

Virginia Career and Technical Education: Information Technology

Virginia Department of Education, Office of Career, Technical, and Adult Education



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Virginia's 16 career clusters and career assessments help students investigate careers and design their plan of study to advance their career goals. Within each career cluster, there are multiple career pathways that represent a common set of skills and knowledge, including academic, technical, and career readiness skills that lead to credentials necessary to pursue a full range of career opportunities from entry level to management, including technical and professional career specialties. CTE actively partners with business and industry to design and provide high quality, dynamic programs to meet current, emerging, and projected labor market needs. Relevant work-based learning opportunities and leadership development offered through career and technical student organizations are incorporated into the academic and career plan.

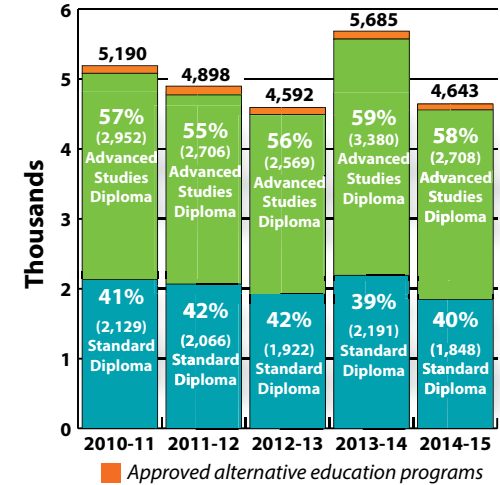
A CTE completer is a student who has met the requirements for a CTE concentration and all requirements for high school graduation, or an approved alternative education program. A concentration is a coherent sequence of state-approved courses. Students may take additional CTE courses that will enhance their career pathway goals. Completion of certain skill sets and coursework enables students to participate in Board-approved external examinations that test essential employability and technical skills. Students who earn these credentials are eligible to earn verified credit towards graduation requirements.

Beginning in 2013-2014, first time ninth grade students are required to earn a Board-approved career and technical education credential to graduate with a Standard Diploma.

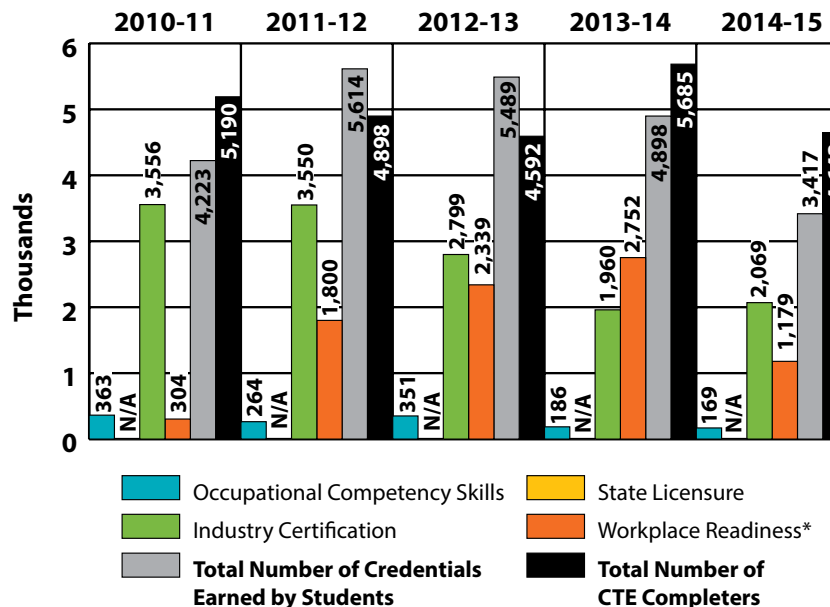
Types of Credentials

- **Full Industry Certification** - from a recognized industry, trade, or professional association;
- **Pathway Industry Certification** - specific stackable credentials from a recognized industry that lead to a full industry certification;
- **Occupational Competency Skills Assessment** - a national standardized assessment of skills/knowledge in a specific career and/or technical area;
- **State License** - required for entry into a specific occupation; and
- **Workplace Readiness Skills for the Commonwealth Certification** - for essential employability skills recognized by Virginia employers.

