

# 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 experiences that are related to each students' career goals 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.
- Upper level career courses have recommended prerequisites or state department requirements based on final grades. Entry level courses must have a minimum 75 or 80 depending on the program of study.
- Students with excessive absences may be dropped from their CTE program of study.

## 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 Regulation (SCLLR).

• **Cosmetology 1 and 2 (Grade 11 only)**

**615000CD, 615100CD**

**PREREQUISITE: Cosmetology 1: Chemistry strongly recommended. Cosmetology 2: Must pass Cosmetology 1 with a 75 or higher and a minimum of 250 clock hours per SCLLR.**

*This is a 2-block, year-long course.* This year-long, double-blocked course has a limited class size of 20 per SC State Board of Cosmetology. Due to limited enrollment, students may be placed on a waiting list. A valid U.S. government issued photo ID and social security card are required on enrollment form by the SC Department of Labor, Licensing, and Regulation.

• **Cosmetology 3 and 4 (Grade 12 only)**

**615200CD, 615300CD**

**PREREQUISITE: Cosmetology 3: Must pass Cosmetology 2 with a 75 or higher and a minimum of 500 clock hours per SCLLR. Cosmetology 4: Must pass Cosmetology 3 with a 75 or higher and a minimum of 750 clock hours per SCLLR.**

*This is 2-block, year-long course.* The size of class is limited to 20 per SC State Board of Cosmetology. Due to limited enrollment, students may be placed on a waiting list. A valid U.S. government-issued photo ID and social security card are required on enrollment form by the SC Department of Labor, Licensing, and Regulation. Students that successfully complete the required number of hours and pass their practical and theory examinations with a passing score or of 75 or higher will be licensed by the South Carolina State Board of Cosmetology.

## HOSPITALITY AND TOURISM

• **Culinary Arts Management 1 (Grades 10-11)**

**572000CW**

**PREQUISITE: Foods and Nutrition 1 with a recommended 75 or higher or Sports Nutrition 1 with a recommended 75 or higher is strongly recommended.**

Culinary Arts 1 is a required course for the Culinary Arts completer program. Students taking Culinary Arts 1 apply the knowledge gained from the basic foods and nutrition/sports nutrition course and advance into an in-depth study of the professional food industry. This course emphasizes skills in the following areas: cuisines, culinary basics, culinary mathematics, dining room operations, food production techniques, food service management, menus nutrition, professionalism, recipes, safety and sanitation, and sustainability. Employment opportunities and qualifications are explored as well as industry certifications. National Certification Examinations: ProStart 1 Examination and ServSafe Food Handler. *Courses included in this SC State Completer Program include: Foods and Nutrition 1 or Sports Nutrition 1 and both Culinary Arts 1 and Culinary Arts 2.*

• **Culinary Management Arts 2 (Grades 11 or 12)**

**572100CD**

**PREQUISITE: Culinary Arts 1 with a recommended 75 or higher and ProStart 1 Certification.**

*This is a year-long course. Culinary Arts 1 and 2 may not be taken in the same school year.*

Culinary Arts 2 is a required course for the Culinary Arts completer program. This course applies and expands upon the skills learned in Culinary Arts 1. Students will gain valuable experiences in the following: cuisines, culinary basics, culinary mathematics, dining room operations, food production techniques, food service management, menus, nutrition, professionalism, recipes, safety and sanitation, and sustainability. Students are strongly encouraged to achieve appropriate workplace certification. Students follow the ProStart curriculum and will take the national certification examinations as described in the description. National Certification Examinations: ProStart 2 and ServSafe Manager. Students are highly encouraged to participate in the ProStart Program to its fullest obtaining a job in the industry. Scholarships may be offered to the major culinary schools by way of studying this curriculum.

