



# Jackson River Technical Center

Course Catalog

and

Career Pathways Guide

2025 Edition

Jackson River Technical Center offers career and technical programs that provide job-entry level vocational training. These courses allow the student to earn credits toward graduation and receive a vocational certificate in addition to his or her diploma. Successful completion of a program sequence will fulfill a math or science requirement for graduation. Also, all classes meet the practical arts requirements for high school graduation. Careful attention should be given to course selections based on your interests and potential career path. JRTC courses should not be considered as “electives” or an “easy A”. Our teachers provide rigorous instruction according to a set of required CTE skills and competencies to prepare students for the workforce following graduation. High emphasis is placed on attendance and academic achievement for each program course.

This catalog serves to be a helpful guide to students who are considering Career and Technical Education programs at JRTC. The programs and courses in this guide are described in a way to provide specific information to students, parents and counselors about our courses and programs to assist them in making informed decisions about which programs are the best fit for the student’s interests and career aspirations.

We are here to help. If you have any questions beyond the information that is included in this document or would like additional information about our CTE courses and programs at JRTC, please reach out to your school counselor or a JRTC instructor or administrator.

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# AUTOMOTIVE TECHNOLOGY

This is a five semester, three course certification program that includes nine National Institute for Automotive Service Excellence industry credentials (with a passing test score on each exam) during the final course. Successful completion of the S/P2 Automotive Service Safety course is required during the first level course of this program. Seniors in the Automotive program will take the written exam required for certification as a Virginia state inspector.

<b>YEAR 1</b>	<b>Automotive Technology I:</b> This is a one-credit, one-semester course designed for students interested in the automotive technology field. Studies in this course will include basic safety, identification of automotive systems, proper use and safety with basic hand tools, minor repair and maintenance of an automobile, general interior and exterior maintenance of an automobile and occupations in the automotive field.	<b>Prerequisite:</b> None	<b>Grades:</b> 10, 11, 12
<b>YEAR 2</b>	<b>Automotive Technology II:</b> This is a two-credit, full-year course, designed to give students instruction in the basic principles in the class such as safety, shop tools, service manuals, engine principles measurements, design and construction, mechanical and fluid engine systems, and electrical engine systems. Students will earn an OSHA-10 card and perform work on automobiles during lab portions of the course.	<b>Prerequisite:</b> Automotive Technology I	<b>Grades:</b> 11, 12
<b>YEAR 3</b>	<b>Automotive Technology III:</b> This is a two-credit, full-year course designed to expand the knowledge a student has learned in the two previous automotive technology courses. Students will receive instruction in emission control systems, automotive computers, power transmission systems, vehicle suspension and control systems, vehicle accessory systems, and the work experience program. Students will continue to work on automobiles during lab portions of the course.	<b>Prerequisite:</b> Automotive Technology II	<b>Grade 12</b>
<b>Potential Career Pathways</b>	Automotive Service Technician, Mechanic, Electrical and Electronic Installer/Repairer, Recreational Vehicle Service Technician, Parts Sales Representative		

**Additional Program Information from the Instructor:**

Automotive Technology at JRTC is an entrepreneurial program. Our students provide maintenance and light repair services to customers as part of their learning experiences. Safety protocol is taken very seriously as we are not only concerned about the safety of ourselves, but also the safety of our customers. Auto students must be respectful and responsible at all times.

Technicians starting out in the auto industry usually begin as a lube and tire technician and will receive on-the-job specialized training from their employer. Most auto industry employers look for workers who will show up on time everyday and are willing to learn and work hard.

Students in the Auto Tech program are required to wear boots or shoes with laces that can be secured to the foot. One pair of safety glasses are provided by JRTC and are required at all times when in the bay/lift area. You will get dirty! Don't wear your Sunday best to class.

By the end of the first course, students will be able to complete basic vehicle maintenance including oil changes and maintenance on tires, drive belts, pumps, etc. By the end of the third year, students are able to remove and repair/replace most auto parts with confidence and rebuild engines, replace clutches and transmissions and run basic electrical diagnostics.

