to hands-on projects and activities. This course covers topics such as the roles of civil engineering and architects, project planning, site planning, building design, and project documentation and presentation. 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 3D architecture design software. Students will be introduced to Autodesk Revit, MDSolids, and Convert.

Certifications Offered:

Microburst Soft skills

FAA Part 107 UAV License (Certified Drone Pilot)

OSHA 10 General

HEALTH SCIENCE

Medical Terminology (554000CW)

Grade: 9, 10, 11, 12

Prerequisite: N/A

Medical Terminology is designed to develop a working knowledge of the language of health professions. Students acquire word-building skills by learning prefixes, suffixes, roots, combining forms, and abbreviations. Utilizing a body systems approach, students will define, interpret, and pronounce medical terms relating to structure and function, pathology, diagnosis, clinical procedures, and pharmacology. Students will use problem-solving techniques to assist in developing an understanding of course concepts.

Health Science 1 (Foundations of Healthcare Professionals) (555000CW)

Grade: 10, 11, 12

Prerequisite or Co-requisite: Biology 1

Health Science 1, Foundations of Healthcare Professions, is an introductory course designed to provide students with an overview of healthcare careers and foundational skills to begin their journey toward the future as healthcare professionals. Upon completion of this course, proficient students will be able to identify careers in these fields, compare and contrast the features of healthcare systems, and begin to provide foundational healthcare skills. The course will serve as a foundation for all health science programs of study. Students must have completed biology or be enrolled concurrently to take this course.

Health Science 2 (Essential Healthcare Practices) (555100CW)

Grade: 11, 12

Prerequisite: Biology and Health Science 1 with a grade of 75% or higher

Health Science 2, Essential Healthcare Practices, is a course designed to provide for the development of essential knowledge and hands-on skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development. Students are required to job shadow in an area that will connect to a real-world experience in the healthcare industry. Students at the CAS will job shadow at Roper Saint Francis Hospital in West Ashley. Upon completion of this course, proficient students will be able to build upon foundational standards from health science 1 and incorporate patient care skills learned within a classroom and lab setting. Students in this course will also have an opportunity to become BLS Healthcare CPR certified.

Human Structure, Function, and Disease (Formerly Health Science 3) (555200CW)

Grade: 11, 12

Prerequisite: Biology and completion of Health Science 1 or Sports Medicine 1

Human Structure, Function, and Disease acquaints students with basic anatomy and physiology of the human body. Students learn how the human body is structured and the functions of each of the twelve body systems. Students will study the relationship that body systems have with disease from the healthcare point of view. This is a very "hands-on" course and students will learn through projects and activities in the classroom. Skill procedures and foundation standards are reviewed and integrated throughout the program. Job shadowing is encouraged.

Health Science Interns that Work/Work-Based Credit (55900CW)**Grade: 11,12****Prerequisite: Health Science 1 and 2 and at least 16 years of age plus CPR and First Aid (FA) certifications**

Cooperative education experiences are designed for students who have completed at least two units of credit in a state-recognized Career and Technology Education (CTE) major and are enrolled in the subsequent course or have completed three units in a state-recognized CTE major with the mastery of standard to be eligible for participation. Students may be awarded credit for Work-Based Learning experiences that meet acceptable criteria. This course will not count as the third unit in the three-unit completer pathway.

Dual Enrollment Medical Terminology (554100EW)**Grade: 11, 12****Prerequisite: Qualifying Accuplacer scores and has earned a concentrator status in a health science major**

Medical Terminology is designed to develop a working knowledge of the language of health professions. Students acquire word-building skills by learning prefixes, suffixes, roots, combining forms, and abbreviations. Utilizing a body systems approach, students will define, interpret, and pronounce medical terms relating to structure and function, pathology, diagnosis, clinical procedures, and pharmacology. Students will use problem-solving techniques to assist in developing an understanding of course concepts. Students must complete the Trident Technical College Dual Enrollment [application](#). This course counts towards completer status.

