

Welcome to what could be one of the best educational decisions a student can make for their high school experience. For forty years plus, the Frederick County Public Schools' Career & Technology Center has been helping students jump start their future by providing intensive, career specific education in programs tailored for both college bound and industry oriented students. Whether students plan to start their career immediately upon graduation or go on to post-secondary options, the Career & Technology Center offers twenty-two career preparatory programs to suit career goals now and for the future. Most programs at the Career & Technology Center (CTC) are two years in length and provide the opportunity for students to receive articulated college credits and/or certification in the field such as: CNA/GNA/MA, A+, Network+, ASE, CCNA, AWS, ACF, NCCER, Security Plus and Adobe Creative Suites. Several programs also include opportunities for Dual Enrollment credit through Frederick Community College. Also, many programs also include job shadowing opportunities and formal paid internships as an extension of the student's experience at CTC.

Students who choose to take advantage of the opportunities available may apply to attend CTC for one-half of the day during grades 10-12 (with some exceptions). During the remainder of the day, students take academic courses and participate in extracurricular activities and sports in their home high school. An integral part of the CTC experience is participation in the SkillsUSA student organization and skills contests. This student organization provides invaluable experience in the development of teamwork and leadership skills. The skills contests provide students the opportunity to showcase their job skills in much the same way that sports allow students to showcase their athletic skills. It is not uncommon for 20-30 Frederick County Students to place first in the state of Maryland and go on to compete at SkillsUSA nationals in Louisville where they compete against over 5,000 other students from high schools and colleges across the nation.

This booklet should provide a good overview of the options and opportunities that the school and the individual programs offer. If you have any other questions, please don't hesitate to contact us at CTC.

Sincerely,



Michael Concepcion
Principal



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Frederick County Career &
Tech Center

Frequently asked Questions!

How do I get into a CTC program?

Enrollment into a CTC program is through a competitive application process. For most programs, students may apply in grades 9, 10, and 11. Acceptance is based on attendance, GPA, and a shadowing experience designed to measure aptitude and interest. Some programs have pre-requisites and additional acceptance criteria, and some are only available for 10th and 11th graders to apply. Specifics are outlined in the individual program descriptions.

When can I apply?

The shadowing and application process begins in November each year and runs through February. You may apply at any time during that time period. Applications are accepted after February only for programs that still have available space.

How do I get an application?

Students interested in applying to a CTC program must first schedule a shadow experience through their high school counseling office for the student to come visit the program that they would like to apply for. An application is given out at the time of the shadow experience and is also available online at www.careertech.net.

What is a shadow experience?

A shadow experience gives the student an opportunity to experience the program they are interested in first-hand. Students spend two class periods at the CTC in the program they are applying for. They participate in classroom activities and are able to meet with and talk to the instructor and current students. The shadow experience is also a part of the acceptance criteria. Instructors evaluate students during their shadow experience on their use of time, enthusiasm and attitude, how well they follow directions specific to the program being shadowed. Skill level and knowledge of the specific career field is not as important as a positive attitude and a desire to learn.

How many programs can I shadow and apply for?

You may shadow up to two programs. You may apply for a 1st and 2nd choice.

What determines if I get accepted?

Many CTC programs are competitive, meaning that more students are interested in enrolling than there are available class seats. Due to safety concerns, only a certain number of students are enrolled in each class. To improve your chances of being accepted into the program of your choice be sure to do the following:

- Have consistently good attendance, not just the year you are applying to CTC but all through your school years. One of the goals of the CTC is to prepare students for post graduation success. An important characteristic to have is reliability and dependability. Good attendance in school is a great place to start.
- Maintain a good GPA (grade point average). A consistently good GPA shows that you are willing to do the work that it takes to meet the expectations set in front of you.
- Show a positive attitude when you come for your shadow experience. A willingness to learn and grow is a key factor successful people possess. It is not necessary to have all the knowledge from the start but it is essential to be open to learning and to working hard.

How will I know if I got accepted?

At the conclusion of the shadowing and application process in February/March, acceptance and wait-list letters are sent out, and a list is sent to each high school counseling department.

What if I don't get accepted?