- **Work-Based Learning (hospitality work-based credit)** **519000CW**  
This is a program which coordinates high school studies with a job in a field related to academic or technical education standards that provides “hands on learning” in areas of student interest with a participating business. A learning contract outlines the expectations of and responsibilities of both parties. The student works regularly during or after school in exchange for the mentor’s time in teaching and demonstrating. The work-based experience may be paid or unpaid. 120 Hours, 1.0 credit

## EDUCATION AND TRAINING

- **Introduction to Teaching 1** **570300CW**  
Introduction to Teaching 1 is designed to prepare students for careers in the education field. This course will examine careers in early childhood, elementary, secondary, and postsecondary education. Students learn the foundations of education, human growth and development, brain development, teaching strategies, classroom management, and instructional planning and assessment. Technology, professionalism, and academic skills are integrated throughout the course work. There is also an extended learning experience where the student will go into schools and work with a mentor teacher. Professional dress attire is required. Students must earn a 75 or higher in this course as a prerequisite for higher level courses.

- **Introduction to Teaching 2** **570400CW**  
**PREREQUISITE: Introduction to Teaching 1 with a recommended 75 or higher.**  
**COREQUISITE: Must also be enrolled in Introduction to Teaching 3.**

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

- **Introduction to Teaching 3** **570401CW**  
**PREREQUISITE: Introduction to Teaching 2 with a recommended 75 or higher.**  
**COREQUISITE: Must also be enrolled in Introduction to Teaching 2.**

In Introduction to Teaching 3, students will engage in extended learning opportunities for professional experiences in education. Students will demonstrate integration of curriculum and instruction to meet children’s developmental needs and interests in an internship at a local Rock Hill school under the supervision of the ATC teacher and a mentor teacher. The student will be responsible for their own transportation and professional attire. Students will complete portfolios as an assessment of their experiences.

- **Work-Based Learning (education work-based credit)** **639000CW**  
This is a program which coordinates high school studies with a job in a field related to academic or technical education standards that provides “hands on learning” in areas of student interest with a participating business. A learning contract outlines the expectations of and responsibilities of both parties. The student works regularly during or after school in exchange for the mentor’s time in teaching and demonstrating. The work-based experience may be paid or unpaid. 120 Hours, 1.0 credit

## HEALTH SCIENCE

### • Health Science 1

555000CW

**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.**

### • Health Science 2

555101CW

**PREREQUISITE:** Health Science 1 with a 75 or higher per South Carolina Department of Education.

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

Health Science 2 applies the knowledge and skills that were learned in Health Science 1 while further challenging the students to learn more about the healthcare field. This course will introduce students to basic patient care skills. Medical terminology, medical math and pharmacology are incorporated throughout the lessons being taught. Students may earn certifications in First Aid and CPR in this course. Job shadowing opportunities may be available in this course.

### • Health Science 3 - Human Structure and Function

555201HW

**PREREQUISITE:** Health Science 1 and 2 with a 75 or higher per South Carolina Department of Education.

Health Science 3 acquaints students with basic anatomy and physiology of the body. Students learn how the human body is structured and the function of 12 body systems. Students will study the relationship that body systems have with disease from the healthcare point of view. This class is recommended for juniors or seniors. *This course is also available at SC Virtual School for students with scheduling conflicts.*

### • Health Science Clinical Study (Grade 12 only)

*This is a double-blocked course available in Block 1 and Block 2 only.*

*This is a dual credit course through York Technical College.*

*Students must furnish their own transportation to and from the clinical and internship sites.*

**PREREQUISITE:** Health Science 2 with an 80 or higher and at least one of the following courses: Health Science 3 with an 80 or higher or Medical Terminology with an 80 or higher. Students must meet York Technical College admission requirements.

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. This course develops students' technical skills to provide health care in a variety of settings. Student may prepare to take the South Carolina Nurse Aide 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 is 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.

• **Health Science Clinical Study (Grade 12 only)**

*This is a yearlong course available in Block 4 only.*

*This is not a dual credit course.*

*Students must furnish their own transportation to and from the clinical and internship sites.*

**PREREQUISITE: Health Science 2 with an 80 or higher and at least one of the following courses: Health Science 3 with an 80 or higher or Medical Terminology with an 80 or higher. Students must meet York Technical College admission requirements.**

See above for course description.

• **Emergency Medical Services (Grades 11-12)**

**553100HW**

**PREREQUISITE: Students must have completed Health Science 2 with an 80 or higher plus one of the following courses: Health Science 3 with an 80 or higher or Medical Terminology with an 80 or higher.**

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.