# BUILDING MANAGEMENT

This is a five semester, three course certification program that includes a NOCTI industry credential (with a passing test score during the final course.) Successful completion of General Industry OSHA 10 course is required during the entry level course of this program.

<b>YEAR 1</b>	<b>Building Management I:</b> This is a one credit, one semester course designed to introduce students to the principles of building management as it pertains to the upkeep and maintenance of commercial and public buildings and grounds. Students will receive hands-on training in cleaning operations, building repairs, electrical work, plumbing and grounds maintenance and as well as identification and operation of tools and equipment used in the profession.	<b>Prerequisite:</b> None	<b>Grades:</b> 10, 11, 12
<b>YEAR 2</b>	<b>Building Management II:</b> This is a two-credit, full-year course in which students enhance their knowledge and skills to perform the upkeep of buildings and grounds through hands-on training in maintaining walls and windows, electrical repair, plumbing and interior and exterior repair. Students will operate manual and power tools and equipment and participate in learning experiences at alternate sites as relevant to the skills taught.	<b>Prerequisite:</b> Building Management I	<b>Grades:</b> 11, 12
<b>YEAR 3</b>	<b>Building Management III</b> This is a two-credit, full-year course which is offered as a capstone course for high school seniors who have successfully completed Building Management I and II. Students apply the knowledge and skills to perform advanced maintenance and upkeep of buildings and grounds through specific hands-on training in advanced cleaning operations, building repairs, electrical work, plumbing repairs and installation and ground maintenance. Students will operate advanced level equipment and participate in learning experiences at alternate sites as relevant to the skills taught.	<b>Prerequisite:</b> Building Management II	<b>Grade</b> 12
<b>Potential Career Pathways</b>	Facility Custodian, Groundskeeper, Landscaper, Executive Housekeeper, Maintenance Supervisor, Environmental Specialist, Construction or Building Inspector, Carpenter, Plumber, Electrician, Brick Mason, General Contractor, Project Management Specialist		

Additional Program Information from the Instructor:

This comprehensive program encompasses a wide variety of occupational fields in the area of facility management and maintenance. Students will learn skills in the areas of plumbing, minor electrical repair, woodworking, furniture refinishing, upholstery cleaning, landscaping, groundskeeping, flooring, laying concrete, masonry, small engine repair, and more. Many of the skills and learning activities involve the safe operation and maintenance of power tools and motorized equipment. Learning experiences take place both inside the lab and outdoors. Throughout the program, students are required to wear protective clothing including long pants and leather boots during specific activities or working conditions. Other personal protective equipment such as safety glasses and ear/hearing protection will be provided by the school. Students will work with hand tools and power tools. Students will earn certificates in ladder safety, General Industry OSHA-10 as well as a variety of PATH TO PRO certificates. At the end of the program, students who master the large number of practical skills taught throughout the program will be in high demand for employers in both the public and private sectors who operate brick and mortar buildings and facilities.

# CARPENTRY

This is a five semester, three course certification program and a NOCTI industry credential (with a passing test score during the final course.) Successful completion of Construction OSHA 10 course is required during the entry level course of this program.

<b>YEAR 1</b>	<b>Carpentry I:</b> This is a one-credit, one-semester course designed to introduce students to the principles of carpentry as they relate to construction. Classroom and lab instruction integrates safety, shop and field math needed by carpenters, tools, materials, fasteners, blueprints, and layout work. The student will be involved in hands-on experiences such as the building of a house, shop orders, cabinets, small buildings, and other such projects.	<b>Prerequisite:</b> None	<b>Grades:</b> 10, 11, 12
<b>YEAR 2</b>	<b>Carpentry II:</b> This is a two-credit, full-year course designed to give students more emphasis on carpentry principles. Classroom and lab instruction integrate additional and more detailed instruction from the topics in a review of Carpentry I; safety; rough carpentry; concrete forms; wall, floor, roof, and stair framing; leveling instruments; and estimation principles and cost of materials. Students will be involved in construction of small buildings, sheds and playhouses., Cabinetmaking, and other carpentry related work.	<b>Prerequisite:</b> <b>Carpentry I</b>	<b>Grades:</b> 11, 12
<b>YEAR 3</b>	<b>Carpentry III:</b> This is a two-credit, full-year course designed to give students more advanced emphasis on carpentry. Students will receive classroom and lab instruction in safety, installation of windows and doors, drywall construction, ceiling finishing, interior trim work, blueprint reading and drawing, and comprehensive construction projects variable in scope and size that incorporate all skills and competencies acquired in all three Carpentry courses.	<b>Prerequisite:</b> <b>Carpentry II</b>	<b>Grade 12</b>
<b>Potential Career Pathways</b>	Carpenter, Construction Manager/Supervisor, Construction or Building Inspector, General Contractor, Project Management Specialist, Drywall Installer, Roofer, Building Code Specialist, Restoration Technician, Cabinetmaker, Furniture Designer		

