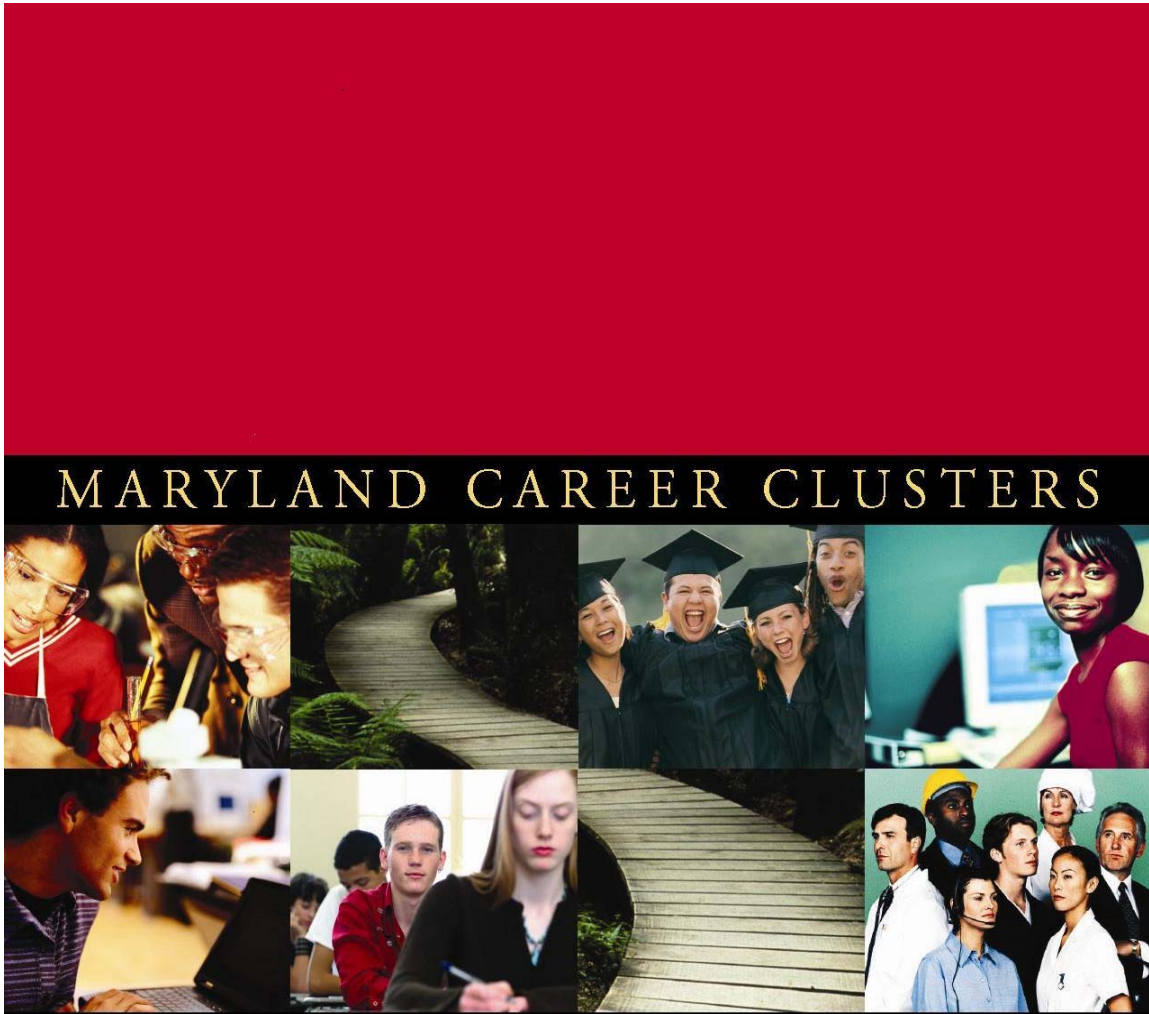


Maryland Career and Technology Education Programs



**Division of Career Technology and Adult Learning
Maryland State Department of Education**

February 2008

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Governor

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Career and Technology Education (CTE) in Maryland

Maryland's system of Career and Technology Education (CTE) provides opportunities for students to explore career options and gain an understanding of the knowledge, skills, and abilities required for success. The new model of CTE includes organizing instructional programs within 10 broad career clusters designed to provide students with multiple career pathways leading to employment and further education.