• **Medical Terminology (Grades 10-12)**

**554000HW**

*This course is available online only.*

*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.

• **Veterinary Assisting**

**697000HW**

*Supply fee is required.*

**PREREQUISITE: Students must have completed Health Science 2 with an 80 or higher plus one of the following courses: Health Science 3 with an 80 or higher or Medical Terminology with an 80 or higher.**

This course will help the student to develop skills required to work in a veterinary office and/or hospital. Students will acquire skills to include basic nutrition, grooming, medication administration, and assisting the veterinary team with medical care and treatment techniques. Instruction includes injections, blood draws, vital signs and laboratory procedures for small and large animal care. Students are required to attend a minimum of 60 hours clinical training in a variety of settings as chosen by the instructor. Students will have the opportunity to obtain a certification in Veterinary Fundamentals and OSHA 10 for the healthcare environment.

• **Work-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 education standards that provides “hands on learning” in areas of student interest with a participating business. A learning contract outlines the expectations of and responsibilities of both parties. The student works regularly during or after school in exchange for the mentor’s time in teaching and demonstrating. The work-based experience may be paid or unpaid. 120 Hours, 1.0 credit

## ARTS, AUDIO-VIDEO TECHNOLOGY, AND COMMUNICATIONS

- **Digital Art and Design 1: Foundation of Digital Art and Design (Grades 9-12)** **612000CW**  
This course is designed to provide the student with the knowledge and skills needed to utilize digital imaging software in editing and designing images and graphics. Students also learn the use of technologies related to digital imaging such as: basic computer operations; file sharing across networks; preparing documents for output to various types of media the functions of the Mac computer and how to troubleshoot technology. The software used in this class is the most current version of Adobe Photoshop and Illustrator CC (Creative Cloud).
- **Digital Art and Design 2: Interactive Animation and Motion Graphics (Grades 10-12)** **612100CW**  
**PREREQUISITE: Digital Art and Design 1 with a recommended 75 or higher.**  
This course prepares students to use artistic and technological foundations to design, create and program interactive animations. The design principles from the previous course are now combined with animation, including image creation, character development and story conception through production. Students learn the technical language used in the digital art and animation industry along with basic design, animation and coding methods. The curriculum includes basic 2D animations, 3D, motion graphics and special effects. They will also learn techniques about various ways to plan, create, design and prepare for animation in pre-production, production and post-production. The software used in this class is the most current version of Garageband, Adobe Photoshop, Illustrator, Animate and After Effects CC (Creative Cloud).
- **Digital Art and Design 3: Graphic Design and Illustration (Grades 11-12)** **6122YTEW**  
*Dual credit course through York Technical College.*  
**PREREQUISITE: Digital Art and Design 1 and 2 with a recommended 75 or higher. Student must meet York Tech admission requirements.**  
This dual credit course studies the fundamentals of computer assisted graphic design and introduces students to the computer as an instrument to create page layout, vector art, and digital design. Industry standard software is taught and will focus on vector art using Bezier curves. Students will learn the functions of the computer and how to troubleshoot technology. Students learn the technical language used in the graphic illustration industry, design methods, color and composition. Concepts learned are a great foundation for anyone pursuing a career in the print industry, for production artists, illustrators, animators, and graphic designers. Students must earn a B or higher in this course as a prerequisite to move on to the next level course. The software used in this class is the most current version of Adobe Illustrator and InDesign CC (Creative Cloud).
- **Digital Art and Design 4: Digital Photography (Grades 11-12)** **6123YTEW**  
*Dual credit course through York Technical College.*  
**PREREQUISITE: Digital Art and Design 1, 2 and 3 with a recommended 80 or higher. Student must meet York Tech admission requirements.**  
This dual credit is a study of the principles, terminology, techniques, tools and materials of basic digital photography. This course is part of the Digital Art and Design Program, which introduces the skills needed by students for careers in the commercial art fields. Whether working freelance or for a large company, the modern commercial artist is expected to have skills that cover many fields. Photography and Digital Art are the focus of this class, with students learning how to capture images using different photographic methods, including digital SLR cameras, scanners, and film. Students will use the images they capture, learning how to process and incorporate them into projects that communicate an effective message. Students learn the technical language used in the digital photography industry and basic design methods. The core concepts of this class give students an introduction to a career in photography, 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 Adobe Photoshop and Lightroom CC (Creative Cloud).