Additional Program Information from the Instructor:

Knowing how, or willing to learn how, to read measurements and use measuring devices related to Carpentry is very important in this program. Boots at least ankle high and long pants are required at all times while working in the lab. JRTC will provide each student with one pair of ANSI approved safety glasses each year at no cost which also must be worn at all times while in the lab. Loose or baggy clothing including hoodie strings will not be allowed in the lab due to the risk of severe injury while operating power tools. Students are provided with lockers to always have a change of clothes and shoes if needed.

# CULINARY ARTS

This is a five semester, three course certification program with a ServeSafe Manager industry credential (upon passing test score during the final course.) For the 2025-2026 school year, this program will be restructured to allow for a more continuous flow of instruction for second and third year students. There will be no change to the structure of the Introductory course; this will remain a one semester course that takes place during third block. Culinary I and II courses will now be semester courses instead of full year; however, those courses will meet for a double block of time during first and second block. Culinary II (Year 3) will be scheduled during the first semester. Culinary I (Year 2) will be scheduled during the second semester. The sequence has not changed, and students will take these during their respective junior and senior years.

<b>YEAR 1</b>	<b>Introduction to Culinary Arts:</b> This is a one-credit, one-semester course designed to introduce students to the basics of the food industry. Students will be given an overview of the food service industry, general safety, sanitation, kitchen orientation and equipment, nutrition, customer service, and basic cooking principles. Students will also apply those topics to actual work in the kitchen in preparing basic meals and in hosting large banquets.	<b>Prerequisite:</b>  None	<b>Grades:</b> 10, 11, 12
<b>YEAR 2</b>	<b>Culinary Arts I:</b> This is a two-credit, full-year course designed to give students more in-depth experiences in working in the food industry. Students will have more hands-on time in the kitchen to prepare meals and banquets. Students will continue to expand their food industry knowledge by making menus, studying recipe structure and use, basic food preparation and fast food operations.	<b>Prerequisite:</b>  <b>Introduction to Culinary Arts</b>	<b>Grades:</b> 11, 12
<b>YEAR 3</b>	<b>Culinary Arts II:</b> This is a two-credit, full-year course designed to introduce students to kitchen management skills. Students will cover several topics dealing with management: equipment, business management, personal management, cost control, menu planning, and marketing. The majority of this class is spent in the kitchen with the student working individually and in small groups to prepare for meals and banquets.	<b>Prerequisite:</b>  <b>Culinary Arts I</b>	<b>Grade</b> 12
<b>Potential Career Pathways</b>	Executive Chef, Cook, Food Service Manager, Food Sales/Service Representative, Meeting and Convention Planner, Independent Food Specialist and Designer, Nutritionist		

Additional Program Information from the Instructor:

All Culinary Arts students will participate in kitchen lab learning activities throughout each of the program courses. Students will be required to wear a uniform whenever working in the kitchen. Student uniforms consist of black, non-slip, closed-toe shoes, black or checkered pants, chef coat, apron and a chef hat. The cost of the uniform will be the responsibility of the student. Hair and/or beard nets will be provided as needed.

