

# ATC COURSE DESCRIPTIONS

## The Applied Technology Center (ATC)

**The Applied Technology Center offers a variety of career and technical education (CTE) high school courses, designed specifically to prepare students for success in college, technical/specialty school, or the workforce. ATC courses provide Rock Hill School District students the opportunity to use academic skills in a project-based, hands-on learning environment while utilizing work place skills.**

Students who successfully complete the required number of courses in a program may earn a Certificate of CTE Completion as a Rock Hill School District and/or SC State CTE Completer.

Students may qualify to participate in a work-based learning (WBL) education experience. Work-based learning is a school-coordinated, sponsored, coherent sequence of workplace e and interests, while based on instructional preparation, and are performed in partnerships with local businesses, industries, or other organizations in the community. WBL enables students to apply classroom instruction in a real-world business or service- oriented work environment.

Students may earn industry certification or licensure aligned with their related industry area.

Due to safety and workforce expectations and requirements, admittance into an entry-level course and/or program of study discipline record, and/or ability to meet academic criteria.

Upper level career courses have recommended prerequisites or state department requirements based on final grades. Final grades of 75 or 80 are generally required in order to advance to the next level course.

Students with excessive absences or excessive/severe discipline concerns may be dropped from their CTE program of study.

Students who need assistance with any course fees should contact a counselor or administrator.

## HUMAN SERVICES

### **Cosmetology**

This two-year program includes academic instruction and classwork with exams prior to lab instruction in hair cutting, scalp care, braiding, wigs, hair removal, hair styling, chemical texture services, hair coloring, facials, facial makeup, manicures, pedicures, nail tips, and nail enhancements. Students gain experience through laboratory activities, hear presentations from professionals in the Cosmetology

industry, and work in a salon setting, simulating a real work place experience. As students gain experience and skills they have the opportunity to work on clients. Students need four blocks in their schedule during their junior and senior year for a total of eight. Maximum enrollment is 20 students per class, 8 units/1000 hours plus 540 academic hours required by South Carolina Labor, Licensing and



**PREREQUISITE: English 1 and Algebra 1 with a recommended 75 or higher in both.**

**COREQUISITE: Biology 1 as a pre- or co-requisite.**

*Health Science 1 and 2 plus one additional select course are required for students to be a CATE completer.*

Health Science 1 is the first of four courses offered to students interested in pursuing a career in the healthcare field. During this course students are introduced to healthcare history, careers, law and ethics, cultural diversity, health care language and math, infection control, professionalism, communication, basics of the organization of healthcare facilities, and types of healthcare insurance. Students will learn first-aid procedures and learn fire safety. The skills and knowledge that students learn in Health Science 1 serve to prepare them for future clinical experiences such as job shadowing or internships as they advance in the Health Science courses. **A pre-requisite grade of 75 or above is required in Health Science 1 in order to enroll in Health Science 2 per SC state requirement. This course is also available at SC Virtual School for students with scheduling conflicts.**

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**Science cluster (AP Biology or science-based Anatomy and Physiology will not.) Student must meet YTC enrollment requirements for dual credit.**

Health Science Clinical Study is a course that guides students to make connections from the classroom to the healthcare industry through clinical experiences/activities. The students will build on all information and skills presented in the previous courses and relay these skills into real life experiences.

technical skills to provide health care in a variety of settings. Student may prepare to take the South Carolina Nurse Aide (CNA) certification exam. Skills include vital signs, activities of daily living, transfers, personal hygiene, nutrition, and safety. Infection Control and HIPAA principles will also be an integral part of the course. A clinical internship with a minimum of 40 hours in a long-term care facility and 30 hours of internship/shadowing may be included in this 2-block course. Students will be required to meet academic, behavior and attendance standards and submit a parent/guardian permission form to participate in the internship. Clinical times will vary according to the facility need. BLS Healthcare Providers CPR and First Aid certification will be required. Students will be HIPAA and OSHA safety trained prior to clinical experiences.

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553100HW

*Students in this course may earn dual credit course through York Technical College.*

*EMS 110 Emergency Medical Technician*

5533YTEW

**PREREQUISITE: Successful completion of Health Science 1, 2, and 3 with an overall grade in each course of an 80 or higher OR status as a three-course CATE completer in any Health Science pathway. In the first option, Health Science 3 may be substituted with the following courses: PLTW Human Body Systems, science-based Anatomy and Physiology, AP Biology, or Medical Terminology. Only Health Science 3, Medical Terminology, or PLTW Human Body Systems will count toward being a CATE completer in the Health Science cluster (AP Biology or science-based Anatomy and Physiology will not.) Student must meet YTC enrollment requirements for dual credit.**

This course includes development of technical skills used during emergencies. Students will apply the concepts of safety and infection control, medical terminology, disaster preparedness and prevention of injury. Students will focus on vital signs, CPR, First Aid, and Automated External Defibrillation. Students will have the opportunity to earn Emergency Medical Responder Certification through the American Health and Safety Institute. The EMS class also offers beginning instruction in Essentials of Firefighting taught by Rock Hill Fire Department staff.

