Transportation

AUTO SERVICE TECHNOLOGY — CARROLL COUNTY CAREER AND TECHNOLOGY CENTER

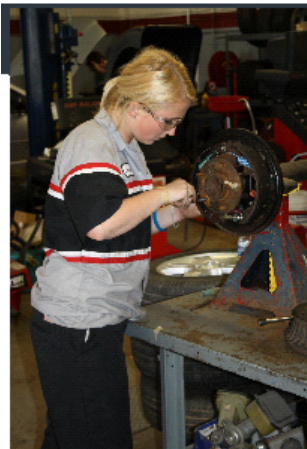CCCTC — Carroll County Career and Technology Center — "Careers for the future"

The Automotive Technology program prepares students to become a motor vehicle technician who can use the latest diagnostic equipment (e.g. LED Alignment System) to assess a vehicle's problems and then make the needed repairs. Students practice and gain experience in our 14-bay service area. Qualified students can earn up to 19 college credits through the Community College of Baltimore County. The National Automotive Technicians Education Foundation has certified the Auto Service Technology program for Automotive Service Excellence.

COLLISION REPAIR

CCCTC — Carroll County Career and Technology Center — "Careers for the future"

The Collision Repair course is designed to give students a thorough knowledge of the repair of damaged automobiles and trucks. The Collision Repair technician is a skilled craftsman that repairs damaged vehicles and restores them to pre-accident condition. This includes conventional and unitized body structural damage and paint refinishing (including single and two-stage painting). The National Automotive Technicians Education Foundation has certified the Collision Repair Technology program for Automotive Service Excellence.

heavy equipment

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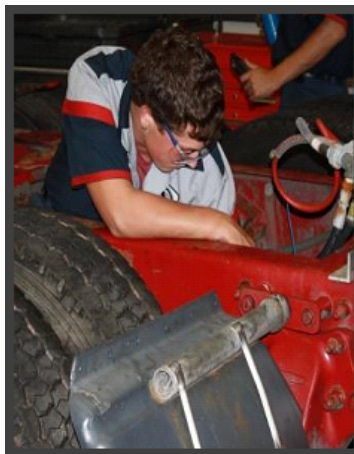
In the Diesel Technology program, students will gain a knowledge of all phases of repair work on diesel engines, and the accessories used to power buses, ships, trucks, railroads, electric generators, farm equipment and construction machinery. Instruction and practice are provided in troubleshooting, failure analysis, disassembly, examination, reconditioning, and replacement of parts. The students will also repair and adjust injections systems, oil and water pumps, generators, auxiliary power units, controls, and transmissions. The use of technical manuals, blueprints, repair orders, and a variety of hand and power tools, testing and diagnostic equipment are also studied.
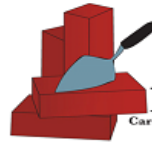
Construction

NATIONAL CENTER FOR CONSTRUCTION EDUCATION AND RESEARCH

CCCTC Carpentry

CCCTC Carroll County Career and Technology Center — "Careers for the future"

Carpentry provides instruction in techniques used in commercial and residential construction. The course will include all aspects of construction from vacant lot to the finished product. Emphasis is placed on the coordination between vendors and other trades people who supply services needed at site for a completed project. The course also includes estimating prices relating to consumers and trades

NATIONAL CENTER FOR CONSTRUCTION EDUCATION AND RESEARCH

MASONRY Carroll County Career and Technoloy Center

CCCTC Carroll County Career and Technology Center — "Careers for the future"

Students learn to construct interior and exterior walls, columns, doorways, window openings, fireplaces, chimneys, foundations, patios, and sidewalks from brick, concrete block and stone. They learn to mix/spread mortar, set-up scaffolding, read blueprints and plans, and estimate materials needed for a project. Students are also trained to lay-out buildings on footings and establish grades using a surveying transit. Upon completion of the program, students are qualified for full-time employment in the construction field.

NATIONAL CENTER FOR CONSTRUCTION EDUCATION AND RESEARCH

HVAC HEATING VENTILATION AND AIR CONDITIONING — CARROLL COUNTY CAREER AND TECHNOLOGY CENTER

CCCTC Carroll County Career and Technology Center — "Careers for the future"

The HVAC Program includes instruction in air conditioning, refrigeration, heating, and sheet metal. The air conditioning and refrigeration component includes instruction in sizing, layout, installation, and maintenance of oil, gas, electric, and heat pump forced air heating systems. Also, the students study residential type air conditioning and light commercial refrigeration. Repair of old systems is also covered. The students are instructed on work layouts, reading blueprints and drawings. The sheet metal component in-

NATIONAL CENTER FOR CONSTRUCTION EDUCATION AND RESEARCH

ELECTRICAL CONSTRUCTION CARROLL COUNTY CAREER & TECHNOLOGY

CCCTC Carroll County Career and Technology Center — "Careers for the future"

Electrical Construction instructs students in the layout, assembly, installation, and testing of electrical fixtures and methods of wiring using Local and National Electrical Codes.

