

Q What is career and technology education?

A Career and technology education (CTE) prepares both youth and adults for a wide range of careers. These careers require varying levels of education—from high school and postsecondary certificates, to apprenticeships, or two- and four-year college degrees. Students add value to their overall education by completing CTE programs of study that provide opportunities to earn industry-recognized credentials and college credit while still in high school.

Q How is career and technology education different from vocational education?

A For many years, students enrolled in vocational education programs that provided skill-specific training. The demands of the global economy caused employers to seek graduates with problem solving skills and broader career preparation. Career and technology education evolved from vocational education's original and sole focus on preparing students for work immediately following high school. Today's career and technology education programs incorporate rigorous and challenging academic content standards and provide a sequence of courses leading to an industry-recognized credential or certificate, or an associate or baccalaureate degree, or entry into apprenticeship programs.

Q What subject areas are covered by career and technology education?

A Career and technology education covers a variety of challenging fields in diverse subject areas that are constantly evolving due to the changing global economy. Maryland's CTE programs of study are organized around 10 career clusters:

- Arts, Media, and Communication
- Business Management and Finance
- Construction and Development
- Consumer Services, Hospitality, and Tourism
- Environmental, Agriculture, and Natural Resources
- Health and Biosciences
- Human Resource Services
- Information Technology
- Manufacturing, Engineering, and Technology
- Transportation Technologies

Q What are some examples of careers that CTE students pursue?

A Career and technology education students pursue exciting career options within Maryland's 10 career clusters—for example, automotive technicians, construction supervisors, animal scientists, turf grass specialists, financial officers, arts and graphics designers, executive chefs, hotel managers, cosmetologists, network specialists, computer

programmers, Web designers, homeland security specialists, nurses, physical therapists, biomedical scientists, engineers, and emergency management and response coordinators.

Q Where is career and technology education offered?

A In middle schools, high schools, two-year community and technology colleges, and after high school. At the middle school level, students engage in career awareness and exploration. In high school, students participate in CTE programs with a strong academic core that prepares them to pursue college and careers. At the postsecondary level, there are a variety of options including apprenticeship programs, degree programs at two- and four-year colleges, private career schools, and industry-sponsored education and training.

Q How is it offered?

A Public middle schools in Maryland typically offer some career and technology education courses, such as family and consumer sciences and technology education. Middle school students also start developing their high school plans that include both academic courses as well as career awareness activities. High school CTE programs are offered within a comprehensive high school, in a technical high school, or in a CTE center. CTE programs are offered as a sequence of courses that are supplemented by work-based learning experiences such as internships. Students enroll in a sequence of academic and CTE courses to prepare for both college and careers.

Q Is career and technology education for students who are college bound?

A Yes. Career and technology education provides a foundation of skills that enables high school graduates to be gainfully employed—either full-time or while in college. Nationally, nearly two-thirds of all high school graduates of career and technology programs enter some form of postsecondary program. In Maryland, 51% of all CTE completers also meet the entrance requirements for the University System of Maryland.

Rigorous academic content tied to CTE subject matter ensures that these students will be ready for college. The internships and other work-based learning experiences that are a hallmark of CTE are attractive to all students who want to get a head start on a career, whether that career goal is doctor or nurse, engineer, automotive technician, or biomedical scientist. Tech Prep programs link high school and community college curricula to help students make a smooth transition to postsecondary education and careers.

Q What opportunities are provided to develop CTE students' leadership, academic, and employability skills?

A Career Technology Student Organizations (CTSOs) help students acquire the employability and leadership skills that will enable them to succeed in the workplace. Through participation in CTSOs, such as Future Business Leaders of America, DECA, FFA, Health Occupations Students of America, and SkillsUSA, students develop learning, thinking, interpersonal, technology, and communication skills, also known as Maryland's Skills for Success. Through participation in leadership and technical competitive events, students apply their leadership, academic, and employability skills to solve real-world problems.

Q How many career and technology students are there in Maryland?

A There are nearly 120,000 high school CTE students in Maryland - 44% of all public high school students in the state. Plus, there are about 54,000 postsecondary career and technology education students in Maryland.

Q How many career and technology programs are there in Maryland?

A Career and technology education programs of study are offered in all 24 school systems in Maryland. The number of programs offered by school systems ranges from 10 to 48, with most offering between 18 and 27 programs. CTE programs are established in about 200 comprehensive high schools, 9 career and technology high schools, and 16 CTE centers, which serve students from several "sending" high schools. All 16 of Maryland's community colleges offer CTE programs as well. Students may also elect to enroll in apprenticeship programs or pursue post-secondary CTE offerings at private career schools and colleges.

Q How does CTE support economic and workforce development in Maryland?

A The CTE programs offered in each local school system are approved by the Maryland State Department of Education. The programs must meet the high standards set by business and industry and prepare students for both college and careers.

The CTE programs offered in Maryland were designed with the input of more than 350 representatives from business and industry and partnering state agencies, such as the Department of Business and Economic Development, the Governor's Workforce Investment Board, and the Department of Labor, Licensing and Regulation. The programs of

study are reviewed on a continuous basis to ensure that graduates are meeting employers' expectations.

CTE programs play an important role in preparing graduates to fill the high-skill, high-wage positions generated by the U.S. military's Base Realignment and Closure (BRAC) plan.

Over the past several years, the National Association of State Directors of Career and Technology Education has awarded Maryland's CTE programs and educators more Distinguished Service Awards than any other state.

Q How is career and technology education funded?

A Maryland receives about \$18 million annually from the federal government through the Carl D. Perkins Career and Technical Education Improvement Act of 2006. That represents about 6% of the programs' budget; programs receive most of their funding from local and state revenue.

Q Is there any proof career and technology education works?

A Yes, according to many national studies. Career and technology education graduates are 10-15% more likely to be in the labor force and earn 8-9% more than graduates of academic programs. ¹A ratio of one CTE class for every two academic classes was shown to minimize the risk of students dropping out of high school. ²And career and technology education concentrators take more and higher level math than their general education counterparts. ³Additionally, Maryland employers say of students participating in work-based learning placements:

- 98% met or exceeded job requirements at the time of placement;
- 83% exceeded workplace readiness requirements; and
- 85% learned new skills faster than the average worker.

¹Russell Sage Foundation, 2001

²National Research Center for Career and Technology Education, 2005

³National Centers for Career and Technical Education, 2002

Q How can I learn more about career and technology education?

A Contact:
Maryland State Department of Education
Division of Career Technology and Adult Learning
200 West Baltimore Street
Baltimore, Maryland 21201-2595
Telephone: 410.767.0170
Fax: 410.333.2099

or Visit
www.MarylandPublicSchools.org/MSDE/divisions/careertech.

Martin O'Malley
Governor



Anthony G. Brown
Lieutenant Governor

Nancy S. Grasmick
State Superintendent of Schools