If you do not get accepted to the program you applied for you are still eligible to shadow and apply to other programs that have space available. You may also shadow and re-apply the following year if you are still within the appropriate grade levels.

How will I know what programs still have space available if I want to apply for something else?

Updated lists of open programs are sent to each high school counseling department on a regular basis starting in March and continuing through the summer until the start of the next school year.

What do I get from my CTC program?

Students completing a CTC program receive intensive career specific skill training that may include on the job experience, mentoring from individuals in the field, industry certifications and licensures, apprenticeship training, and up to 26 articulated and/or transcribed college credits. Some of our career programs are part of the FCPS/FCC Dual Enrollment program. Specific benefits are included for each program in the individual program descriptions and/or on our web site: www.careertech.net

Academy of Health Professions

grades 10-12

The Academy of Health Professions consists of four courses in two different tracks. The two core courses Foundations of Medicine & Health Science and Structure and Function of the Human Body provide insight and knowledge into healthcare careers and systems as well as a working knowledge of the structure and functions of the human body. After completing the core courses students choose a Specialized Medical and Healthcare option. Current options include; Nurse Assisting which consists of both classroom and supervised clinical experiences at local health care facilities and leads to students sitting for the State Board of Nursing's CNA and GNA certification exams; or Medical Assisting which consists of both the clinical component training as well as the administrative or office component preparing them for employment in outpatient settings.

Advance Floral Design

grades 10-12

This one semester, two credit course is designed as a capstone for students interested in pursuing a career in floral design. The course provides instruction and hands-on experience in all the industry standards of floral design. Students develop skills in procuring floral products, caring for cut flowers and foliage, exploring the international floral market, color theory and trends, fundamentals of floral design, floral design work, everlasting flowers, floral crops production, indoor plants, pricing floral design work and managing the floral shop. Student design work will focus on body flowers, wedding flowers, special event flower and sympathy flowers. The goal is for each student to develop the skills necessary to become a successful floral designer or to manage their own floral shop. Student skill competition and leadership development is available through SkillsUSA and FFA at the local, state and national levels.

Ag. and Commercial Metals/Welding Technology grades 10-12

The Agricultural and Commercial Metals program provides instruction in all the basic welding processes including oxy-fuel cutting, brazing and welding, shielded metal arc welding, MIG (Gas Metal Arc) and TIG (Gas Tungsten Arc) welding, and plasma arc cutting. Students develop their welding skills by starting on metal blanks, and they progress to the design and fabrication of metal projects such as ornamental iron work, livestock feeders, loading ramps, trailers, and large-scale grills. Instruction includes lab activities, field trips, guest speakers, SkillsUSA and FFA activities to develop a working knowledge of the many career options and opportunities available in the welding industry. Students completing this program also have the opportunity to become American Welding Society (AWS) certified, and many start their welding and fabrication career before graduation in an internship or the work student program.

Agri-Business

grades 11-12

The one semester program aligns to current agricultural education curriculum (specifically the Supervised Agricultural Experience SAE) with an "Agricultural Entrepreneurship" focus and seeks to build on foundational knowledge with advanced college coursework in business disciplines and community mentorships in agricultural fields, culminating in the planning and development of an actual horticulture-centered business. Grant funded projects for students include an apiary (honeybees), cut-flower production and a small plot agriculture vegetable operation, all operating under a community-supported agriculture (CSA) system. This course was developed jointly by CTC and FCC where qualified students will be able to earn six FCC credits; including (BU 109 - Entrepreneurship & Small Business Enterprise). In addition, local business leaders have committed to providing field trip opportunities to agricultural businesses within the community. This program is part of the FCPS Dual Enrollment program.

Auto Body Repair and Refinishing

grades 10-12

The Auto Body/Collision Repair program is a NATEF certified program that utilizes the industry standard I-CAR curriculum to deliver instruction in over 56 units that are standard in the Collision Repair industry. Students develop the knowledge and technical skills required to repair collision-damaged vehicles including: repair and replacement of cosmetic and structural panels, MIG welding, unibody repair and straightening, refinishing/painting, plastic repair, job costing, estimating and much more. Students enrolled in the program are eligible to test for and receive I-CAR Gold Class points that accumulate towards their Gold Class Professional designation as well as NATEF certifications in Structural and Non-structural Analysis/Damage Repair and Painting & Refinishing. Career options include body or structural repair technicians, refinishing/painting technicians, body shop owner/managers, estimator/appraisers, parts technicians, manufacturers' representative and insurance company opportunities.