MSDE in partnership with statewide industry advisory groups, identified ten (10) Career Clusters that represent core business functions across broad industry areas in Maryland. Business partners further identified career pathways based on the end-to-end business process within career clusters. This representation of industry clusters and pathways is provided in the Maryland State Department of Education (MSDE) publication *Maryland Career Clusters: Restructuring Learning for Student Achievement in a Technologically Advanced, Global Society* and serves as a starting point for the identification of Maryland CTE Programs.

Maryland Career Clusters

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

Maryland CTE Programs

Within each career cluster there are three or more career pathways consisting of interrelated occupations that represent the full range of career opportunities. The career pathways are designed as program sequences to enable students to successfully transition from high school into two- or four-year colleges.

To facilitate the development of new programs and the continuous improvement of existing programs, state-wide model programs have been developed following state policies and procedures. The following key elements are a part of all Maryland CTE Programs:

- Standards-based curriculum aligned to industry/technical skill standards, academic standards, and skills for success;
- Value-added options for students through industry certification, licensure, or college credit earned while in high school;
- Work-based learning opportunities for students directly related to the CTE program;
- Oversight and quality assurance through program certification and industry advisory groups; and
- Teacher professional development for initiation of the program as well as on-going upgrades.

The Maryland CTE Programs outlined in this document serve as a resource for local school system and community college program upgrades and/or new program implementation.

Sample High School Program of Study

Students electing to complete a CTE Program as part of the high school program are prepared for entry into a college program and a career pathway. Earning industry certification and/or college credit while in high school allows students to demonstrate learning and advance to the next level of preparation.

High School Program:					College Program
Requirements	Grade 9	Grade 10	Grade 11	Grade 12	
English - 4	English 9	English 10	English 11 AP Language	English 12 AP Literature	English /Language Arts (__ Credits) Include AP options
Social Studies - 3	US Government	World History AP European	US History AP US History	Government and Economics AP Govt.	Humanities/Social Sciences (__ Credits) Include AP options
Mathematics - 4	Algebra I	Geometry	Algebra II	Trigonometry or Pre-Calculus or Calculus or AP Calculus	Mathematics (__ Credits) Include AP option
Science - 3	Earth or Physical Science	Biology or AP Biology	Chemistry or AP Chemistry	Physics or AP Physics	Science (__ Credits) Include AP options
Physical Education -.5 Health Ed. - .5	.5 PE	.5 Health			
Fine Arts – 1	.5 Fine Arts	.5 Fine Arts			
Technology Education - 1	Foundations to Technology				
CTE Completer Program - 4		CTE Program Sequence			Career Program Concentration (__ Credits) Include articulation options Dual Enrollment Credit by Exam Pre-Apprenticeship
		CTE Course (1)	CTE Course (1)	CTE Course (2)	
Foreign Language - 2 and/or Advanced Tech Ed - 2	Language Spanish I	Language Spanish II	Language AP Spanish	Advanced Technology Education	

In Maryland, all local school systems, community colleges and colleges offer related programs of study to advance student preparation and success in Maryland's ten career clusters. However, specific program offerings vary by location. Please work with your local school system and colleges to identify areas of interest and program requirements.

Arts, Media and Communication

Maryland offers great opportunities for careers in the Arts, Media and Communication Career Cluster. Under the guidance of a state-wide advisory group including leaders in the industry and college partners, new Maryland CTE programs include a focus on mass communication and broadcast journalism, graphic communication, and multimedia productions. These programs include options for students to earn industry certifications and college credit toward advanced study in the career field.