Sports Medicine 1 (555000CW)**Grade: 9, 10, 11, 12****Prerequisite: Medical Terminology**

Sports Medicine 1 emphasizes the prevention of athletic injuries including the components of exercise science, anatomy, principles of safety, first aid, cardiopulmonary resuscitation (CPR), and vital signs. The subject matter also includes legal issues, members of the sports medicine team, nutrition, protective sports equipment, environmental safety issues, taping and wrapping, mechanisms of injury, and the application of other sports medicine concepts. Students who successfully complete this course will be prepared to dit for the First Aid/CPR/AED certification exams.

Sports Medicine 2 (555100CW)**Grade: 10, 11, 12****Prerequisite: Sports Medicine 1 with a 75% or higher and CPR and FA (First Aid) certification**

Sports Medicine 2 emphasized the assessment and rehabilitation of athletic injuries. The subject matter will include a discussion of specific conditions and injuries that may be experienced by individuals participating in athletic activities. In addition, the use of appropriate therapeutic modalities and exercise in the care and rehabilitation of injuries will be examined. Advanced concepts related to the administrative aspects of the sports medicine program will be covered.

Sports Medicine 3 (555200CW)**Grade: 11,12**

Prerequisite: Sports Medicine 1 and 2 with a grade of 75% or higher and Basic Life Support (BLS) certification. *Successful completion of Medical Terminology, Health Science 3, or Anatomy and Physiology prior to this course is strongly recommended.*

Sports Medicine 3 emphasizes the student's ability to apply concepts from previous sports medicine coursework to real-world situations and scenarios. A priority will be placed on understanding the current research and evidenced-based practices affecting the practice of sports medicine professionals. Students will develop policies, procedures, and guidelines based on these aspects as well as explore detailed treatment and rehabilitation procedures for common athletic injuries. Students are expected to participate in clinical situations either at school with their athletic department or in an outside clinical setting for real-world experience. This course qualifies students for national certifications in EKG, Physical Therapy Aide, Personal Trainer, or other associated certifications.

Sports Medicine Interns that Work/Work-Based Credit (555300CW)**Grade: 11,12**

Prerequisite: Sports Medicine 1 and 2 and at least 16 years of age plus CPR and First Aid (FA) certifications

Cooperative education experiences are designed for students who have completed at least two units of credit in a state-recognized Career and Technology Education (CTE) major and are enrolled in the subsequent course or have completed three units in a state-recognized CTE major with the mastery of standard to be eligible for participation. Students may be awarded credit for Work-Based Learning Experiences that meet acceptable criteria. This course will not count as the third unit in the three-unit completion pathway.

PLTW Principles of Biomedical Sciences H (PBS) (558000HW)**Grade: 10, 11****Prerequisite: Algebra 1**

Student work involves the study of human medicine, research processes, and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. A theme throughout the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person's life. Key biological concepts including homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease are embedded in the curriculum. Engineering principles including the design process, feedback loops, fluid dynamics, and the relationship of structure to function are incorporated into the curriculum where appropriate. The course is designed to provide an overview of all the courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent course. Students will be introduced to Inspiration, Vernier LoggerPro, and Audacity.

****This is a rigorous honors-level course that offers the opportunity to earn Dual Credit weighting towards your GPA.**

PLTW Human Body Systems H (HBS) (558100HW)

Grade: 10, 11

Prerequisite: PLTW Principles of Biomedical Sciences with a 75% or higher

Students engage in the study of the processes, structures, and interactions of the human body systems. Important concepts in the course include communication, transport of substances, locomotion, metabolic processes, defense, and protection. The central theme is how the body's systems work together to maintain homeostasis and good health. The systems are studied as "parts of a whole", working together to keep the amazing human machine functioning at an optimal level. Students design experiments, investigate the structures and functions of body systems and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Students work through interesting real-world cases and often play the role of biomedical professionals to solve medical mysteries. Students will be introduced to Inspiration, Vernier LoggerPro, and Audacity.