**y (Grades 10-12)**

*This course is available online only.*

554000HW

*Students who successfully complete Health Science 1, Health Science 2, and Medical Terminology are classified as a South Carolina Career and Technical Completer.*

This course is highly recommended for students who are considering a career in the healthcare industry. 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.

**-Based Learning (health science work-based credit)**

559000CW

This is a program which coordinates high school studies with a job in a field related to academic or technical areas of student interest with a participating business. A learning contract outlines the expectations of and responsibilities of both parties. The student works regularly. The work-based experience may be paid or unpaid. 120 Hours, 1.0 credit



advertising, digital art, retouching and restoration. Students will also receive professional certification in design and/or workforce readiness. The software used in this class is the most current version of

field production equipment and record scenes outside regardless of the weather. By the end of this course, students will have created quality video projects to be included in their pre-professional portfolios.

**-Based Learning (arts/audio work-based credit)**

**529000CW**

This is a program which coordinates high school studies with a job in a field related to academic or technical learning contract outlines the expectations of and responsibilities of both parties. The student works regularly -based experience may be paid or unpaid. 120 Hours, 1.0 credit

**Mechanical Design**

**617200CW**

**PREREQUISITE: Algebra 1 with a 75 or higher strongly recommended.**

The Mechanical Design courses provide the students interested in engineering or architecture with the basic fundamentals of technical drawing used in all types of fields. Students will learn how to read and design blueprints. This course is a broad introduction to mechanical design using Computer-Aided Design (CAD) tools and freehand sketching fundamentals. Emphasis is placed on a thorough understanding of projection principles and the visualization of exact space conditions relevant to 3D modeling. Mechanical Design 1 provides the student with an understanding of basic drafting concepts such as single ANSI drafting standards, alphabet of lines and views of objects. Students will use AutoCAD and Inventor Software to construct 2D and 3D drawings.

**617300CW**

**PREREQUISITE: Mechanical Design 1 with a recommended 75 or higher.**

Mechanical Design 2 will focus on the understanding of the standard engineering views used throughout the engineering profession. This course utilizes AutoCAD 2D design software as well as 3D Inventor Modeling software to help the student understand single view drawings, descriptive geometry, orthographic projection, section views, auxiliary views, pictorial drawings, threads, working drawings and gears.

**617000HW**

**PREREQUISITE: Mechanical Design 1 and 2 with a recommended 75 or higher.**

Architectural Design 1 will focus on the fundamentals of civil engineering and architectural drafting. The students will utilize AutoCAD 2D design software and AutoDesk Revit Architectural software to design and create house plan sets that include floor plans, elevations, furniture plans, wall sections, foundation plan and details. The student will also generate 3D renderings of the house design, interiors, and landscape design. Students will also be exposed to survey coordinates and plot plan layouts used in placing their house design on a lot of land.

**Construction/Carpentry**







course, students will be successfully prepared to take the FAA Part 107 Certification Exam with Remote Pilot Training. Students who earn certification are provided hands on, real-world service learning opportunities.

#### **Technology 1, 2, 3, and 4**

**630000CW, 630100CW, 630200CW, 630300CW**

**PREREQUISITE: For Power Equipment 1, Algebra 1 and English 1 with a recommended 75 or higher in both courses. For Power Equipment 2, 3, and 4, recommended 75 or higher in each preceding course to advance to the next level.**

Power Equipment Technology prepares students to perform entry-level repair and maintenance tasks under the supervision of an experience technician. Students receive training on small internal combustion engines used in portable equipment such as lawn mowers, chain saws, rotary tillers, motorcycles, pumps, compressors, and outboard engines. The training includes locating and solving problems, using specialized test equipment, overhauling the basic engine, and repairing/replacing engine systems.