<i>High School CTE Program:</i>	<i>Value-Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<i>Communication and Broadcast Technology</i>	Articulated College Credit	<i>State-wide Advisory Group with lead support from Maryland Public TV, Maryland Simulation and Gaming Industry, University of MD and several community colleges.</i>
<i>Printing Technologies (PrintED)</i>	Print ED Certification Articulated College Credit	<i>Statewide advisory group with support from Printing and Graphics Association MidAtlantic (PGAMA, postsecondary partners and Graphic Arts Education and Research Foundation). Graphic Arts Education and Research Foundation: www.gaerf.org/printed grants PrintED Accreditation.</i>
<i>Interactive Media Production</i> <i>Pathway Program with options in:</i> <ul style="list-style-type: none"> • <i>Multimedia/Graphic Design</i> • <i>Simulation and Gaming.</i> 	Adobe Creative Suite (ACA) and/or Web (WOW) Certification Articulated College Credit	<i>State-wide Advisory Group with lead support from Maryland Public TV, Maryland Simulation and Gaming Industry, University of MD and several community colleges. Adobe Creative Suite World Organization of Webmasters: www.joinwow.org</i>
<i>College Program Options:</i>	<i>Degree or Certificate:</i>	<i>Maryland College(s) Program Description</i>
<i>Communication and Broadcast Technology</i>	Certificate, AAS BA, BS	<i>Several Community Colleges offer a range of Associate degree programs as well as preparation for transfer to advanced degrees specializing in Communication, Digital Media Production, Fine Arts and Simulation and Gaming.</i>
<i>Printing and Graphic Arts</i>	Certificate, AAS, BS	
<i>Multimedia Production and Technology</i>	Certificate, AAS BA, BS	
<i>Interactive Technologies</i>	Certificate, AAS BS	<i>An advanced degree in Printing Technologies is offered in partnership with West Virginia University.</i>

Business, Management and Finance

Under the guidance of a state-wide advisory group including leaders in business and college partners, new Maryland CTE programs include a focus on financial services, accounting, marketing, business administration, and business administrative support services. These programs include options for students to earn industry certifications and college credit toward advanced study in the career field. In many cases, internships or related work-based learning opportunities are also required as part of the program (Finance Academy and Marketing).

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<i>Finance Academy (NAF)</i>	Articulated College Credit	<i>On-going program support and professional development is provided in partnership with the National Academy Foundation (NAF). National Academy Foundation: www.naf.org</i>
<i>Finance and Accounting</i>	CLEP Exam College Credit	<i>A state-wide advisory group collaboration with MarkED and Maryland business and postsecondary partners. Foundation courses including curriculum and assessment tools. www.Mark-ED.org</i>
<i>Marketing</i>	CLEP Exam College Credit	
<i>Business Administrative Services</i>	Microsoft (MOS) Certification Articulated College Credit	
<i>Business Management</i>	CLEP Exam College Credit	<i>Ongoing development includes the identification of Pathway courses and program certification in addition to college credit by exam and/or articulation. International Assoc. of Administrative Professionals Certification www.iaap-hq.org</i>
<i>College Program Options:</i>	<i>Degree or Certificate:</i>	<i>Maryland College(s) Program Description</i>
<i>Finance and Accounting</i>	Certificate, AAS BS, MS, MBA	<i>Several Community Colleges offer a range of Associate degree programs as well as preparation for transfer to advanced degrees specializing in Financial Services, Accounting, Business Services and Business Administration.</i>
<i>Business Management</i>	Certificate, AAS BS, MBA	
<i>Business Marketing</i>	Certificate, AAS BS	

Consumer Service, Hospitality and Tourism

In partnership with the Maryland hospitality industry, state-wide programs include a broad foundation in consumer service, hospitality and tourism. Students gain an understanding of the many career options including food and beverage management, lodging management, travel and tourism, and sales. More focused CTE programs include articulation to the college-level programs and certifications.