• **Media Technology 1: Introduction to Video Production** **612401CW**

For those creative students with an interest in video media, this course will walk students through the planning and scriptwriting to filming and video editing. A detailed introduction to Adobe Premiere Pro and video editing concepts will provide students with the tools to assemble their acquired video elements into various video projects. By the end of this course, students will be able to produce their own videos by writing, planning and filming a script and then fully edit their video into an engaging short film. This course is geared for the creative and problem-solving learner. While there is no prerequisite class, students should be computer savvy, capable of working in teams, willing to work outside regardless of weather, and agreeable to carrying and being responsible for production equipment as needed.

• **Media Technology 2: Studio Broadcast Production** **612502CW**

**PREREQUISITE: Media Technology 1 with a recommended 75 or higher and/or permission from instructor.**

This “behind the scenes” broadcast production course teaches the technical applications of television studio production. Students who are motivated, disciplined and can professionally interact with guests (including school district office staff and local dignitaries) will be producing videos that will be aired locally. Each student will learn a myriad of jobs in the studio including: director, studio camera operator, lighting tech, graphic designer, audio engineer, set designer and post-production editor. Students will continue to develop their Adobe Premiere Pro skills in post-production. Students must be willing to write scripts, engage with guests, work in teams, and carry heavy set pieces off and on the set for the variety of shows taped during the semester.

• **Media Technology 3: Advanced Video Production** **612603CW**

**PREREQUISITE: Media Technology 2 with a recommended 75 or higher and/or permission from instructor.**

This advanced video editing-media technology class is geared towards the self-motivated student that wants to build on their existing Adobe Premiere Pro skills and attain certification. Students in this class will continue to develop and enhance their video production skills and will have the opportunity to incorporate other Adobe suite applications into their workflow. Throughout the semester, students will seek out community, district, and home high school video projects. These projects include but are not limited to: documentaries, PSA’s (Public Service Announcements), community leader interviews, social media videos, sports highlights, and more. Students must be willing to write scripts, shoot video outside of school hours, carry heavy 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.

• **Work-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 education standards that provides “hands on learning” in areas of student interest with a participating business. A learning contract outlines the expectations of and responsibilities of both parties. The student works regularly during or after school in exchange for the mentor’s time in teaching and demonstrating. The work-based experience may be paid or unpaid. 120 Hours, 1.0 credit

# ARCHITECTURE AND CONSTRUCTION

## Mechanical Design

### • Mechanical Design 1/Drafting 1

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.

### • Mechanical Design 2/Drafting 2

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.

### • Architectural Design 1/Drafting 3

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

### • Introduction to Construction

600109CW

Is a career in the construction trades for you? This course includes an overview of safety, an orientation to the construction trades, construction math concepts, communication skills, employability skills, and an introduction to hand tools, power tools, and blue prints. Students complete hands-on tasks as they work with tools and complete assignments from a text book or online. Students will get a brief overview of carpentry, masonry, electricity, and plumbing. Students will develop a concept of teamwork, problem solving, and utilization and conservation of resources. Subject matter will include career choices and application of concepts related to becoming a professional in the construction field.

### • Carpentry 1: Construction Engineering

609101CW

**PREREQUISITE: Introduction to Construction with a recommended 75 or higher.**

Carpentry 1/Construction Engineering prepares students to successfully work in the carpentry field by the students gaining the basic skills needed in the trade, such as: reading blueprints, using hand and power tools, and selecting building materials. Students complete hands-on tasks as they work with tools and complete assignments from a text book or online. Techniques to construct floor systems, wall frames, basic roof framing, and roofing materials are covered. This course will also include career exploration, good work habits, and employability skills. Students will have an opportunity to complete a 10-hour OSHA safety program and earn a safety credential if successfully completed. Students will work on various projects for the classroom and other programs at the school, build storage units and other items. Students should be able to climb and work at heights. Carpentry 1/Construction Engineering is a semester course.

