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# Issues and Solutions for Career and Technical Education in Virginia 2016–2017

## IN BRIEF

1. Virginia ACTE supports meaningful, industry-recognized standards, assessments, and credentials for CTE programs, staff, and students.
2. Virginia ACTE supports continued priority funding for CTE classroom lab equipment and program improvement to prepare students for a competitive workforce and further education.
3. Virginia ACTE supports funding for the Governor's STEM Academies and Governor's Health Sciences Academies, which prepare students for high-demand, high-wage, and high-skill careers in Virginia.
4. Virginia ACTE supports adequate funding to sustain the CTE Resource Center and its work to expand college and career readiness through continued integration of secondary and postsecondary CTE curricula with Virginia's Standards of Learning and alignment with industry and professional standards and certifications.
5. Virginia ACTE supports increased efforts by Virginia's colleges and universities to implement and, where they already exist, strengthen undergraduate and graduate teacher preparation programs in CTE.

### **Affiliated Organizations:**

Virginia Association for Teachers of Family and Consumer Sciences

Virginia Association of Agricultural Educators

Virginia Association of Career and Technical Education Administrators

Virginia Association of Marketing Educators

Virginia Association of Trade and Industrial Educators

Virginia Association of Career and Technical Education—Special Needs Division

Virginia Business Education Association

Virginia Health and Medical Sciences Educators Association

Virginia Technology and Engineering Education Association

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**Educators and business representatives** from across Virginia, along with 10 organizations representing Career and Technical Education (CTE) professionals, developed this document. Virginia ACTE welcomes comments on these policy issues from CTE stakeholders—citizens, parents, and members of the boards that govern Virginia’s public education. We seek public policy support from anyone interested in providing diversity of opportunity for all of Virginia’s children on the following issues.

**Virginia Association for Career and Technical Education**  
[www.virginiaACTE.org](http://www.virginiaACTE.org)

## POLICY ISSUE 1

Virginia ACTE supports meaningful, industry-recognized standards, assessments, and credentials for CTE programs, staff, and students.

### Rationale

Education- and work-related earned credentials are important milestones for many career pathways. Employers value credentials because they help to determine the skill and education level of job applicants without having to administer reassessments and because they help reduce operating costs associated with employee acquisition, training, and retention.

Increasing opportunities to earn industry credentials, such as state licenses, nationally recognized or stackable industry certifications, and financial, occupational competency and Workplace Readiness Skills assessments, are vital to the New Virginia Economy Workforce Initiative. According to the 2013 report, “Recovery: Job Growth and Education Requirements through 2020,” there will be 55 million job openings in the economy through 2020, with 24 million from newly created jobs and 31 million due to retirement. In addition, at least 5 million new workers with postsecondary certificates and 10 million workers with some type of postsecondary education will be needed (“Recovery: Job Growth and Education Requirements through 2020,” Georgetown University Center on Education and the Workforce, 2013). Credentials provide Virginia’s students with a head start.

- Virginia’s Career and Technical Education programs currently provide multiple avenues for students to earn credentials, continue their education beyond high school, gain college credit through dual enrollment, and document their skills for employers.
- The Standard Diploma requirements include an earned industry credential, a state licensure examination, a national occupational competency assessment or the Virginia Workplace Readiness Skills assessment, or satisfactory competency-based instruction in a particular subject area where a credential is not readily available.
- The current Standards of Quality state, “Career and technical education programs shall be aligned with industry and professional standard certifications, where they exist.” (Code of Virginia §22.1-253.13:1B)
- Earned industry credentials are part of the Virginia Index of Performance program, which recognizes schools and school divisions for student achievement.
- Virginia school accreditation reflects overall academic achievement, and now the number of graduates earning a Board of Education-approved industry certification, an industry pathway certification, a state licensure, or an occupational competency credential in a Career and Technical Education program as student-selected verified credit are part of the formula for calculating the final high school accreditation status.
- The 2016 General Assembly increased funding for industry examinations from \$1.331 million (level funded since 2006) to approximately \$1.831 million (SY 2016-2017).
- The 2016 General Assembly appropriated \$1.5 million (level funded) to support students and teachers pursuing information technology (IT) industry certifications for fiscal year 2017

Virginia ACTE supports increased efforts by Virginia’s colleges and universities to implement and, where they already exist, strengthen undergraduate and graduate teacher preparation programs in Career and Technical Education.