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<p>Culinary Arts (ACF)</p> <p><i>Pathway Program with options in:</i></p> <ul style="list-style-type: none"> • Culinary Arts • Baking 	<p>ACF Certification</p> <p>Statewide Articulated College Credit</p>	<p><i>MSDE provides support in partnership with ACF for the ACF certification and professional development for faculty.</i></p> <p>American Culinary Federation: www.acfchefs.org</p>
<p>Food and Beverage Management (ProStart)</p>	<p>ProStart Certification</p> <p>Statewide Articulated College Credit</p>	<p><i>Support provided by Maryland businesses and the Maryland Hospitality Foundation.</i></p> <p>National Restaurant Assoc. Educational Foundation: nraef.org/prostart</p>
<p>Hotel Management</p> <p>Lodging Management Program</p>	<p>Certified Rooms Division Specialist</p> <p>Statewide Articulated College Credit</p>	<p><i>Support provided by Maryland businesses and the Maryland Hospitality Foundation as well as Baltimore International College.</i></p> <p>www.lodgingmanagement.org</p>
<p>Hospitality and Tourism (NAF)</p>	<p>Articulated College Credit</p>	<p><i>In partnership with the National Academy Foundation.</i></p> <p>National Academy Foundation: www.naf.org</p>
<p>Careers in Cosmetology</p>	<p>Cosmetology License (DLLR)</p>	<p><i>State-wide advisory group in partnership with MSDE provides instructional materials and support for licensure.</i></p> <p>MD State Board of Cosmetology: dllr.state.md.us</p>
<p>College Program Options:</p>	<p>Degree or Certificate:</p>	<p>Maryland College(s) Program Description</p>
<p>Culinary Arts</p>	<p>Certificate, AAS BS</p>	<p><i>Maryland Community Colleges offer a range of Certificate and Associate degree programs as well as preparation for transfer to advanced degrees specializing in Culinary Arts, Hospitality, and Business Services.</i></p>
<p>Hospitality and Tourism</p>	<p>Certificate, AAS BS</p>	
<p>Hotel Restaurant Management</p>	<p>Certificate, AAS BS, MBA</p>	

Construction and Development

Advances in science and technology will continue to drive innovation in the design, construction, and maintenance of buildings and infrastructure, including new design concepts, construction materials and methods, and the application of information technology. Students may advance their knowledge in specific construction trades, design or construction management.

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<i>Civil Engineering / Architecture – PLTW</i>	Transcripted College Credit	<i>Part of the PLTW Pre-Engineering Civil Engineering /Architecture Specialty.</i> Project Lead The Way: www.pltw.org
<i>Architectural Drafting and Design</i>	ABET or IAC Certification Articulated College Credit	<i>Numerous programs in CADD and architecture, exploring greater alignment to college programs and certification options.</i>
<i>Construction Trades</i> <ul style="list-style-type: none"> • <i>Carpentry</i> • <i>Electrical</i> • <i>Plumbing</i> • <i>Masonry</i> 	<i>NCCER Certification</i> <i>Apprenticeship in related trade areas</i> <i>Articulated College Credit</i>	<i>State-wide advisory group includes all areas of construction and development with leadership from AFL-CIO, AGC, ABC as well as independent businesses and contractors.</i> <i>National Center for Construction Education and Research: nccer.org</i>
<i>Construction Management</i>	Articulated College Credit	Several Maryland colleges offer degrees in Construction Management
<i>Construction Maintenance</i> <ul style="list-style-type: none"> • <i>HVAC</i> • <i>Maintenance</i> • <i>Welding</i> 	<i>NCCER Maintenance or HVAC Excellence or AWS Welding</i> <i>Apprenticeship in related trade areas</i> <i>Articulated College Credit</i>	<i>State-wide advisory group includes all areas of construction and development with leadership from AFL-CIO, AGC, ABC as well as independent businesses and contractors.</i> <i>National Center for Construction Education and Research: nccer.org</i>
<i>College Program Options:</i>	<i>Degree or Certificate:</i>	<i>Maryland College(s) Program Description</i>
<i>Architectural Drafting and Design</i>	Certificate, AAS BS	<i>Students may advance preparation in the field through drafting/design as well as construction management programs at the community college. Many of these programs transfer to four-year colleges and universities. Apprenticeship programs also require related instruction, often coordinated through the community college.</i>
<i>Construction Trades</i>	Apprenticeship in related areas	
<i>Construction Management</i>	AAS, BS	

Environmental, Agriculture and Natural Resources

The agricultural sector is a highly competitive global industry creating new challenges in identifying global and domestic markets; improving business planning, financing, risk management, and productivity; and reducing costs. Advances in science and technology, in particular biotechnology, will continue to drive innovation and growth in agricultural production and food processing through the development of new markets, products, and processes. In addition, advances in information technology will continue to improve the planning and management of agricultural production. Growing public concerns over natural resources, environmental quality, and public health will continue to expand the role and scope of the natural resource management and environmental services sectors.