PLTW Medical Interventions H (MI) (558200HW)

Grades: 11, 12

Prerequisite: PLTW Principles of Biomedical Sciences with a 75% or higher and PLTW Human Body Systems H with a 75% or higher

In the PLTW Medical Interventions course, students will investigate the variety of interventions involved in the prevention, diagnosis, and treatment of disease as they follow the lives of a fictitious family. Through these scenarios, students will be exposed to a wide range of interventions related to Immunology, Surgery, Genetics, Pharmacology, Medical Devices, and Diagnostics. These interventions will be showcased across the generations of the family and will provide a look at the past, present, and future of biomedical science. Lifestyle choices and preventive measures are emphasized throughout the course as well as the important role scientific thinking and engineering design play in the development of interventions of the future.

Certifications Offered:

Microburst Soft skills
OSHA 10 General
Basic Life Support (BLS)
First Aid for Severe Trauma (FAST)
NFHS Concussion for Students
NFHS Sudden Cardiac Arrest
National Health Science Certificate (NHSC)

INFORMATION TECHNOLOGY

IT Fundamentals (502500CW)

Grade: 9, 10, 11

Prerequisite: Keyboarding proficiency

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

Networking Fundamentals (531000CW)

Grade: 9, 10, 11

Prerequisite: None

Students in the Networking Fundamentals program will perform networking tasks commonly performed by systems administrators, network administrators, network engineering, and related careers. Students manage hardware and software network components including IP configuration, setting up wireless and wired networks, managing networks, basic network security, software updates, hardware upgrades, and network protocols. Students will learn about configuring and maintaining networks in home and corporate environments. This course will serve as the foundation for our computer service and repair course as well as our cybersecurity fundamentals course.

Computer Repair and Service (532000CW)

Grade: 9, 10, 11

Prerequisite: Keyboarding proficiency and Fundamentals of Computing/IT Fundamentals/Networking Fundamentals/Discovering Computer Science

The Computer Repair and Service course prepares students to perform tasks related to computer repair. Students receive instruction in the installation, operation, maintenance, and repair of computer-based technology. Instruction may also include mobile devices, peripheral devices, networking, and laptops. Laboratory activities provide instruction in installation, configuration, troubleshooting, component replacement, operating systems, and upgrades in accordance with industry certification standards. Students will be introduced to TestOut software. Students who successfully complete the level 1 and level 2 courses will be prepared to sit for the TestOut PC Pro A+, TestOut Windows Client Pro, and/or Comp TIA A+ certification exams.

Advanced Computer Repair and Service (532100CW)**Recommended for Grade 10, 11, or 12****Prerequisite: Keyboarding proficiency and Computer Repair and Service and/or passing score on applicable industry certification such as CompTIA A+ 220-801**

The Advanced Computer Repair and Service course is a continuation of the Computer Repair and Service course. It prepares students to perform advanced, detailed tasks related to computer repair. Students receive instruction in operating systems, security, mobile devices, and troubleshooting. Laboratory activities provide instruction in installation, configuration, operation, maintenance, security, troubleshooting, and repair of industry-standard operating systems in accordance with industry certification standards. Students will be introduced to TestOut software. Students who successfully complete the level 1 and level 2 courses will be prepared to sit for the TestOut PC Pro A+, TestOut Windows Client Pro, and/or Comp TIA A+ certification exams.

Cyber Security Fundamentals (537000CW)**Grade: 9, 10, 11****Prerequisite: Networking Fundamentals**

Cyber Security Fundamentals introduces the core concepts and terminology of cyber security and information assurance. The course examines how the concept of security integrates into the importance of user involvement, security training, ethics, trust, and best practices management. The fundamental skills cover network security, testing, and validation; compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; cryptography; and a broad range of other topics. Students will be introduced to TestOut software. Students who successfully complete this course will be prepared to sit for the Microsoft MTA Security and the Certified Information Security Professional Associate (CCISP) certification exams.