Health, Biosciences and Human Services

Protective Services employees, such as law enforcement officers and security personnel, work every day to safeguard lives and property. The Homeland Security: Criminal Justice / Law Enforcement program is designed to give students a general knowledge needed to enter various law enforcement careers at the federal, state, and local levels.

Students will be introduced to emergency preparedness with an emphasis on public health and safety while exploring a range of careers in law enforcement.

Project Lead the Way Biomedical Sciences gives students a glimpse into the world of biomedicine through computer-based and hands-on activities and projects. This dynamic program uses hands-on, real world problems to engage and challenge students. This program is composed of four AP level classes designed for students who have career interests in the biological sciences, medical research, and biotechnology. In 2011, the CCCTC Biomedical Sciences program was one of sixteen schools in the nation to be named a PLTW Model School.

This award winning college preparatory program gives you the opportunity to learn and to develop the skills needed to continue your education in the fast growing health field. One important aspect of the Academy of Health Professions is that you can select the career path which meets your career interest. There are several options that lead to a variety of clinic/internship experiences.

COLLEGE CREDITS AND CERTIFICATIONS:

- Earn articulated college credits through Carroll Community College, Penn College of Technology, and Frederick Community College.
- Earn transcripted college credits through Stevenson University (pending).

MAJOR UNITS OF STUDY:

- All Academy of Health Professions students complete the following core classes:
  - Honors Foundations of Medicine and Science
  - Honors Structures and Function of the Human Body

CNA and Physical Rehabilitation students then complete a Theory and Clinical Experience relevant to their programs.

Specialized Medical Option students complete additional course work through Carroll Community College at the Mt. Airy College Center for Health Care Education. In addition to the coursework, a work based learning experience is required. This is scheduled on a case-by-case basis.

- **Nursing Option:** This option is for students interested in pursuing a career in nursing/patient care. Qualified students have the opportunity to take the Certified Nursing Assistant certification and Geriatric Nursing exams.

- **Physical Rehabilitation Option:** This option is for students interested in pursuing careers in Physical therapy, Occupational Therapy, Athletic Training, and Sports Medicine.

Computer Related

Cisco Systems — Networking Academy — CCCTC

CCNA (Cisco Certified Network Associate) Routing and Switching teaches comprehensive networking concepts, from network applications to the protocols and services provided to those applications by lower layers of the network. Students will progress from basic home and small business networking to more complex enterprise and theoretical networking models.

In each course, the students will learn technology concepts with the support of interactive media and apply and practice this knowledge through a series of hands-on and simulated activities that reinforces the learning.

PLTW — Computer Science — CCCTC

Students work individually and in teams to write computer software using the latest software design techniques. Students learn to program in C++, Python and Java. Students learn about computer algorithms, data structures and design strategies. Students learn how to install and manage an operating system. Students write programs that communicate over networks and that communicate with a database. Students also learn how to create web sites using HTML, CSS, and Javascript.

Arts, Media, and Communication
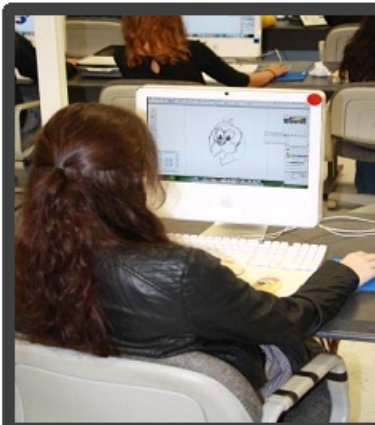
PRINT ED — Print Production — Carroll County Career & Technology Center — CCCTC

Print Production affords students the opportunity to begin their education for a career in graphics design. Topics include photography, computer illustration, and page layout. Select students will be able to pursue animation and web design.

Up to 17 college credits can be earned through the Art Institute of Washington based on a portfolio review. Qualified students in Print Production can also earn 3 college credits through Carroll Community College.

Video Production — Carroll County Career and Technology Center — CCCTC

Students in Video Production develop the entry level skills needed to record news and live events and to film videos and television broadcasts. Students will have the opportunity to work in a real studio environment with the Community Media Center. Up to 17 college credits can be earned through the Art Institute of Washington based on a portfolio review.

Consumer Services and Hospitality

STATE OF MARYLAND
DLLR
DEPARTMENT OF LABOR, LICENSING AND REGULATION
STATE BOARD OF COSMETOLOGISTS

Cosmetology
Carroll County Career & Technology Center

CCCTC
Carroll County Career and Technology Center
"Careers for the future"

Theory and practical experiences prepare students for the Maryland State Board of Cosmetology practical and written examinations needed to become a licensed cosmetologist. A college level textbook and four experienced cosmetologists along with a fully equipped salon allow students to earn the 1500 hours needed to sit for the exam. Senior students work with clients anywhere from one to four hours and are able to perform all the services one would find at a real salon. This is as close to a real experience that students can get before they are licensed.