#### **Automotive Service Technology**

This is a three-level program that studies the industry, maintenance and repair of automobiles. This is a progressive program with each consecutive level building on the information and skills learned in the previous levels. Areas of study include, but are not limited to: brakes, steering and suspension, electrical systems, engine performance, manual and automatic transmissions, HVAC and engine repair. **All** potential Automotive Service Technology students along with a parent or legal guardian are required to attend an individual conference and pre-course orientation with the instructor prior to full enrollment into the program. Additionally, a supply fee is required to allow students to have individualized lab appropriate work shirts, gloves and certified safety glasses. The Automotive Technology program is designed to prepare the student for entry-level position in the automotive industry or for greater success in a post-secondary automotive training school. The curriculum used in this program has a heavy emphasis on computer usage and is very technical and challenging. Students must work well independently in order to utilize the online curriculum which includes a significant amount of rigorous reading, writing, math and science content.

#### **Automotive Service Technology 1**

**603000CW**

**PREREQUISITE: Algebra 1 and English 1 with a recommended 75 or higher in both.**

This class requires completion of a safety unit in addition to the regular course work. Safety module **MUST** be completed successfully prior to the students gaining access to the Lab facilities. Extensive on-line course work is used through-out **ALL** levels of this

fuels are taught in level 3 and 4. Class structure is set up so that the classroom/lab time ratio is 50/50 with a heavy emphasis on theory and understanding prior to application. Lab work is conducted on Trainers and live work.

### **Automotive Collision Repair Technology**

This course of study prepares students for employment in the collision repair industry. Students who successfully complete this rigorous program are prepared to continue their education in a post-secondary setting or may enter the workforce in collision repair and refinish related jobs.

**602000CW**

**PREREQUISITE: Algebra 1 and English 1 with a recommended 75 or higher in both.**

In Automotive Collision Repair Tech 1, students will have classroom instruction that includes I-CAR and SP2 computer modules in safety, automobile parts identification, repair methods, chemical safety, tool usage, automotive refinishing and other topics. The curriculum used in this program has a heavy emphasis on computer usage and is very technical and challenging rigorous. Students must work well independently and use their time wisely to complete the required computer modules. Completion of the assigned I-CAR and SP2 computer courses are mandatory for shop/lab admittance. Certifications, which are nationally and internationally recognized are available. Some students prefer to purchase an organic vapor respirator and compressed air blow nozzle for personal use in the class, which total approximately \$25.00. These expenses are optional, and students can take the class without the personal equipment. Appropriate dress is a must for the class; work clothes, closed toes shoes, and safety glasses are required.

**602100CW**

**PREREQUISITE: Automotive Collision Repair Tech 1 with completion of all required coursework and a recommended 75 or higher.**

Students continue instruction including computer modules in I-CAR and SP2. The curriculum used in this program has a heavy emphasis on computer usage and is very technical and rigorous. Students must work well independently and use their time wisely to complete the required computer modules. Completion of the assigned I-CAR and SP2 computer courses are mandatory for shop/lab admittance. Classroom and lab activities include lecture, research, writing assignments, and hands-on experience involving tools, equipment, and a variety of vehicles. Training includes non-structural repair, panel replacement, plastic filler work, and collision repair welding. Students work in a state-of-the-art facility. Students can earn certificates for completed I-CAR and SP2 modules. Appropriate dress is a must for the class; work clothes, closed toes shoes and safety glasses are required.

**and 4**

**602200CW, 602300HW**

**PREREQUISITE: Automotive Collision Repair Tech 2 with completion of all required coursework and a recommended 75 or higher.**

*Auto Collision Repair 3 and 4 are paired as a 2 block, one semester course.*

Students continue instruction including computer modules in I-CAR, SP2, and Sherwin-Williams eLearning courses. The curriculum used i

Students will learn and work in authentic environments using industry standard equipment and procedures, as well as have opportunities to obtain information through field trips and guest speakers from the respective industries. Each of these industries has a significant presence in our area and is projected to continue their pattern of growth. Students must earn a 75 or higher in this course as a prerequisite for higher level courses.

### **istribution**

**699102CW**

**PREREQUISITE: Logistics and Distribution 1 with a recommended 75 or higher.**

This course is designed to actively engage students in the processes of receiving, shipping, order-picking, inventory control, and the operation of numerous types of material handling equipment. Students will acquire information and skills that relate directly to potential career objectives in the warehouse and distribution industry. Successful completers of this course will have the opportunity to sit for either or both of the following nationally recognized industry certifications: (CLA) Certified Logistics Associate and/or (CLT) Certified Logistics Technician. Students will have an opportunity to complete a 10 hour OSHA safety program and earn a safety credential, if successfully completed. A small fee may be assessed for the credential.

