

# Virginia Career and Technical Education: Architecture and Construction

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.

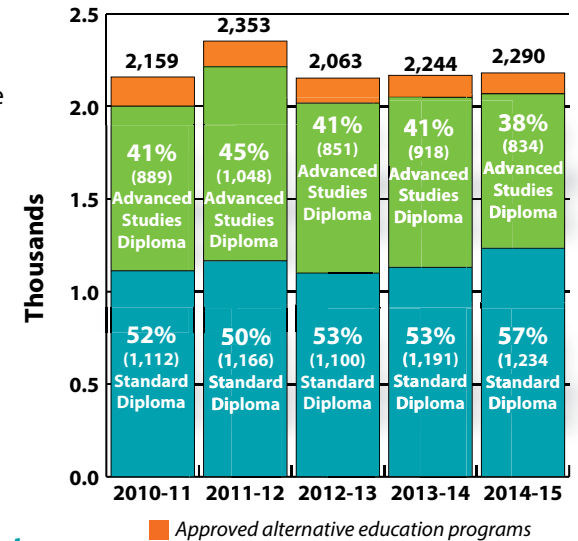
A CTE completer is a student who has met the requirements for a CTE concentration and all requirements for high school graduation, or an approved alternative education program. A concentration is a coherent sequence of state-approved courses. Students may take additional CTE courses that will enhance 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.

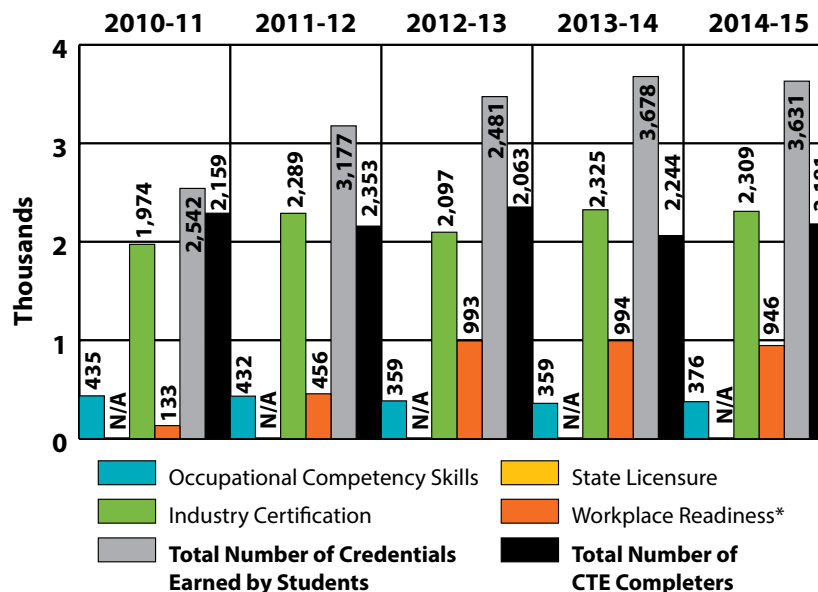
## Types of Credentials

- **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

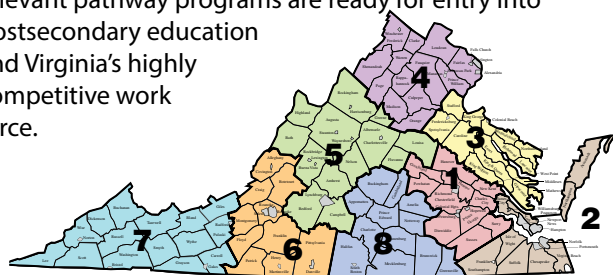
# Virginia Career and Technical Education: Architecture and Construction

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The **Architecture and Construction Career Cluster** prepares you for careers that allow you to design, plan, manage, build, and maintain structures such as buildings, homes, and bridges or machinery. People employed in this cluster work on new structures, restorations, additions, alterations, and repairs. In the next few years, many new jobs will be added and employment opportunities will rise as experienced workers retire. Highly-skilled workers who earn specializations and certification of accreditation are in great demand as this field continues to advance and become more competitive.

Virginia high school students learn the essential academic skills that are critical for all careers and the foundational skills needed for careers in Architecture and Construction. 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 <sup>1</sup>	2022 Projected Employment <sup>2</sup>	Predominant Education Level <sup>3</sup>
Carpenters	\$38,070	30,671	High School & Training/certification
Construction Supervisors	\$58,110	26,162	High School & Work experience
Electricians	\$46,380	21,583	High School & Training/certification
Plumbers, Pipefitters, and Steamfitters	\$43,740	15,122	High School & Training/certification
Construction Managers	\$93,330	13,929	High School & Work experience
Construction Equipment Operators	\$37,210	11,386	High School & Training/certification
Heating, AC, and Refrigeration Mechanics	\$45,720	10,809	High School & Training/certification
Civil Engineers	\$79,760	10,495	Bachelor's or more
Cost Estimators	\$60,390	9,798	Some college/Associate Degree
Sheet Metal Workers	\$41,310	6,198	High School & Training/certification
Cement Masons and Concrete Finishers	\$36,940	5,650	High School & Training/certification
Architects	\$76,640	3,984	Bachelor's or more & Training/certification
Brickmasons and Blockmasons	\$43,180	3,882	High School & Training/certification
Electrical Power-Line Installers and Repairers	\$59,440	3,209	High School & Training/certification
Civil Engineering Technicians	\$41,460	2,959	Some college/Associate Degree
Structural Iron and Steel Workers	\$42,770	2,287	High School & Training/certification
Interior Designers	\$51,890	1,605	Bachelor's or more & Training/certification
Surveyors	\$51,340	1,538	Bachelor's or more
Architectural and Civil Drafters	\$48,400	1,452	Some college/Associate Degree
Landscape Architects	\$69,360	913	Bachelor's or more & Training/certification

<sup>1</sup> Wage data from the US Bureau of Labor Statistics Occupational Employment Statistics Program; <sup>2</sup> Estimates from Virginia Labor Market Information. Occupational Projections (long-term) for Multiple Occupations in Virginia in 2012-2022. Retrieved via <https://data.virginialmi.com>; <sup>3</sup> 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

## Architecture and Construction 2014-2015 Enrollments\*\*

Pathways	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8
Construction	3,528	9,880	4,363	8,377	2,958	3,074	2,192	1,153
Design/Pre-Construction	2,130	2,582	1,188	3,459	2,063	1,857	1,645	972
Maintenance and Operations	1,388	1,225	663	2,315	1,084	1,170	488	456

\*\* NOTE: Duplicated Pathway student enrollments

Source: Virginia Department of Education