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<i>Horticulture Services</i>	<p>Certified Professional Horticulturalist Exam (CPH)</p> <p>Articulated College Credit</p>	<p>State-wide advisory group includes MD Agriculture Education Foundation, University of MD, regulatory agencies, and a wide range of agri-business partners.</p> <p>Maryland Nursery Landscape Association: www.mnlaonline.org</p> <p>Maryland Department of Agriculture: www.mda.state.md.us</p>
<i>Agricultural Production – Animal Systems</i>	Articulated College Credit	<p>Currently working with The National Council for Agricultural Education and PLTW on the development of the Curriculum for Agricultural Science Education (CASE). There will be a pathway for Plant Sciences and another for Animal Sciences. Other partners include industry and two and four year colleges.</p>
<i>Agricultural production – Animal Science</i>	Articulated College Credit	
<i>Environmental Science</i>	Articulated College Credit	<p>Development a MD Program of Study has begun addition meetings will be held in 2008. Partnerships include with leadership from regulatory agencies as well as colleges and universities.</p>
<i>Natural Resources/ Conservation</i>	Articulated College Credit	<p>Currently exploring program development in partnership with leadership from regulatory agencies as well as colleges and universities.</p>
<i>College Program Options:</i>	<i>Degree or Certificate:</i>	<i>Maryland College(s) Program Description</i>
<i>Horticulture Services</i>	Certificate, AA BS, MS	<p>Maryland Community Colleges offer a range of Certificate and Associate degree programs as well as preparation for transfer to advanced degrees specializing in Environmental Sciences, Agriculture, and Natural Resource Management.</p>
<i>Agricultural Sciences</i>	BS, MS	
<i>Environmental/Natural Resource Sciences</i>	AAS, AS, BS, MS	

Health and Biosciences

State-wide advisory group includes leadership from the MD Hospital Association, Johns Hopkins School of Medicine, University of Maryland, and other health and bioscience organizations and companies. Student gain an understanding of the range of health-related careers including therapeutic services, diagnostic services and infomatics in addition to bio-science and research careers.

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<p><i>Academy of Health Professions (AOHP)</i></p> <p><i>Pathway Program options may include:</i></p> <ul style="list-style-type: none"> • <i>CNA/GNA</i> • <i>Pharmacy Tech</i> • <i>Dental Assisting</i> 	<p>Articulated College Credit</p> <p>Health Professions License and/or Certification (multiple options)</p>	<p><i>Current program development includes common course syllabus for the first course in the Academy of Health Program. The Academy of Health Professions will include options for areas of specialization following foundation-level courses.</i></p> <p>MD Board of Nursing, MD Board of Pharmacy</p>
<p><i>Biomedical Sciences</i></p>	<p>Transcribed College Credit</p>	<p><i>Current program development led by PLTW in national level partnership. State-wide advisory group and partnership with Villa Julie College for on-going program development and professional development for teachers.</i></p> <p>Project Lead The Way: pltw.org</p>
<p><i>Bioscience Engineering (PLTW)</i></p>	<p>Transcribed College Credit</p>	<p><i>Ongoing expansion of PLTW Pre-Engineering - Bioscience Engineering Specialty Course. Support and teacher training is provided by MSDE in partnership with University of Maryland Baltimore County (UMBC).</i></p> <p>Project Lead The Way: pltw.org</p>
<p><i>College Program Options:</i></p>	<p><i>Degree or Certificate:</i></p>	<p><i>Maryland College(s) Program Description</i></p>
<p><i>Allied Health Programs – multiple options</i></p>	<p>Certificate, AAS BS, MS</p>	<p><i>Maryland Community Colleges offer a range of Certificate and Associate degree programs as well as preparation for transfer to advanced degrees specializing in Health and Biosciences.</i></p>
<p><i>Biomedical Sciences</i></p>	<p>BS, MS</p>	
<p><i>Bioscience Engineering</i></p>	<p>BS, MS</p>	

Human Resource Services

Advances in scientific knowledge, and increased public awareness of social problems and issues are contributing to a demand for high-quality social services. The emphasis in all these areas will shift to prevention and community-based services. Public concerns over crime, security, and emergency response and the increased demand for legal intervention in business and communities will continue to drive the growth of legal and court services. Advances in information technology and science will drive major innovations in law enforcement, emergency services, and legal services, including forensics, digital imaging, and global positioning systems.