**699203CW**

**PREREQUISITE: Logistics and Distribution 2 with a recommended 75 or higher.**

This course is a basic overview of logistics management. Logistics involves the flow of goods and services involving such aspects as warehousing, materials handling, inventory control, and transportation from the raw material to the end user. Students will begin to explore management and supervisory level aspects of the warehousing industry, including staffing, quality control, resource management, problem solving, and group dynam(pl)-4(og)9(s)9(Idrs-3(o)11)-4(q0.0Bs-3(o)11)W\* nB0 612 792 reW\* nQ57.6 489.19 115.1 12.6 ref\*q0.W\* nQ EMC /

and quality of the product? How can we make sure the proper amount of liquid is placed in a container for safe storage or transportation? How can optical sensors and various machines sort goods on a manufacturing assembly line? Students interact with professionals in the integrated production technologies field throughout the course, conducting interviews or participating in on-site and/or virtual field trips.

### **roduction Technologies 2: Systems of Advanced Technology**

**622300CW**

**PREREQUISITE: IPT 1 with a recommended 75 or higher.**

In this course, students 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.

### **Mechatronic Systems for Advanced Production**

**622400CW**

**PREREQUISITE: IPT 2 with a recommended 75 or higher.**

Students will design cost-effective work cells incorporating automation and robotics to improve quality of final products. Students will focus on advanced production, will design and create mechatronic systems, and produce authentic documentation about their cyber-mechanical system using data to control and monitor processes.

### **Design for the Production of Advanced Products**

**622500CW**

**PREREQUISITE: IPT3 with a recommended 75 or higher.**

Students will create plant designs to process and automatically assemble materials into new products. Students will use a prototype to create a production flow plan, analyze and evaluate all aspects of the design and production, and use data, quality control processes and Six Sigma methodology to control production.

**-12)**

**634000CW, 634100CW**

**Prerequisite for Welding 2: Welding 1 with a recommended 75 or higher.**

*Welding 1 and Welding 2 are paired-as a year-long class or 2-block one semester course.*

*Dress code: Student required to wear all protective clothing and safety attire including: leather boot/work shoes, long-sleeve denim shirt, jeans or coveralls, welding shields and safety glasses. Students may choose to purchase their own personal welding shield.*

The Welding 1 and 2 courses cover welding trade theory with a strong emphasis on safety including cutting torch safety, tool usage, equipment set-up and standard terms and definitions. Basic welding and cutting techniques will be taught. In the lab, students observe demonstrations and obtain experience in both gas and arc welding through practice exercises. Instruction topics include: SMAW Welding, Industry GMAW Welding (MIG), Blueprint Reading, Planning and Estimation. Students will also begin learning basic metal fabrication skills using various metal working equipment. Equipment such as plate rolls, hydraulic press brake, and structural rolls. Metal identification shapes and sizes will also be taught.

**-12)**

**635100CW, 635200CW**

*Students in this course may earn dual credit course through York Technical College.*

*WLD 111 Arc Welding I*

*6351YTEW*

*ARV 123 Composition and Color*

*6352YTEW*

**PREREQUISITE: Welding 1 and 2 with a recommended 75 or higher. Student must meet York Tech admission requirements. Student must meet YTC enrollment requirements for dual credit.**

*Welding 3 and 4 are paired as a 2-block one semester course. Same dress code as listed for Welding 1 and 2.*

Welding 3 and Welding 4 students enhance their skills in Stick, MIG and TIG welding on various types of steel. The concentration will be on position welds Flat, horizontal, vertical, and overhead. SMAW, GTAW, GMAW, and FCAW on bead building and joint welds. This course has an emphasis on accuracy of measurements, basic line and views on prints, as well as focusing on Math for Welders. Students will complete selected projects for







This course covers the development of criminal law in America. The basic elements of specific criminal offenses, criminal defenses, and various legal principles upon which criminal law is established are reviewed.

**(Grades 11 or 12)**

**6550YTEW**

*Paired with YTC Police Community Relations if taken at ATC.*

*YTC course name: CRJ 125 Criminology*

**PREREQUISITE: Student must meet YTC enrollment requirements for dual credit.**

This course is a study of the various theories of criminal causation and control, the identification of criminal typologies, and the reaction of society to crime and criminals.

**Police Community Relations (Grades 11 or 12)**

**6540YTEW**

*Paired with YTC Criminology if taken at ATC.*

*YTC course name: CRJ 224 Police Community Relations*

**PREREQUISITE: Student must meet YTC enrollment requirements for dual credit.**

This course is a study of the importance of two-way communication between the criminal justice system and the