In addition to the career pathways listed above, students who complete the Culinary Arts program have opportunities for specialized food preparation careers such as a pastry chef, baker, butcher, caterer, personal chef or barista.

## DRAWING AND DESIGN

Beginning with the 2025-2026 school year, Drawing and Design courses at JRTC will no longer be offered as stand-alone electives. This program will transition to a five semester certificate program that includes a series of three one-semester courses and one year-long course (that may include an internship) that must be taken in sequence. To qualify for a JRTC certificate in Drawing and Design, a student must successfully complete all five courses in the sequence. Students can earn an industry credential with a passing score on one of two AutoDesk Certified User Exams which will be administered during the program's capstone course.

<b>YEAR 1 (SEM 1 OR SEM 2)</b>	<b>Technical Drawing/Design:</b> This is a one-credit, one-semester course for students to experience the basic drawing language used in industry and construction. Students sketch, design, and make technical drawings, orthographic drawings, isometric drawings, and learn the fundamentals of dimension drawings. Students will be introduced to manual drafting and design techniques using traditional drafting tools and also use Autodesk Inventor, which is a CAD (computer aided drafting) software to complete the assignments.	<b>Prerequisite:</b>  None	<b>Grades:</b> 10, 11, 12
<b>YEAR 2 SEM 1</b>	<b>Architectural Drawing/Design:</b> This is a one-credit, one-semester course in which students learn advanced drawing and design material. It is a course that provides students the opportunity to learn about the principles of architecture and to further expand their skills in using Autodesk Revit which is a CAD system geared towards the Architectural side of Drafting and Design. Drawing experiences include: designing house plans to meet County building codes, developing pictorial house drawings, and constructing a house model.	<b>Prerequisite:</b>  Technical Drawing/Design	<b>Grades:</b> 11, 12
<b>YEAR 2 SEM 2</b>	<b>Engineering Drawing/Design:</b> This is a one-credit, one-semester course. It is designed as an advanced CAD drawing and design course using Autodesk Inventor (3D Modeling), where students expand their knowledge and drawing skills as related to the mechanical design field of study. Subject areas will include design work in the electrical field, machine field, and plumbing field. Students will learn how to draw isometric, oblique, auxiliary, and detailed sets of drawings and construct simple models from their designs.	<b>Prerequisite:</b>  Technical Drawing/Design	<b>Grades:</b> 11, 12
<b>YEAR 3</b>	<b>Advanced Drawing/Design:</b> This is a one-credit, two-semester capstone course designed for students to use graphic language for product design and technical illustration. They increase their understanding of drawing techniques learned in the Technical Drawing and Design, Engineering Drawing and Design and Architectural Drawing and Design. Students research design-related fields while identifying the role of advanced drawing and design in manufacturing and construction industry processes. Students in this class will extensively prepare for the Autodesk Certified User exam in either Autodesk Inventor or Autodesk Revit (student's choice).	<b>Prerequisites:</b> TDD, ADD and EDD.	<b>Grades:, 12</b>
	<b>Potential Career Pathways</b>	Architect, Commercial/Industrial Designer, Aeronautical/Electrical/Electronic Drafter, Engineer, Engineering Technician, Landscape Architect, Mechanical Drafter, Pipeline Drafter, Graphic Designer, Lighting Designer, Illustrator	

Additional Program Information from the Instructor: See next page.

## DRAWING AND DESIGN (continued)

#### Additional Program Information from the Instructor::

The coursework within the Drawing and Design program classes are precision based. Students will master designing skills using many manual and electronic instruments as well as computer software programs. Much of the coursework is hands-on and independent. The Architectural and Engineering courses will provide students the opportunity to partner with local business, organizations or governmental agencies to assist with design projects in the community. In the capstone Advanced Drawing course, students will be issued a specialized laptop and, over the course of the year, will design and complete a capstone project based on his/her personal interests with guidance from the instructor. Additionally, students will prepare to take one Autodesk Certified User Examination depending on the students preference of Architecture or Engineering. This industry credential is recognized globally in the many construction and engineering career fields. Since only one credit can be awarded for the year-long capstone course, students will have the opportunity to pair this course with a coordinated internship to earn an additional credit. Although an internship is highly recommended, it is not required as criteria for earning a JRTC certificate in Drawing and Design.