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<i>Human Services</i>	Articulated College Credit	State-wide advisory group includes national, state, and local government officials.
<i>Criminal Justice / Law Enforcement</i>	Articulated College Credit	<i>Program development has focused on Homeland Security and Emergency Preparedness Pathway Program.</i>
<i>Fire Science/ Firefighting (MFRI)</i>	Certification: EMT / Fire II Articulated College Credit	<i>State partnership with MD Fire and Rescue Institute (MFRI) and the National Fire Academy for program implementation.</i> Maryland Fire and Rescue Institute: www.mfri.org
<i>Homeland Security and Emergency Preparedness</i> <ul style="list-style-type: none"> • <i>Homeland Security Sciences,</i> • <i>Criminal Justice/Law Enforcement, and</i> • <i>Geographic Information Systems</i> 	EMT Cert. GIS/RS Cert. Articulated College Credit	<i>State-wide advisory group supported the development of the Homeland Security and Emergency Preparedness program.</i>
<i>Legal Support Services</i>	Reg. Paralegal Cert. Legal Asst Articulated College Credit	<i>State-wide advisory group exploring range of certifications and requirements as well as college credit by exam or articulation.</i>
<i>Childcare / Early Childhood Education</i>	Certification Licensure Articulated College Credit	<i>State-wide advisory group updating program requirements in alignment with new certifications and licensure requirements.</i>
<i>Teaching Academy of Maryland (TAM)</i>	Certification: Pra-Pro Statewide Articulated College Credit	<i>USM and Towson University will provide professional development for instructors/faculty.</i>
<i>College Program Options:</i>	<i>Degree or Certificate:</i>	<i>Maryland College(s) Program Description</i>
<i>Criminal Justice /Legal Services</i>	Certificate, AA, AAS, BS, MS	<i>Maryland Community Colleges offer a range of Certificate and Associate degree programs as well as preparation for transfer to advanced degrees.</i>
<i>Childcare</i>	Certificate, AAS	
<i>Teaching</i>	Certification, AAT, BA, BS, MAT	

Information Technology

Information technology professionals will face increasing pressure to design, develop, implement, and support more complex and reliable information technology solutions that will meet the needs of external and internal customers. This will require that information technology professionals have the skills to determine customer and business needs and requirements, manage complex projects, and integrate software and hardware solutions.

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<p>Academy of Information Technology (NAF) <i>multiple options including:</i></p> <ul style="list-style-type: none"> • <i>Software – Computer Science</i> • <i>Hardware - Networking</i> 	<p>IT Certification (based on program focus)</p> <p>Articulated College Credit</p>	<p><i>MSDE partnership with the National Academy Foundation (NAF) supports program improvement and on-going professional development.</i></p> <p>www.naf.org</p>
<p>Database Academy (Oracle)</p>	<p>Oracle OCA / OCP</p> <p>Articulated College Credit</p>	<p><i>MSDE in partnership with Oracle provides program improvement and on-going professional development.</i></p> <p>www.academy.oracle.com</p>
<p>IT Networking Academy (CISCO) <i>multiple options including:</i></p> <ul style="list-style-type: none"> • <i>IT Essentials</i> • <i>CCNA/CCNP</i> • <i>Panduit</i> 	<p>CompTIA A+ Network+ C-Cent CCNA / CCNP Panduit (cabling) Articulated College Credit</p>	<p><i>MSDE in partnership with Cisco provides program improvement and on-going professional development.</i></p> <p>www.cisco.com</p>
<p>IT Network Security</p>	<p>Articulated College Credit</p>	<p><i>State-wide advisory group is exploring options for program development in partnership with national and state governmental agencies as well as colleges and universities with IT Security / Systems programs.</i></p>
College Program Options:	Degree or Certificate:	Maryland College(s) Program Description
Computer Science	AS, BS, MS	<i>Maryland Community Colleges offer a range of Certificate and Associate degree programs as well as preparation for transfer to advanced degrees.</i>
IT Engineering / Network / Security	Certification AAS	

Manufacturing, Engineering, and Technology

The Maryland Manufacturing, Engineering, and Technology industry sector is an international enterprise with products that are designed, manufactured, and sold within a highly competitive global marketplace. American manufacturers are adopting leading global practices, such as lean manufacturing, to find new ways to produce high-quality products, better, faster, and more cost-effectively with as little waste as possible. Advances in science and technology, such as materials science, engineering, and information technology, will continue to drive product and process innovation. The state-wide partnership team includes institutions of higher education, manufacturing and engineering companies as well as the Technology and Innovation in Manufacturing Education (TIME) Center.