Completers Graduated with Standard and Advanced Studies Diplomas



Credentials Earned by CTE Students



NOTE: Completers may participate in one or more Board-approved credentialing test(s). Not all completers participate in the credentialing tests. There are age restrictions set by certain credentialing entities which would prohibit the student from testing until after high school. The cost of credentialing tests ranges from \$10 to \$300 per test.

*Prior to 2010-11, Workplace Readiness Skills assessments were included in the Industry Certification category.

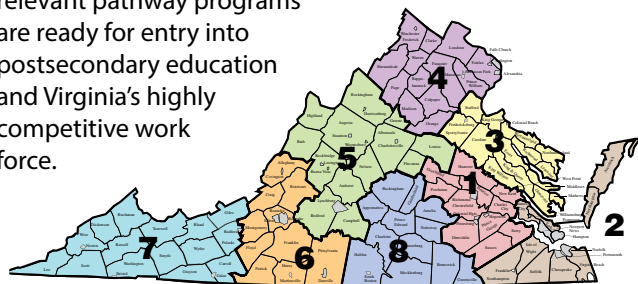
Source: Virginia Department of Education

Virginia Career and Technical Education: Information Technology *continued*

The **Information Technology Career Cluster** gives you the opportunity to design, develop, and manage different types of software programs and hardware. This field requires a solid foundation in mathematics and science as well as high technical skills. Information technology workers can be found in every sector of the economy, providing assistance at a multitude of levels. As technology advances across the globe, it is important to have individuals who understand and can support the new technological demands.

Virginia high school students learn the essential academic skills that are critical for all careers and the foundational skills needed for careers in Information Technology. They begin to specialize in a field of interest as they complete a coherent sequence of courses within a pathway.

Secondary students who complete these rigorous and relevant pathway programs are ready for entry into postsecondary education and Virginia's highly competitive work force.



Selected Statewide Occupational Projections

Selected Occupation	2014 Median Wage ¹	2022 Projected Employment ²	Predominant Education Level ³
Software Developers, Applications	\$102,550	43,914	Bachelor's or more
Software Developers, Systems Software	\$107,000	41,871	Bachelor's or more
Computer Systems Analysts	\$94,080	40,198	Bachelor's or more
Network and Computer Systems Administrators	\$87,280	24,272	Bachelor's or more
Computer Support Specialists	\$51,460	23,048	Bachelor's or more
Computer Programmers	\$86,800	11,531	Bachelor's or more
Computer Occupations, All Other	\$98,920	9,930	Bachelor's or more
Database Administrators	\$91,410	7,764	Bachelor's or more & Work experience
Technical Writers	\$72,620	3,832	Bachelor's or more & Work experience
Computer and Information Research Scientists	\$116,440	2,219	Bachelor's or more
Computer Hardware Engineers	\$116,130	2,320	Bachelor's or more
Multimedia Artists and Animators	\$58,380	1,331	Bachelor's or more & Training/certification

¹ Wage data from the US Bureau of Labor Statistics Occupational Employment Statistics Program; ² Estimates from Virginia Labor Market Information, Occupational Projections (long-term) for Multiple Occupations in Virginia in 2012-2022. Retrieved via <https://data.virginialmi.com/>; ³ Predominant level of education and training information created by Trailblazers, based on US BLS occupational education and training data

Source: Virginia Employment Commission, Virginia Occupational Employment Projections 2013-2022

Information Technology 2014-2015 Enrollments**

Pathways	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8
Information Support and Services	16,042	18,474	9,347	34,904	9,891	9,308	12,793	3,763
Network Systems	8,450	8,698	3,395	20,403	4,999	4,776	6,821	1,459
Programming and Software Development	6,577	3,980	1,772	15,062	3,958	3,476	4,747	656
Web and Digital Communications	7,248	7,556	2,225	17,193	4,512	4,120	5,283	931

** NOTE: Duplicated Pathway student enrollments

Source: Virginia Department of Education