This is a five semester, three course certification program that includes a NOCTI industry credential (with a passing test score during the final course.)

<b>YEAR 1</b>	<b>Introduction to Early Childhood Education:</b> This is a one-credit, one-semester course designed to introduce the student to the principles of child growth and development, planning and implementing learning activities, principles of guiding children's behaviors, healthy and safe environments, exploration of the child care industry and career development. Basic hands-on experience working with children and their families is provided in the JRTC Preschool.	<b>Prerequisite:</b> None	<b>Grades:</b> 10, 11, 12
<b>YEAR 2</b>	<b>Early Childhood Education I:</b> This is a two-credit, full-year course designed to continue developing students' knowledge and skill that would apply to many careers dealing with children. Areas of learning include types and characteristics of child care centers, employability requirements, basic child development, children's behavior, guidance and discipline techniques, types of behavior, behavioral procedures, promotion of children's health and safety, child abuse awareness, facility maintenance, and developmentally appropriate activities. Continued practical hands-on experience is gained in the JRTC Preschool.	<b>Prerequisite:</b>  <b>Introduction to Early Childhood Education</b>	<b>Grades:</b> 11, 12
<b>YEAR 3</b>	<b>Early Childhood Education II:</b> This is a two-credit, full-year course designed to develop more professional attitudes and abilities and combine learned knowledge with current information and practices. Additional topics of instruction will be CPR and First Aid Training, behavior management and communication skills, learning theories, program management, and record keeping skills. Continued practical hands-on teaching experience in working with children and their families is gained in the JRTC Preschool.	<b>Prerequisite:</b> <b>Early Childhood Education I</b>	<b>Grade 12</b>
<b>Potential Career Pathways</b>	Elementary School Teacher, Child Care Provider/Assistant, Child Care Center Manager/Operator, Teacher Assistant, Instructional Coordinator, Educational Administrator, School Counselor, Speech-Language Pathologist, Social Worker, Psychologist		

Additional Program Information from the Instructor:

The Early Childhood Occupations is a service program that hosts a preschool during the school year for children ages 3 and 4. The preschool operates every Tuesday through Thursday beginning in early September. A major component of this program at each level requires students to create and implement developmentally appropriate lesson plans for the preschoolers we serve. In addition to lesson plans, attendance is another major component of the student's grade at all three levels of the Early Childhood program. A student's daily attendance accounts for 50% of his/her weekly participation grade because so much of this program is oriented towards the hands-on experiences with our preschoolers. Students who wish to be successful in this program should value attendance and demonstrate to young children that coming to school every day is important.

High school students who have aspirations to be a teacher or a career working with young children in the future, this would be a good program to experience working directly with children to determine if this career path is a good fit for you. Certification in CPR is a requirement for all students who participate in ECE 1 (second year) which remains in good standing throughout the students' third year in the ECE program.

## ELECTRICITY

This is a five semester, three course certification program that includes a NOCTI industry credential (with a passing test score during the final course.)

<b>YEAR 1</b>	<b>Electricity I:</b> This is a one-credit, one-semester course designed to train students in the basic electrical knowledge and performance skills required to work in the building trades field. Classroom and hands-on instruction will include units in electrical safety; tools; blueprints and load calculations; electrical wiring codes; 110 volt, 220 volt, and low voltage circuits; fuses and circuit breakers; test equipment; and basic troubleshooting. The student will develop electrical repair skills and basic wiring skills.	<b>Prerequisite:</b> None	<b>Grades:</b> 10, 11, 12
<b>YEAR 2</b>	<b>Electricity II:</b> This is a two credit, full-year course. Students continue to develop skills in the installation, operation, maintenance, and repair of residential, commercial, and industrial electrical systems. They also study electrical theory and mathematical problems related to electricity, navigate the National Electrical Code Book, select and install conductors, examine lighting, communication, and power systems, and work with conduit and raceways, panelboards, switchboards, grounding systems, and generators.	<b>Prerequisite:</b> Electricity I	<b>Grades:</b> 11, 12
<b>YEAR 3</b>	<b>Electricity III:</b> This is a two-credit, full-year course. Students continue to develop skills in the installation, operation, maintenance, and repair of residential, commercial, and industrial electrical systems. They also study electrical theory and mathematical problems related to electricity, navigate the National Electrical Code Book, select and install conductors, examine lighting, communication, and power systems, and work with conduit and raceways, panelboards, switchboards, grounding systems, and generators.	<b>Prerequisite:</b> Electricity II	<b>Grade 12</b>
<b>Potential Career Pathways</b>	Electrician, Construction Manager, General Contractor, Building Code Inspector, Electrical Engineer, Electrical Technician		