### Rationale

Virginia continues to experience a critical shortage of qualified teachers, especially in its most challenged schools.

- In SY 2015-2016, Career and Technical Education ranked fourth in Virginia’s top-10 list of critical teacher shortage areas.
- Since 2003–2004, CTE has been ranked among the top 10 areas of critical teacher shortages with specific program areas defined.
- Critical shortages were cited for 2008–2009 in Technology Education and Family and Consumer Sciences and for 2009–2010 in Technology Education and Agricultural Education.
- School divisions face increasing difficulty finding qualified teachers for CTE programs, and this shortage is predicted to become more serious within the next five years.

Demand for CTE teachers and programs is increasing:

- Student enrollment in CTE programs during 2015–2016 totaled 613,676—a duplicate count; that is, some students took more than one CTE course.
- The updated 21 Workplace Readiness Skills (taught in all CTE courses and programs) are a priority for Virginia’s employers, often valued more highly than academic grades or test scores.
- Teachers in four CTE program areas (Agricultural Education, Business and Information Technology, Family and Consumer Sciences, and Marketing) provide the largest number of instructors endorsed to effectively teach Economics and Personal Finance, a graduation requirement for Virginia students to meet the need for a financially literate citizenry.

Highly qualified CTE teachers must be available to meet increasing demand. Teacher preparation programs at the state’s colleges and universities (sometimes in cooperation with Virginia’s community colleges), along with selected special initiatives, offer some solutions to these shortages, but more needs to be done.

- The 2016 General Assembly included Career and Technical Education as a critical-shortage teaching discipline, which allows students enrolled in full-time or part-time approved undergraduate or graduate teacher programs to apply for the Virginia Teaching Scholarship Loan Program in critical shortage areas.

**Virginia ACTE proposes the following recommendations to strengthen and expand Virginia’s supply of highly qualified CTE teachers:**

- 5.1 The Board of Education and the State Council of Higher Education for Virginia (SCHEV) should move support of teacher-education programs in CTE in Virginia’s colleges and universities to the highest priority to ensure a supply of trained teachers.
- 5.2 The “career switcher” program should require rigorous pedagogy instruction, realistic endorsement requirements with relevant certifications, and professional experience. The Board of Education also should require sound mentoring opportunities to strengthen “career-switcher” candidates’ transitions to the classroom.
- 5.3 Include integrated K–12 STEM in new and existing teacher preparation programs in Virginia.
- 5.4 The General Assembly should increase the amount of funding available for the Virginia Teaching Scholarship Loan Program and set aside a portion of the funds specifically for CTE teacher shortage areas. In this program, recipients who teach two years in Virginia are not required to repay the loan.
- 5.5 SCHEV and the Virginia Community College System (VCCS) should work together to endorse Teachers for Tomorrow as a dual-enrollment community college course that is eligible for transfer to teacher-education programs at four-year colleges and universities.

Virginia ACTE supports adequate funding to sustain the CTE Resource Center and its work to expand college and career readiness through continued integration of secondary and postsecondary CTE curricula with Virginia's Standards of Learning and alignment with industry and professional standards and certifications.