• **Carpentry 2 and 3: Advanced Construction Engineering**

**609200CW/609300HW**

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

Carpentry 2 and 3 are paired courses (2-blocks, one semester). Students review subjects covered in Carpentry 1/Construction Engineering, and learn more advanced practices of floor, wall, and roof framing.

Units on estimating materials, framing with light-gauge steel, ceiling construction, laying out building lines, roof structures, stair construction, drywall installation, installing doors and windows, interior trim and exterior finishing are also covered. Students will have an opportunity to earn an industry recognized credential sponsored through the National Home Builder's Association (NAHB) if successfully completed. Students will also develop employability skills by creating a portfolio that contains a cover letter, resume, and a letter of recommendation. The student will also participate in mock interviews to help prepare them for job placement.

**Electricity**

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

• **Electricity 1**

**628701CW**

**PREREQUISITE: Introduction to Construction with a recommended 75 or higher.**

Level 1 students learn the basics of the electrical trade. The most important subject of this course is safety. We will cover safety with tools and on the jobsite, as well as how to correctly use personal protective equipment (PPE). Along with safety, employability skills are an area of study that is vital to students getting and maintaining employment. We will cover what it takes to be successful in the electrical industry. Students are introduced to tools, materials, equipment, the National Electric Code (NEC), wiring diagrams, blueprints, and the basics of electrical theory.

• **Electricity 2 and 3**

**628800CW, 628900HW**

**PREREQUISITE: For Electricity 2, Electricity 1 with a recommended 75 or higher. For Electricity 3, Electricity 2 with a recommended 75 or higher.**

Level 2 and 3 build on the skills from Level 1. Safety remains our #1 priority. PPE use is continued. Employability moves past soft skills to resume' building and mock interviews. Professionals from the electrical trade are invited in to share their knowledge with students as guest speakers. Students learn to navigate as well as interpret the National Electric Code. Residential mock wiring continues with an emphasis on specialty circuits and service entrance equipment. Students also learn the aspects of "Old Work" by cutting boxes and fishing wires in finished drywall. Level 2/3 also includes mock commercial wiring using Metallic Cable (MC) and electrical metallic tubing (EMT). Students are taught the use of various meters for installation and trouble shooting. Upon completion students wishing to enter the electrical field are given assistance with job placement.

• **Welding Technology 1 and 2 (Grades 10-12)**

**634000CW, 634100CW**

*(Formerly Welding Technology 1)*

**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.

• **Welding Technology 3 and 4 (Grades 11-12)**

*(Formerly Welding Technology 2)*

Dual credit as WLD 111 and WLD 113 through York Technical College.

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

*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 fabrication and layouts with assembly and focus on advanced welding and cutting techniques. Students will concentrate on fillet and groove position welds and conforming to AWS welding codes. Students will learn to identify weld defects and determine weld sizes. They will increase their skill level in reading prints and identifying weld symbols. Students will complete individual and group projects. Intro to pipe welding, SMAW and GTAW, plasma cutting and plasma cutting safety.

• **Work-Based Learning (construction work-based credit)**

**669000CW**

This is a program which coordinates high school studies with a job in a field related to academic or technical education standards that provides “hands on learning” in areas of student interest with a participating business. A learning contract outlines the expectations of and responsibilities of both parties. The student works regularly during or after school in exchange for the mentor’s time in teaching and demonstrating. The work-based experience may be paid or unpaid. 120 Hours, 1.0 credit

## MARKETING AND FINANCE

*Business, marketing, and finance courses are available at students’ home high schools.*

• **Work-Based Learning (business work-based credit)**

**549000CW**

This is a program which coordinates high school studies with a job in a field related to academic or technical education standards that provides “hands on learning” in areas of student interest with a participating business. A learning contract outlines the expectations of and responsibilities of both parties. The student works regularly during or after school in exchange for the mentor’s time in teaching and demonstrating. The work-based experience may be paid or unpaid. 120 Hours, 1.0 credit

## TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

### **Drone Innovation Technologies 1**

**329910CW**

Drone Innovation Technologies is a first course in a series leading to industry certification. Rock Hill Schools' drone technologies curriculum is an interdisciplinary program sequenced to provide students an overall perspective of drone history, drone operations, computer science principles, and drone certification. Drone Innovation Technologies is the first course in the series. It is also designed for students to prepare for the industry with work-based learning, leadership and organizational skills, soft skills, and hands-on, real-world, and service learning opportunities. Each part of the program is aligned with small Unmanned Aircraft Systems (sUAS) Certification, Next Gen, and International Standards of Technology Education (ISTE) standards to prepare them to become college and career ready. Students will be evaluated through various formative and summative assessments to prep them for the Federal Administration Aviation (FAA) Exam. The Drone Innovation Technologies curriculum is aligned to eleven of the state's sixteen career clusters.

### **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 program. Automotive service, tools and equipment, steering and suspension and basic electrical taught in Level 1. Class structure is set up so that the classroom/lab time ratio is 70 percent/30 percent with a heavy emphasis on theory and understanding prior to application. All lab work is done on Trainers, NOT live work.

#### **• Automotive Service Technology 2**

**603100CW**

**PREREQUISITE for: Automotive Service Technology 1 with completion of all required coursework and a recommended 75 or higher.**

This class requires a safety unit be completed 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 program. HVAC, diesel engines, brakes, automatic/manual transmissions and drivetrains, and starting and charging systems are all taught in level 2. Class structure is set up so that the classroom/lab time ratio is 60percent/40 percent with a heavy emphasis on theory and understanding prior to application. All lab work is done on Trainers and some live work.

• **Automotive Service Technology 3 and 4**

**603200CW, 603300HW**

*(Formerly Automotive Service Technology 3)*

**PREREQUISITE: Automotive Service Technology 2 with completion of all required coursework and a recommended 75 or higher.**

Automotive Service Technology 3 and 4 are paired as a two block, one semester class. This class requires a safety unit be completed 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 program. Engine repair, engine performance, electrical/computer control systems, and hybrid/alternative 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.

• **Automotive Collision Repair Technology 1**

**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.

• **Automotive Collision Repair Technology 2**

**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.

• **Automotive Collision Repair Technology 3 and 4**

**602200CW, 602300HW**

*(Formerly Collision Repair 3)*

**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 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, SP2 and Sherwin-Williams elearning computer courses are mandatory for shop/lab admittance. Lab activities include lecture, research, writing assignments, and hands-on experience involving tools, equipment, and a variety of vehicles. Students work directly with customers, and assess vehicle damage, order parts and materials necessary for repairs, make repairs, and ensure customer

satisfaction with the work. Students are responsible for the paperwork/computer records necessary for the repair process. Students can earn certificates for completed computer modules. Students who successfully complete Collision Repair 1, 2, 3, and 4 will complete a portfolio documenting their progress, and including any earned certificates. They will earn a certificate of completion from the Applied Technology Center upon successful completion of the Collision Repair program of study as a SC CTE (Career and Technical Education) Completer. Appropriate dress is a must for the class; work clothes, closed toes shoes and safety glasses are required.

• **Logistics and Distribution 1: Introduction**

**699001CW**

This course is designed specifically for ninth and tenth grade students to provide them with essential knowledge, skills, and experiences related to career opportunities in warehouse, distribution, logistics, and transportation. 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.

• **Logistics and Distribution 2: Warehouse Distribution**

**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.

• **Logistics and Distribution 3: Warehouse Inventory**

**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 dynamics.

• **Logistics and Distribution 4: Work-Based**

**699304CW**

**PREREQUISITE: Logistics and Distribution 1, 2, and 3 with a recommended 75 or higher in all three courses.**

The students in Materials Handling 4 will perform general equipment operations, execute the receipt of shipment of goods, and be expected to research and present a portfolio related to their experience in Warehousing and Logistics Technology. In addition, the student will study and relate to the impact of globalization on the supply chain process. Eligible students will have the opportunity for a Work-Based learning experience. This level is an **Internship** for students that have completed the three previous levels of the Warehousing and Logistics curriculum at the Applied Technology Center. An internship is a one-on-one relationship that provides “hands-on” learning in an area of student interest. A learning contract outlines the expectations of and responsibilities of both parties. The protégé works regularly during or after school for three or four hours a week in exchange for the mentor’s time in teaching and demonstrating. The internship generally lasts from three to six months and may or may not include financial compensation.