Additional Program Information from the Instructor:

Long pants, leather boots and safety glasses are the daily workwear requirements for all students enrolled in the Electricity program. Individual lockers are issued to students who prefer to store their workwear on site. One pair of safety glasses are provided by JRTC. Students accepted at the entry level of the Electricity program should be proficient in basic math skills and computations.

## MARKETING

Beginning with the 2025-2026 school year, marketing courses at JRTC will no longer be offered as stand-alone electives. Marketing will transition to a five semester certificate program that includes a series of five one semester courses that must be taken in sequence. To qualify for a JRTC certificate in Marketing, a student must successfully complete all five courses in the sequence. Students can earn an industry credential with a passing score on the A\*S\*K\* Fundamental Marketing Concepts Assessment (NOCTI) which will be administered during the program's capstone course.

<p><b>YEAR 1 (SEM 1 OR SEM 2)</b></p>	<p><b>Marketing:</b> A one-credit one-semester course for entry level positions and/or continued education in a variety of careers that require knowledge of communications, economics, and psychology as well as techniques in sales, promotion, and management. Examples include sales, public relations, business management, product design and merchandising, fund-raising, advertising and promotion using all types of media, and international marketing. Marketing uses the cooperative education method offering a combination of classroom instruction and supervised on-the-job training with continuing supervision throughout the school year.</p>	<p><b>Prerequisite:</b> None</p>	<p><b>Grades:</b> 10, 11, 12</p>
<p><b>YEAR 2 SEM 1</b></p>	<p><b>Sports and Entertainment Marketing:</b> This course is designed to help students develop skills in the areas of marketing analysis, event marketing, communication, and human relations, along with a thorough understanding of the sports, entertainment, and recreation industry and career options available. Academic skills (mathematics, science, English, and history/social science) related to the content are a part of this course. Computer/technology applications supporting this course are studied.</p>	<p><b>Prerequisite:</b> Marketing</p>	<p><b>Grades:</b> 11, 12</p>
<p><b>YEAR 2 SEM 2</b></p>	<p><b>Travel and Tourism Marketing:</b> This course examines the components of the hospitality and tourism industry, including attractions, lodging, transportation, and food and beverage. Other topics include the history, political, social, and cultural impacts hospitality and tourism have had on local, state and global environments. Students will develop competencies in the areas of communication, customer service, marketing, industry, technology, economics, and management functions, and will be provided with opportunities for hands-on, real-world applications. Applying academic skills from other disciplines (e.g., mathematics, science, English, history/social science) is also a part of this course.</p>	<p><b>Prerequisite:</b> Marketing</p>	<p><b>Grades:</b> 11, 12</p>
<p><b>YEAR 3 SEM 1</b></p>	<p><b>Digital and Social Media Marketing:</b> Students are introduced to digital and social media marketing and explore principles, strategies, tools, and tactics related to consumers, branding, advertising, and promotions. Students explore how success is measured in a digital and social media marketing campaign. This course emphasizes ethics, laws, and security. Students also investigate business and marketing plans, as well as careers in digital and social media marketing.</p>	<p><b>Prerequisite:</b> SEM and TTM</p>	<p><b>Grades:</b> 12</p>
<p><b>YEAR 3 SEM 2</b></p>	<p><b>Entrepreneurship Education:</b> This capstone course prepares students to concentrate on strategies for career development through ownership/management of their own businesses. Although individual skills are emphasized, the focus of the course is on development of a business plan, including the following: Determination of type of business enterprise, legal considerations, location selection, financing, steps in getting the enterprise started, marketing strategy, and interaction with successful entrepreneurs.</p>	<p><b>Prerequisite:</b> SEM and TTM</p>	<p><b>Grades:</b> 12</p>