Automotive Technology

grades 10-12

The Automotive program is a National Automotive Technicians Education Foundation (NATEF) certified training program that uses the Automotive Youth Educational System (AYES) curriculum to deliver instruction in over 200 tasks common to the automotive repair industry. With a primary focus on the National Institute for Automotive Service Excellence (ASE) certification areas of steering/suspension, brakes, electrical/electronic system, and engine performance, students develop the basic skills and understanding necessary for a career as an automotive technician. Completion of the two-year program counts as one year's experience towards their ASE certification requirements. Students who qualify during their junior year can further jumpstart their automotive career by participating in a paid AYES internship program that pairs the student with a technician in a local shop in a one-on-one relationship designed.

Biomedical Science

grades 10-12

The biomedical science program is designed to prepare students for success in the rapidly expanding world of biomedical science. The program combines academic scientific content with hands on activities and problem solving skills to provide students with extensive knowledge and skills in the biomedical field. Units of study include: human medicine, research processes, an introduction to bio-informatics, and basic human physiology as related to human health. Students will learn to use a variety of monitors to examine and observe the interactions among body systems and investigate medical interventions that extend and improve the quality of life. Community resources from the broad variety of biomedical businesses will provide knowledge and experiences beyond the traditional classroom environment. The biomedical sciences program will provide a head start for students who plan to pursue an Associate's and/or Bachelor's degree related to the health and biomedical sciences.

Carpentry

grades 10-12

The Carpentry program introduces students to the exciting and diverse opportunities available in the construction industry by building a single-family home through the course of this two-year program. Students develop skills in the field of carpentry including: blueprint reading, estimating, framing, roofing, siding, drywall installation and finishing, cabinet installation, trim carpentry and stairway construction. Students develop job-site safety and teamwork habits and explore a variety of specialization areas and career opportunities within the construction industry. During their second year, students may qualify to take a dual-credit course in the Frederick Community College construction management program. Successful completion of the Carpentry program provides the student with one year of credit towards Carpentry apprenticeship through the Associated Builders and Contractors Apprenticeship Training Program and up to 9 college credits in FCC's Construction Management program.

CISCO Networking Academy

grades 11-12

The CISCO Networking Academy program prepares students for CCNA (Cisco Certified Networking Associate) certification exams. Areas of study include: basic networking terminology, complex subnet masking rules and strategies, and techniques for supporting diverse internetworks. Course work is reinforced with extensive hands-on labs. The prerequisite for this class is Computer Technician/Analyst or proof of A+ Certification. Students who complete the CISCO Networking Academy can receive 12 college credits at Frederick Community College. This program is part of the FCPS Dual Enrollment program.

Computer Aided Design

grades 11-12

Successful completion of Algebra I and Geometry, or instructor approval, is a prerequisite to enrollment in this program. Students who are successful in this program can receive college-level credits through Frederick Community College, Catonsville Community College. This program is part of the FCPS Dual Enrollment program.

Architectural Graphics teaches students how to use AutoCAD software to produce and organize architectural drawings and plans. Skills are developed in design, layout, site plans, materials and methods of construction, building codes and construction specifications. Students learn to install and configure computer hardware and software. Approximately 90% of class time is spent working on the computer. The CAD Program is designed for the student who plans to enter college, a technical institution or industry in the architectural/computer design technology field. This program is part of the FCPS Dual Enrollment program.

Engineering Graphics uses AutoCAD Inventor (3D modeling software) to develop engineering drawings and plans. Skills are developed in sketching, design, layout, production and assembly drawings, linear and geometric tolerances and 3D solid modeling. Approximately 90% of class time is working on the computer. This program is designed for students who plan to enter college, a technical institution or industry in the engineering/computer design technology field.