• **Work-Based Learning (transportation work-based credit)**

**679000CW**

This is a program which coordinates high school studies with a job in a field related to academic or technical education standards that provides “hands on learning” in areas of student interest with a participating business. A learning contract outlines the expectations of and responsibilities of both parties. The student works regularly during or after school in exchange for the mentor’s time in teaching and demonstrating. The work-based experience may be paid or unpaid. 120 Hours, 1.0 credit

## MANUFACTURING

### • **Integrated Production Technologies 1: Advanced Technology for Design and Production** 622200CW

This foundational course focuses on the use of modern technologies in the design and improvement of products. Students explore the following questions using project-based and problem-based scenarios: How do we reverse engineer and document a product and capture design decisions and physical characteristics? How can we design a manufacturing process to mass produce a new product? How can we design a working DC Motor Hobby Kit with accompanying instructional manual? How can we design a system to monitor the manufacturing process 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.

### • **Integrated Production 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.

### • **Integrated Production Technologies 3: 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.

### • **Integrated Production Technologies 4: 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.

### • **Work-Based Learning (manufacturing work-based credit)** 649000CW

This is a program which coordinates high school studies with a job in a field related to academic or technical education standards that provides “hands on learning” in areas of student interest with a participating business. A learning contract outlines the expectations of and responsibilities of both parties. The student works regularly during or after school in exchange for the mentor’s time in teaching and demonstrating. The work-based experience may be paid or unpaid. 120 Hours, 1.0 credit

# AGRICULTURE

## Horticulture

### • **Agricultural Science and Technology (Grades 9-12)**

**562400CW**

The Agricultural Science and Technology course is designed to teach essential concepts and understanding related to plant and animal life including biotechnology, the conservation of natural resources, and the impact of agriculture and natural resource utilization on the environment. Emphasis is placed on the role of agriculture in our society and the importance of agriculture to the welfare of the world. Basic personal and community leadership and safety, and agricultural mechanical technology are included as a part of the instructional program. Each student is expected to design and participate in a supervised agricultural experience. Typical learning activities include hands-on learning experiences including performing basic principles of plant, soil, and animal science; studying and modeling the significance of humankind's interrelationship with soil, water, and air; participating in FFA activities. This course is a component of the following Agriculture, Food and Natural Resources Pathways: Agricultural Mechanics and Technology, Environmental and Natural Resources Management, Horticulture, Plant and Animal Systems.

### • **Introduction to Horticulture (Grades 9-12)**

**565000CW**

**PREREQUISITE: Agricultural Science and Technology with a recommended 75 or higher.**

The Introduction to Horticulture course is designed to be an introduction to the Horticulture pathway. It is recommended as a prerequisite for all other horticulture courses. This course includes organized subject matter and practical experiences related to the culture of plants used principally for ornamental or aesthetic purposes. Instruction emphasizes knowledge and understanding of the importance of establishing, maintaining, and managing ornamental horticulture enterprises. Typical instructional activities include hands-on experiences with propagating, growing, establishing, and maintaining nursery plants and greenhouse crops; tissue culture techniques; designing landscapes; preparing designs; sales analysis and management; participating in personal and community leadership development activities; planning and implementing a relevant school-to-work transition experience; and participating in FFA activities. This is a list of core competencies to be completed by all students enrolled. The teacher may select additional competencies based on a local needs assessment. This course is a component of the following Agriculture, Food and Natural Resources Pathways: Horticulture Pathway.