Advanced Cyber Security (537200CW)**Grade: 10, 11, 12****Prerequisite: Cyber Security Fundamentals**

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

Certifications Offered:

Microburst Soft skills
TestOut PC Pro
TestOut IT Fundamentals Pro

MECHATRONICS INTEGRATED TECHNOLOGY

Mechatronics 1 - EC and IS: Electrical Components / Industrial Safety: Robotics (621000CW)

Grade: 9, 10, 11

Prerequisite: Algebra 1 (Can be taken concurrently)

Mechatronics EC and IS focused on Industrial Technology. Mechatronics is a new interdisciplinary field involving mechanical, instrumentation, electronics, robotics/automation, computer components, and control systems. The program prepares students who like to work with their hands as well as their minds. Mechatronics is a dynamic field that changes daily with the rapid improvements in technology and computer systems. Systems are networked to meet the demands of automated manufacturing processes, and technicians are trained to meet necessary entry-level industrial skills and entry into a postsecondary program at a technical college. Dual credit may be available through some SC technical colleges. Students who successfully complete these courses plus additional requirements will be prepared to sit for the Siemens Online quick STEP Training - Industry Services and OSHA certification exams. Students will be introduced to FluidSim, RobotC, Autodesk Inventor, and Camtasia.

Mechatronics 2 - Mechatronics Components: Electric Drives / Hand & Power Tool Op: (621100CW)

Grade: 9, 10, 11

Prerequisite: Mechatronics 1 - EC and IS

Mechatronics 2 is focused on programmable logic controllers (PLC), electrical industrial controls, fluid power (pneumatics), motor controls and starters, and hand and power tool operations.

Mechatronics 3 - Electro Pneumatics and Hydraulics (621200CW)

Grade: 10, 11, 12

Prerequisite: Mechatronics 2 - Mechatronics Components

Mechatronics 3 - Electro Pneumatics and Hydraulics is focused on motor controls and starters, hydraulics, pneumatics, electrical test equipment, and professional development.

Mechatronics 4 - SF and PC: Digital Fundamentals and Programmable Controllers (621300CW)

Grade: 11, 12

Prerequisite: Mechatronics 3 - Electro Pneumatics and Hydraulics

Mechatronics 4 - SF and PC: Digital Fundamentals and Programmable Controllers focuses on advanced levels of mechatronic skills such as PLC robotics, mechanical drive systems and A/C circuits. Students may have the opportunity to participate in school-to-work opportunities such as an apprenticeship or internship. When in the classroom, students work independently or collaboratively on special projects integrating career-ready skills in preparation for entering the workforce or post-secondary institutions.

Certifications Offered:

Microburst Soft skills
SkillsUSA
OSHA 10

MEDIA TECHNOLOGY

Media Technology 1 (612400CW)

Grade: 9, 10, 11

**Prerequisite: Fundamentals of Computing/IT Fundamentals/Networking Fundamentals;
English 1 strongly recommended**

Media Technology 1 students will explore the general field of communications, focused primarily on media production industries. Students will get hands-on experience in basic production techniques for both audio and video and will explore technical concepts including exposure, compositions, mixing, and basic editing. They will work collaboratively while writing, producing, directing, and editing projects of increasing complexity, using industry-standard software and equipment. Safety is emphasized in his course and students will have the opportunity to acquire an industry-recognized safety certification. Students will also learn about related fields such as graphic design, broadcast journalism, animation, sound design and engineering, special effects, online media development, marketing, and corporate communications.

Media Technology 2 (612500CW)

Grade: 10, 11, 12

Prerequisite: Media Technology 1 with a 70% or higher

Media Technology 2 students will build off of the skills learned in Media Technology 1 and explore advanced audiovisual concepts including white balance, post-production color correction, and multi-layered editing in Adobe Premiere Pro. Students will also develop experience working in diverse forms and genres of media production including journalistic, documentary, and fictional narrative videos in group and individual projects. Students will also critically analyze media productions and how they are constructed.