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<i>Pre-Engineering: Project Lead The Way (PLTW)</i>	Transcripted College Credit	<i>State-wide advisory group and partnership with PLTW. On-going professional development conducted through the Maryland PLTW Affiliate, UMBC.</i> Project Lead The Way: pltw.org
<i>Manufacturing Engineering Technologies</i>	Articulated College Credit	<i>The Maryland CTE Program provides a broad foundation in industry-wide skills as well as options for specialization leading to certification and/or college credit. Students may specialize in an area of interest, including lean practices and tools and integrated manufacturing,</i>
<i>College Program Options:</i>	<i>Degree or Certificate:</i>	<i>Maryland College(s) Program Description</i>
<i>Engineering Sciences and Engineering Technology</i>	AAS, AS, BS, MS	<i>Maryland Community Colleges offer a range of Certificate and Associate degree programs as well as preparation for transfer to advanced degrees.</i>
<i>Engineering and Manufacturing Technologies</i>	Certification AS, AAS, BS, MS	

Transportation Technologies

Advances in science and engineering are producing major innovations in transportation technology, resulting in faster movement of people and goods at lower costs and with less environmental and safety risks. These innovations require higher skills to manage and maintain transportation equipment. Advances in transportation technology and information technology, the growth in global transportation, and increased security and safety concerns are creating the need for an expanded and more advanced public transportation infrastructure, including intelligent transportation systems, and advances in the management of this infrastructure at the local, state, and federal levels.

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<i>Automotive Technology (NATEF)</i>	<p>NATEF/ASE AYES</p> <p>Articulated College Credit</p>	<p><i>Statewide advisory group includes industry and postsecondary partners in alignment with the NATEF/ASE requirements. On-going program support and professional development is led by the Community College of Baltimore County and industry partners.</i></p>
<i>Autobody / Collision Repair Technician (NATEF)</i>	<p>NATEF/ASE</p> <p>Articulated College Credit</p>	<p><i>All CTE programs must earn NATEF certification and provide opportunities for student certification in multiple areas of certification.</i></p> <p><i>All programs must allow for articulation of credits to a postsecondary program (including out-of-state colleges).</i></p>
<i>Medium-Heavy Truck (NATEF)</i>	<p>NATEF</p> <p>Articulated College Credit</p>	<p>National Automotive Technicians Education Foundation: www.natef.org</p> <p>Inter-industry Conference on Auto Collision Repair: www.i-car.com</p>
<i>College Program Options:</i>	<i>Degree or Certificate:</i>	<i>Maryland College(s) Program Description</i>
<i>Automotive Technology</i>	<p>Certification AAS, BS</p>	<p><i>The Community College of Baltimore County offers Certificate and Associate degree programs aligned to industry standards and certification.</i></p>

Career Research and Development

Supervised work-based learning experiences are designed to provide meaningful work experience as an integral part of the regular career and technology curricula. They require a partnership involving the education system, business and industry, community agencies and organizations, and the family.

The Career Research and Development (CRD) career and technology education program links the classroom with on-the-job experiences for students who are placed in temporary jobs related to their career choices. The program includes specific arrangements between the school and the job site to coordinate the learning experience. These experiences are organized around a training plan that is cooperatively developed by the school and employer to add value to and extend a student's career preparation. This instruction is planned, organized, and coordinated to assure that each component contributes to the student's education and employability.

<i>High School CTE Programs</i>	<i>Value Added / Certification Options</i>	<i>Business/Industry and Postsecondary Partners</i>
<i>Career Research and Development (CRD)</i>	<i>Articulated College Credit</i>	<i>This program includes at least 2 school-based credits, followed by at least 2 work-based credits. The occupational placements are targeted employment opportunities for which an in-school career and technology program does not exist. This option exists when CTE programs are over-enrolled or when a program is unavailable for students.</i>