## MARKETING (Continued)

<b>Potential Career Pathways</b>	Marketing Manager, Copywriter, Art Director, Multimedia Artist, Public Relations Manager, Web Designer, Brand Manager, Entrepreneur, General and Operations Manager, Internet Entrepreneur, Marketing Manager, Database Administrator, Market Research Analyst, Marketing Specialist, Product Planner, Account Executive, Account Manager, Merchandise Buyer, Merchandise Display Design, Merchandising Coordinator, Retail Manager, Manufacturer Sales Representative, Sales Manager, Wholesale and Manufacturing, Technical and Scientific Sales Representative
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Additional Program Information from the Instructor:

Students considering the JRTC Marketing program should be interested in careers related to business and/or marketing using a variety of media. Students will engage in real-life management of social media channels, create content for community partners, explore brand and brand management, research, target markets, direct marketing, business, economics, entrepreneurship, and more.

Course sequence:

- Year 1 - Marketing - 1 semester
- Year 2 - Travel & Tourism Marketing, Sports & Entertainment Marketing
- Year 3 - Digital & Social Media Marketing, Entrepreneurship

Students will have the opportunity to partner with local organizations on projects of varying scope and size. Community partners include, but are not limited to, The Allegheny Highlands Chamber of Commerce and Tourism, The Allegheny Highlands YMCA, WSL10, The Homestead Resort, The Greenbrier Hotel, The Historic Masonic Theater, the Allegheny Foundation and/or other local non-profit organizations.

This is a five semester, three course certification program that includes a Virginia Board of Nursing CNA certification (with a passing score on the CNA exam during the final course.) This program also requires 40 hours of supervised clinical experience during the second semester of the student's senior year.

<b>YEAR 1</b>	<b>Introduction to Health and Medical Sciences:</b> This is a one credit, one semester course designed to introduce students to the various occupations within the healthcare field and to develop common basic skills utilized in such occupations. This course includes acquainting the student with the healthcare industry, introducing and surveying various health careers, identifying medical terminology and the anatomy of the entire body system, vital signs, infection control, basics of nutrition and medical emergencies.	<b>Prerequisite:</b> None	<b>Grades:</b> 10, 11, 12
<b>YEAR 2</b>	<b>Nurse Aide I:</b> This is a two credit, full year course designed to assist students in the development of basic nursing care and skills utilized in many health assistant careers. Students will focus on content such as cultural diversity, understanding patient's rights, first aid, communication skills, and the nurse aide's scope of practice. Supervised laboratory training is a major component of the course.	<b>Prerequisite:</b> Introduction to Health and Medical Sciences	<b>Grades:</b> 11, 12
<b>YEAR 3</b>	<b>Nurse Aide II:</b> This is a two credit, full year course designed to offer students advanced preparation through classroom instruction and clinical experience. Instruction is based on competencies for bedside nurse aide skills as well as content such as communicating with patients and job acquisition skills. Emphasis is on advanced skill through clinical work experience managed by the teacher in two local skilled nursing facilities. <i>Satisfactory completion of the nurse aide theory and clinical components will enable students to take the written and skills tests to become a Certified Nursing Assistant (CNA).</i>	<b>Prerequisite:</b> Nurse Aide I	<b>Grade 12</b>
<b>Potential Career Pathways</b>	Certified Nurse Aide, Home Health Aide, Registered Nurse, Dialysis Patient Care Technician, Medication Aide, Medical Records and Health Information Technician, Nurse Practitioner, Occupational Health and Safety Technician Specialist		

**Additional Program Information from the Instructor:**

A major learning objective in the Introduction to Health and Medical Services and Nurse Aide I courses is comprehensive human anatomy including components of the reproductive and excretory systems. Learning experiences will include a field trip to the human anatomy laboratory at the West Virginia School of Osteopathic Medicine during the second year of the program.