Media Technology 3 (612600CW)

Grade: 11,12

Prerequisite: Media Technology 2 with an 80% or higher

Media Technology 3 will utilize the skills and experiences from Media Technology 1 and 2 and employ them in a practicum environment producing content for the CAS news production and school-related segments. Students will be engaged in a fast-paced, conception-to-distribution media production setting and learn advanced journalism and storytelling techniques while also learning multitasking skills and workflow optimizations. A professional media production skill set is emphasized in this course and students are expected to consistently apply these skills to their projects. They will create and refine the necessary professional materials necessary for entry level employment in the media industries.

Media Technology 4 (612700CW)**Grade: 12****Prerequisite: Media Technology 3 with an 80% or higher**

Media Technology 4 is the final course in the program and will build skills in media and other organizational leadership. Students will lead Media Technology 3 students in the production of the CAS news production and acquire experience managing others. Students will develop and be responsible for quality control and project management skills, as well as continuing or revising the creative direction of the program. Individual responsibilities and skills may vary by leadership position. Students will work both independently and collaboratively to produce advanced level projects using industry-standard software and equipment as well as emerging technologies. Students are expected to finalize professional materials necessary for entry-level employment in the media industries including attainment of industry-recognized certifications.

Certifications Offered:

Microburst Soft skills
OSHA 10 General

WELDING TECHNOLOGY

Welding Technology 1 (63400CD)

Grade: 10/11

Prerequisite: None

Welding Technology 1 is designed for students who are exploring an interest in a career within the welding industry. Students will learn basic Shielded Metal Arc Welding or (Stick Welding), Oxy-Fuel cutting applications, shop and industrial safety, hazards and how to prevent/treat them, and structural welding basics. Students will also learn the employability and personal skills necessary in the workplace. Students throughout all levels will receive training on new tools and common shop and fabrication tools used in the industry today.

Welding Technology 2 (63410CD)

Grade: 10, 11

Prerequisite: Welding Technology 1 with the teacher's recommendation

Welding Technology 2 provides students with knowledge of structural welding processes such as G.M.A.W (MIG Welding), F.C.A.W (Flux Core Welding), and G.T.A.W (TIG Welding). Students will also participate in "toolbox safety talks" and safety audits to prepare them for the workplace. Success in this level is determined by all of the previous skills learned in welding technology 1 and the new skills learned in welding technology 2 and how they are able to demonstrate them appropriately across all facets of welding. Students throughout all levels will receive training on new tools and common shop and fabrication tools used in the industry today.

Welding Technology 3 (63420CD)

Grade: 11, 12

Prerequisite: Welding Technology 2 with the teacher's recommendation

Welding Technology 3 is designed to engage students in more advanced welding techniques that they have learned in the previous two levels. This will include but is not limited to, open root V-groove plate, V-groove plate with backing strips, and structural code welds. Students will also undergo many different types of physical weld tests such as PT and visual and bend specimens. Students throughout all levels will receive training on new tools and common shop and fabrication tools used in the industry today.

Welding Technology 4 (63430CD)

Grade: 12

Prerequisite: Welding Technology 3 with the teacher's recommendation

The focus of welding Technology 4 will be to prepare students for a career in the welding industry through an internship and on-the-job training. The welding instructor will facilitate appropriate internship site placements.

**** The Welding program requires students to be able to stand for long periods of time. This is a hands-on class with minimal classroom time.**

Certifications Offered:

Microburst Soft skills
AWS D1.1 Welding (multiple certifications)
OSHA 10 & OSHA 30

CERTIFICATIONS

07 – AWS The American Welding Society (AWS) certifies the skills of engineers, inspectors, technicians, and welders. The AWS offers various certification programs to meet a variety of needs, providing students with specialized preparation to expand their knowledge base and to work with diverse codes, standards, and specifications industry-wide. [\[AWS\]](#)

63 – OSHA 10 General OSHA 10 Certification The Occupational Safety and Health Administration (OSHA) 10 General certification promotes safe and healthful working conditions for America's men and women. OSHA 10 certification is valid in all career clusters and may be obtained through certified OSHA instructors, online OSHA certified courses, or certified third party institutions. You may choose the OSHA 10 training that is best suited for your career cluster and setting. [\[OSHA10GENERAL\]](#)