American Culinary Federation since 1929

Culinary Arts
Carroll County Career & Technology Center

CCCTC
Carroll County Career and Technology Center
"Careers for the future"

Culinary Arts prepares students for challenging careers in the food service industry. Instruction is provided in sanitation, quantity food production, restaurant service and management, menu planning, and purchasing. Students serve lunch in the CCCTC Café and Grill and cater outside events in their pursuit of learning all things culinary.

Second year students select either Professional Cooking or Baking/Pastry as their focus.

Professional Cooking II continues exploring hot and cold food production including Garde Manger, meats and poultry, and fish. Baking/Pastry concentrates on baking theory and scratch baking of breads, cakes, cookies, pastries, decorated cakes and more.

Students in culinary choose either professional cooking or baking a pastry.

STEVENSON

FASHION DESIGN

CCCTC
Carroll County Career and Technology Center
"Careers for the future"

Students in this program are provided opportunities to develop the professional skills and technical knowledge required in careers in fashion and textile fabrication. Instruction is given in materials selection, design, cutting, sewing, fitting, alterations, decoration, as well as the cultural, historical and political aspects of textiles. A variety of design projects allow students to develop their creative skills. An in-depth study of fashion design, interior design, and mer-

Manufacturing, Engineering and Technology
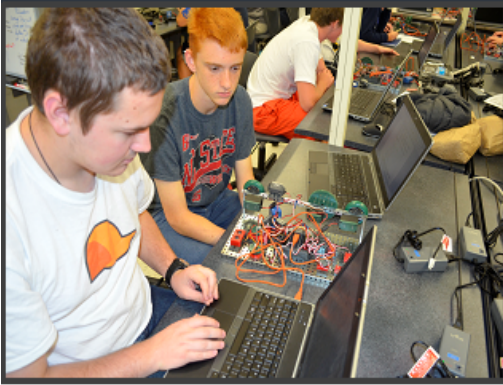
Project Lead the Way is a pre-engineering program that gives students a glimpse into the world of engineering through computer-based and hands-on activities and projects. Students work as a team to construct solutions to engineering problems using sophisticated software such as Inventor and EdgeCam, as well as rapid prototype machines, mills, robotics, and digital electronics.
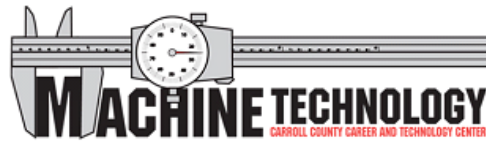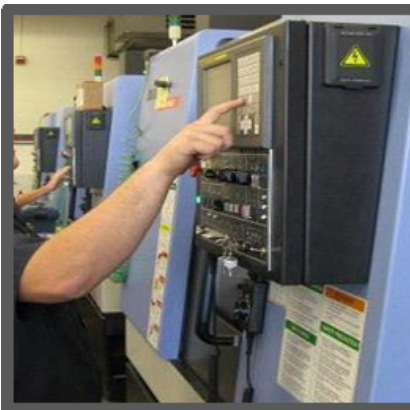
The Manufacturing & Machine Technology program focuses heavily on hands-on experiences using industrial tools and advanced computer numerically controlled (CNC) equipment. Students will work towards specific certifications from the National Institute of Metalworking Skills (NIMS). Students will prepare for careers as a machinist, production operator, quality control technician in the computer enhanced manufacturing industry.

The Welding Technology Program provides students with instruction on several joining technologies used in a variety of metal products. Students learn to use several welding processes, equipment and techniques in an industry-level shop. During class and lab experiences, students learn welding metallurgy, welding manipulative skills, and gain practical metal fabrication skills via hands-on experience. Through practice in the lab and experience on live projects such as farm equipment, metal structures, and even creating craft show items.

This course offers students the knowledge necessary to enter or continue education in the many careers associated with the materials joining technology field. The manufacturing industry is looking for talented and qualified workers.
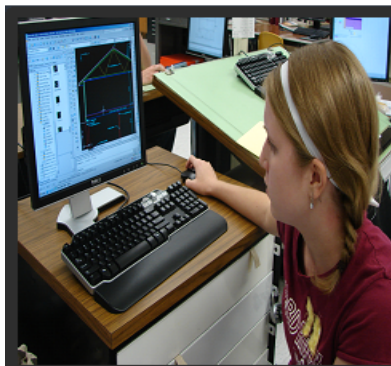
Drafting gives students the opportunity to learn the proper use of drafting instruments, techniques, and the related theory necessary to prepare for involvement in drafting and related fields of employment.

Drafters prepare detailed drawings based on rough sketches, specifications, and calculations made by scientists, engineers, architects, and designers.