### • **Nursery, Greenhouse, and Garden Center Technology (Grades 11-12)**

**567200CW**

**PREREQUISITE: Agricultural Science and Technology with a recommended 75 or higher.**

The course in Nursery, Greenhouse and Garden Center Technology includes organized subject matter and practical experiences related to the operation and management of nursery, greenhouse or a garden center. Instruction emphasizes knowledge and understanding of the importance of establishing, maintaining, and managing "green industry" enterprises. Typical instructional activities include hands-on experiences with propagating, growing, establishing, and maintaining nursery plants and greenhouse crops; tissue culture techniques; designing landscapes; preparing designs; sales analysis and management; participating in personal and community leadership development activities; planning and implementing a relevant school-to-work transition experience; and participating in FFA activities. Students will be outside in the greenhouse and headhouse and are expected to participate in all outside activities. This course is a component of the following Agriculture, Food and Natural Resources Pathways: Horticulture.

## Agricultural Mechanics and Technology

### • **Agricultural Science and Technology (Grades 9-12)**

**562400CW**

The Agricultural Science and Technology course is designed to teach essential concepts and understanding related to plant and animal life including biotechnology, the conservation of natural resources, and the impact of agriculture and natural resource utilization on the environment. Emphasis is placed on the role of agriculture in our society and the importance of agriculture to the welfare of the world. Basic personal and community

leadership and safety, and agricultural mechanical technology are included as a part of the instructional program. Each student is expected to design and participate in a supervised agricultural experience. Typical learning activities include hands-on learning experiences including performing basic principles of plant, soil, and animal science; studying and modeling the significance of humankind's interrelationship with soil, water, and air; participating in FFA activities. This course is a component of the following Agriculture, Food and Natural Resources Pathways: Agricultural Mechanics and Technology, Environmental and Natural Resources Management, Horticulture, Plant and Animal Systems.

• **Equipment Operation and Maintenance**

**562100CW**

**PREREQUISITE: Agricultural Science and Technology with a recommended 75 or higher.**

This course is designed to teach students how to operate and maintain equipment commonly used in the agricultural industry. It includes equipment used in all four of the Agriculture, Food and Natural Resources pathways: Horticulture, Plant and Animal Systems, Environmental and Natural Resources Management and Agricultural Mechanics and Technology. Typical instructional activities include hands-on experiences with agricultural power units; participating in personal and community leadership development activities; planning and implementing a relevant school-to-work transition experience; and participating in FFA activities. This is a list of core competencies to be completed in two years by each student enrolled in these courses. The teacher may select additional competencies based on a local needs assessment. This course is a component of the following Agriculture, Food and Natural Resources Pathways: Agricultural Mechanics and Technology, Environmental and Natural Resources Management, Horticulture, Plant and Animal Systems.

• **Agricultural Power Mechanics**

**561000CW**

**PREREQUISITE: Agricultural Science and Technology with a recommended 75 or higher.**

The courses in Agricultural Mechanics are designed to qualify the student completing the courses for job entry into farm, business, or industrial phases of agricultural mechanics or to continue advanced training in post high school education. A combination of subject matter and activities is designed to teach technical knowledge and skills for entry-level positions in selling, selecting, and servicing agribusiness technical equipment and facilities, including computers, specialized software, power units, machinery equipment, structures and utilities. Typical instructional activities include hands-on experiences with agricultural power units; participating in personal and community leadership development activities; planning and participating in FFA activities. This is a list of core competencies to be completed in one year by each student enrolled in these courses. The teacher may select additional competencies based on a local needs assessment. This course is a component of the following Agriculture, Food and Natural Resources Pathways: Agricultural Mechanics and Technology.

**Agri-Business and Marketing**

**560000CW**

**PREREQUISITE: Agricultural Science and Technology with a recommended 75 or higher.**

The course in Agricultural Business Management is designed for the student who plans to seek employment on, manage, or own a farm; or seek employment in an agribusiness field. Students will be involved in learning activities that generally prepare him/herto apply the economic and business principles involved in the organization, operation, and management of the farm, ranch, or agribusiness. Typical instructional activities include hands-on experiences with applying modern economic and business principles involved in the organization, operation, and management of agricultural businesses including the production and marketing of agricultural products and services; applying computer application models; participating in personal and community leadership development activities; planning and implementing a relevant school- to-work transition experience; and participating in FFA activities. This course is a component of the following Agriculture, Food and Natural Resources Pathways: Horticulture, Agricultural Mechanics and Technology, Plant and Animal Systems.