ASE Student Certifications ASE student certification is the first step in building a career as a service professional in the automotive industry. Making the completion of career-entry studies in automotive technology, collision repair and refinishing, or medium/heavy-duty trucks, these tests can provide the student with their first industry certification through the National Institute for Automotive Service Excellence. [\[ASE\]](#)

189 – ASE: Auto Maintenance and Light Repair Certification Test (G1)

194 – ASE: Auto Technology-Brakes

195 – ASE: Auto Technology-Suspension & Steering

196 – ASE: Auto Technology-Electrical/Electronic Systems

197 – ASE: Auto Technology-Engine Performance

198 – ASE: Auto Technology-Engine Repair

199 – ASE: Auto Technology-Automatic Transmission

200 – ASE: Auto Technology-Manual Drivetrains

201 – ASE: Auto Technology-Heating & Air Conditioning

202 – ASE: Auto Technology-Maintenance & Light Repair

262 – FAA Part 107 UAV License FAA Part 107 UAV License demonstrates that a drone operator understands the regulations, operating requirements and procedures for safely flying drones. All drone programs are required to be taught by a certified SC teacher with a current commercial drone pilot license. To become a pilot, you must be at least 16 years old; be able to read, speak, write, and understand English; be in physical and mental condition to safely fly a drone; and pass the initial aeronautical knowledge exam: “Unmanned Aircraft General-Small (UAG)”. [\[FAA\]](#)

263 – Sudden Cardiac Arrest Certificate The Sudden Cardiac Arrest course will help you learn and recognize the warning signs and symptoms of Sudden Cardiac Arrest. The certificate signifies the completion of the course where students learn what to do in the critical moments after an individual collapses in order to save their life such as calling 911, starting chest compression and sending for an Automated External Defibrillator (AED). [\[NFHSLEARNSCA\]](#)

321 – TestOut IT Fundamentals Pro The TestOut IT Fundamentals Pro certification measures an examinee's understanding of foundational concepts related to computer hardware and software, networking, databases, programming, information systems, and data security. [\[TOITFP\]](#)

466 – First Aid for Severe Trauma (FAST) First Aid for Severe Trauma is a Department of Homeland Security funded course that teaches high school students the skills to respond to emergencies in the first 10 min or so after they occur. Because of the DHS funding, this is a FREE course for students under the age of 19, and it happens to be the first Stop the Bleed course developed specifically for high school age students. [\[DHS\]](#)

A18 – TestOut Pc Pro Certification The main purpose of the TestOut PC Pro certification is to verify necessary skills to work as an IT support professional. In an IT support job, you'll be asked to install, repair, configure, secure, and manage computer hardware, operating systems, and software in home or corporate environments.

[\[TESTOUTPCPRO\]](#)

A50 – Heads Up: Concussion in Youth Sports The Heads Up: Concussion in Youth Sports is a free course that will help coaches, officials, parents and students understand a concussion and the potential consequences of this injury; recognize concussion signs and symptoms and how to respond; learn about steps for returning to activity (play and school) after a concussion; and focus on prevention and preparedness to help keep athletes safe season-to-season. [\[CDC\]](#) [\[NFHSLEARN\]](#)

A93 – Healthcare Providers Basic Life Support (BLS) BLS training reinforces healthcare professionals' understanding of the importance of early CPR and defibrillation, basic steps of performing CPR, relieving choking, and using an AED; and the role of each link in the Chain of Survival. Students work with an American Heart Association (AHA) BLS Instructor to complete BLS skills practice and skills testing. Students also complete a written exam. [\[BLSCPR\]](#)

A94 – Microburst EmployABILITY Soft Skills Certification The Microburst Employability Soft Skills Certification learning approach includes on-line pre assessments with individualized evaluation reports, highly interactive online lessons, program instructor certification, comprehensive instructor guides with flexible classroom activities to meet a variety of schedules and class sizes, post-assessments, and student certification. With completion of all on-line modules, along with face-to-face classroom instruction and group activities, each completer receives the Employer's Choice Certification. [\[MICROBURST\]](#)