Computer Tech /Analyst

grades 10-12

The Computer Technician/Analyst program prepares students for the A+ certification exam. Students develop computer repair and maintenance skills by building computers from component parts and upgrading existing computers, installing and configuring common Windows operating systems and troubleshooting both hardware and OS problems on computers in the lab setting. Additional areas of content include: computers, memory, operating systems, application software, diagnosis of hardware and software issues, preventive maintenance, customer interaction skills, viruses, printers and networking. Students can receive 10 credits at Frederick Community College if they complete the computer Technician/Analyst with a B or better. This program is part of the FCPS Dual Enrollment program.

Cosmetology

grades 11-12

The Cosmetology program prepares students to pass the Maryland State Board of Cosmetology exam and become successful in one of the most diversified, rapidly growing industries in the world. During their junior year, students attend for half days and during their senior year they attend all day in order to meet the State Board requirement of 1500 hours. Regular attendance is essential to completion of the program. Students learn the techniques of finger waving, hair cutting, manicuring, facials, tinting, bleaching, permanent waving and general care of skin, scalp, and hair. To help students better understand the science of cosmetology, they study anatomical areas and physiological functions of the human body. In addition, students learn the principles of sterilization and sanitation, the chemistry of cosmetics, basic electricity, and State regulations that apply to the salon industry. After completing 350 hours in the program, the students apply their knowledge by working on clientele at the school salon. This valuable hands-on training provides an opportunity to apply classroom skills in a supervised "real-world" setting.

Culinary Arts

grades 10-12

This is an exciting time to start a career in the food-service industry, as more people than ever are eating meals away from home. Career opportunities are plentiful and varied. Culinary Arts is certified through the American Culinary Federation and consists of a two-year program in the arts of professional food preparation and related areas such as catering and hotel/restaurant management. Students learn the rich history and science of culinary arts by preparing everything from appetizers to entrees, and desserts to baked goods in a commercial setting. In addition to food preparation, students develop skills in equipment operations, safety and sanitation, menu planning, record keeping and service operations. Students learn about food costs in relation to professional restaurant management as well as recipe conversion and front-of-house management. Second year students may choose to focus on Culinary or Baking and Pastry. Math and communication skills are stressed. Many Culinary Arts students continue their studies by enrolling in a culinary or hospitality post-secondary program.

Cybersecurity (CNA Security+)

grades 11-12

The Security Plus course is designed to prepare students for future careers in Cyber-security. Students are introduced to basic and advanced topics in network Cyber-security. In addition to preparing students to achieve Security Plus certification, students will engage in activities designed to develop problem solving skills and gain understanding of Cyber-security principles necessary for 21st century careers. *Prerequisites include successful completion of the Computer Tech/Analyst class and the Cisco Networking Academy semesters 1 and 2.* This program is part of the FCPS Dual Enrollment program.

Digital Design & Printing Methods

grades 10-12

This nationally recognized PrintED certified program offers students a diverse ground-level opportunity to learn electronic design, imaging, silk screening and large-format printing. The students work on the MAC OS X platform creating designs for printed products (catalogs, brochures, etc.), posters for output from a large-format printer, designing and producing screens for four-color textile screen printing, and operating offset printing, bindery and finishing equipment. Students use Adobe Indesign, Photoshop and Illustrator, with digital cameras plus scanners to develop designs that are then printed digitally, screen printed and on one- and two-color offset presses providing the ability to print thousands of impressions with any color ink on any text or cover paper. Students are prepared to take the industry-recognized PrintED certification exams and can receive up to 17 credits at Bridgemont Community and Technical College.

Electricity

grades 10-12

The Construction Electricity program focuses on the residential and light-commercial wiring fields. Basic electrical skills covered include circuit planning, sizing electrical panels, blueprinting, rough wiring and finishing work. Students will utilize the skills learned in class in the building of the CTC House project. Students may earn credit for up to two years of the four years required to complete the Associated Builders and Contractors (ABC) Apprenticeship Training Program. ABC is a fully accredited course of study established by the National Center for Construction Education and Research (NCCER) and ABC.