Third year students (Nurse Aide II) will receive certification in CPR and First-Aid and must participate in a cumulative 40 hour supervised clinical experience during the second semester. Third year students also have the opportunity to earn dual-enrollment credit from Mountain Gateway Community College in conjunction with the Nurse Aide II course.

Both Nurse Aide I and II students are able to participate in HOSA Future Health Professionals which is the CTSO for the health science courses. As part of this organization, members will participate in community service and volunteer activities, attend professional conferences and compete at the state leadership conference. HOSA aims to prepare students for careers in healthcare and to promote and improve healthcare delivery.

Nurse Aide is a popular program among students which makes it competitive after the Intro course when students will be ranked for acceptance in a limited number of available seats in the second level course (Nurse Aide I). Students who take Intro to Health and Medical Services as a course during their freshman year outside of the Nurse Aide program must retake the course as part of the program if accepted.

**WELDING**

This is a five semester, three course certification program that includes a NOCTI industry credential (with a passing test score during the final course.)

<b>YEAR 1</b>	<b>Welding I:</b> This is a one-credit, one-semester course designed to introduce students to welding and occupations in the welding field. Areas of instruction include shop and equipment safety, workplace safety, pneumatic shear, oxygen-acetylene cutting, SMAW welding and theory. Detailed instruction on parts of the torch, bottle pressure settings, types of flames, and equipment care are included for oxygen-acetylene cutting. Instruction in the use of other shop equipment is included. Students may receive an OSHA 10 hour construction industry card with successful completion of Welding I	<b>Prerequisite:</b> None	<b>Grades:</b> 10, 11, 12
<b>YEAR 2</b>	<b>Welding II:</b> This is a two-credit, full-year course designed to advance SMAW welding and begin GMAW & FCAW & GTAW welding. Other areas of instruction are carbon arc torch, plasma arc cutting, blueprint reading, and all types of welding theory. Students will begin to explore colleges, apprenticeship programs and possible post-graduation paths.	<b>Prerequisite:</b> Welding I	<b>Grades:</b> 11, 12
<b>YEAR 3</b>	<b>Welding III:</b> This is a two-credit, full-year course designed to allow students a more extensive training in SMAW, GMAW, FCAW, & GTAW processes. Students will also receive additional instruction in blueprint reading, metal fabrication, and design. All theory is reviewed and students will take the welding written assessment test for (NOCTI) <b>National Occupational Competency Testing Institute</b> . Through satisfactory completion of the welding program sequence, students that excel may have the opportunity to attempt a welding qualification test.	<b>Prerequisite:</b> Welding II	<b>Grade 12</b>
<b>Potential Career Pathways</b>	Certified Welder (Aerospace, Aviation, Automotive, Construction, Manufacturing, Railroad, Rig, Underwater) Metal Fabricator, Solderer, Brazer, Millwright, Occupational Health and Safety Specialist, Pipefitter, Sheet Metal Worker, Welding Engineer		

Additional Program Information from the Instructor:

The welding program is approximately 50% classroom and 50% lab. Students receive a tremendous amount of safety training, blueprint reading and welding theory lecture. Lab activities are not project based, training is very similar to a college level with a lot of repetitive practice in order to pass welding performance tests. Excellent attendance and participation is needed to retain the skills necessary for the lecture and performance based tests. In the lab students are required to wear various personal protective equipment, most of which is supplied by JRTC.

Qualifications and/or Dual Enrollment Option: Students have the opportunity to earn, industry relevant, AWS welding qualifications in Mig, FCAW, GMAW, SMAW, Sheet Metal, Structural and Pipe. Welding is also offered for dual enrollment where students have the opportunity to earn college credit while attending JRTC, and could possibly earn a Career Studies Certificate from Mountain Gateway Community College while attending JRTC.