Environmental Landscape Design & Management

grades 10-12

This program in agriculture education offers a unique combination of academic and practical hands-on experiences designed to prepare future entrepreneurs to excel in the fast-growing field of landscaping. A strong emphasis is placed on identifying, planting, growing and marketing plants. Class work is enhanced through supervised agricultural experience and FFA activities. The Landscaping course curriculum provides the basic foundation for the Green Industry. Students receive instruction in the classroom, greenhouse and nursery. Students learn hands-on equipment operation and care, environmental plant practices, landscape design and park management. The Landscaping program provides the necessary skills for employment or advanced education in the Green Industry, turf care, interior-scape, golf course and park management.

Homeland Security/Criminal Justice

grades 10-12

The Homeland Security / Criminal Justice program is a two-year program, offered at the Career and Technology Center, as an introduction to Homeland Security as well as the three components of the US Criminal Justice system: law enforcement, courts, and corrections. The HS/CJ program is responsive to concerns over crime, security, terrorist threat, natural and man-made disasters, and emergency response. Occupational trends indicate that employment activity in these areas will continue to be robust. Students in the program receive similar training given to police recruits at a training academy. Training includes physical fitness, defensive tactics, oral and written communications, police procedures, crime scene investigation, correctional operations and emergency planning/response. Students completing the program and satisfying the academic requirement will receive six articulated college credits at Frederick Community College. This program is part of the FCPS Dual Enrollment program.

HVACR/Plumbing

grades 10-12

The HVACR/Plumbing program focuses on the repair, installation, service and maintenance of the operational condition of heating, ventilation, air conditioning, and refrigeration systems. Although the program concentrates on residential systems, it also covers commercial HVAC and basic plumbing. In addition to the developing a working knowledge of HVACR & plumbing systems, students also develop basic skills such as blueprint reading, planning, layout, fabrication, and installation of such systems. Students have the opportunity to expand their skills as they collaborate with students from the other construction trades to build a house from the ground up in the local community. NCCER certification is also available.

Physical Rehabilitation

grades 10-12

The Physical Rehabilitation program is designed to expose students to varied careers related to the physical and occupational therapy field. This program integrates concepts of physical therapy, occupational therapy, kinesiology and athletic training. Students will focus on musculoskeletal, neuromuscular, cardiopulmonary and Integumentary related injuries, diseases and disorders. In addition students will also focus on preventative activities, therapeutic practices and rehabilitation. The program culminates with an Allied Health Internship. The internship is designed to give students supervised practical application of Physical Rehabilitation in a professional healthcare setting.

Teacher Academy

grades 10-12

The Teacher Academy is designed to provide students with an opportunity to explore the field of education in depth and offers a range of authentic experiences. Students will complete a minimum of four courses to prepare them for a career in Teaching. The program follows the Teacher Academy of Maryland curriculum and is based on the outcomes of the Maryland Associate of Arts in Teaching (A.A.T.) degree, reflecting the National Council for the Accreditation of Teacher Education (NCATE) standards. Students are required to participate in a school-based internship and take an industry-recognized assessment as part of the program. This program is part of the FCPS Dual Enrollment program (*pending*).

Television/Multimedia Production

grades 10-12

The TV/Multimedia program is an exciting journey into the technical and creative field of digital video production. Starting with digital video cameras, students take assignments from basic concepts to completed video products for broadcast and Web posting. Students develop skills in videography, editing, lighting, audio production, scriptwriting and on-air talent and learn how to operate state-of-the-art digital video production equipment in the taping and production of a television broadcast. They also gain experience in computer graphics, broadcasting, special effects and other techniques related to enhancing the video-production process. Second-year students produce original programming that is broadcast in-house, on webcasts and on channels 18. This program is part of the FCPS Dual Enrollment program. At the completion of the course, students are eligible to sit for the Adobe Certificated Associate exam for Premiere.

Web Technology & Integrated Media

grades 10-12

This one year program teaches students the basic skills necessary to design and maintain a Web site. The course content focuses upon the overall Web design process with emphasis on Web site architecture, workflow and production processes, navigation schemes, implementation, hosting and content management systems such as WordPress. Students also develop animation skills to enhance a Web site, with additional emphasis on customer service as they take on real customers and learn the intricacies of becoming a "Webmaster." At the completion of the course, students are eligible to sit for the Adobe Certificated Associate exam for Adobe InDesign. Software used includes the entire Adobe Creative Suites.



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