## Rationale

The CTE Resource Center activities include the following:

- Developing and revising CTE curricula every three to five years with the assistance of business/industry panels and teachers.
- Hosting business/industry representatives and teacher curriculum development teams, and other meetings of the state's educational leaders.
- Providing up-to-date, Virginia Board of Education-approved information about certifications and licensure requirements for CTE teachers and students.
- Aligning CTE courses with Virginia's Standards of Learning for English, Mathematics, History and Social Science, Science, and Economics and Personal Finance.
- Aligning CTE courses with national and state certification standards, when available, as well as competitive standards for career and technical student organizations.
- Providing up-to-date curricula and resources free to Virginia public school teachers.
- Offering inservice meetings to teachers across the state virtually and in person at no cost to Virginia public school teachers or school divisions.
- Offering students, parents, and counselors a web-based tool for exploring careers—through student interest in career areas or through Career Clusters and general academic areas of interest (e.g., algebra, anatomy, geography, physics, writing).
- Serving as the manager for CanDo, a web-based competency tracking application for Virginia educators, using the state-approved competency lists and curricula.
- CTE Resource Center state funding was \$400,000 per year in the 2008-2009 biennial budget.
- CTE Resource Center state funding was cut 35 percent in FY 2009-2010 and 38 percent in FY 2010-2011, leaving state funding at \$248,021.
- The General Assembly restored \$50,000 of the funding in FY 2012, with funding now at \$298,021 in the current biennial budget.
- The CTE Resource Center has an extensive record of support for CTE programs and connections to industry standards. A minimal budget restricts the abilities of this valuable resource.

## Virginia ACTE proposes the following recommendations to support college and career readiness and sustained funding for the CTE Resource Center:

- 4.1 The General Assembly should restore full funding to sustain the work of the CTE Resource Center.
- 4.2 The General Assembly should continue to provide permanent line-item funding to the CTE Resource Center.

(SY 2016-2017).

- Virginia has led the nation with industry-valued credentialing initiatives since 2001, and 109,089 students throughout the commonwealth earned credentials during the 2015–2016 school year.
- Over the past four years, students have earned 44,274 Microsoft Imagine Academy certifications (Virginia Department of Education).
- 45,486 students took the Workplace Readiness Skills assessment in SY 2015–2016 (CTE Program Highlights 2015–2016, Virginia Department of Education).
- The Workplace Readiness Skills assessment continued to be level funded during the 2016 General Assembly, at \$308,655 distributed among 132 school divisions.
- Research shows that 43 percent of young workers with licenses and certificates earn more than those with an associate degree; 27 percent of young workers with licenses and certificates earn more than those with a bachelor's degree; and 31 percent of young workers with associate degrees earn more than those with a bachelor's degree ("Valuing Certificates," Georgetown University Center on Education and the Workforce, presentation, 2009).
- The Virginia Board of Education has approved more than 480 credentialing examinations. Credentials are available in all 16 Career Clusters.
- Virginia ACTE was instrumental in securing a funding increase to assist students with credential testing. Without sufficient funding to assist students with credential testing, school divisions would have difficulty ensuring that students meet the Standard Diploma requirements and would not be able to accrue value-added points in the school accreditation process.
- Virginia Code §22.1-298.1 was amended in 2015 to state that "teachers seeking an initial licensure with an endorsement in career and technical education shall have an industry certification credential in the area in which the teacher seeks endorsement. If the teacher has not attained an industry certification credential, the Board may, upon request of the employing school division or educational agency, issue the teacher a provisional license to allow time for the teacher to attain such credential."

## Virginia ACTE proposes the following recommendations to strengthen Virginia's CTE system:

- 1.1 The General Assembly should alleviate the burden on local school divisions by fully funding credentialing assessment to help students complete industry certifications, occupational competency exams, Workplace Readiness Skills assessments, state licensures, and other valid, high-quality assessments, as approved by the Virginia Board of Education, as a part of their secondary Career and Technical Education studies and Standard Diploma requirements.
- 1.2 Funding should continue to be available for Career and Technical Education teachers to attain Virginia Board of Education-approved, industry-recognized certifications.
- 1.3 The Virginia Board of Education should continue to establish annual benchmarks for improvement in the number of students receiving industry credentials as indicated in the Performance Standards and State Report Card.
- 1.4 The General Assembly should provide support for and expand credentialing initiatives at the secondary education level and recognize the importance of secondary education credentialing initiatives for success at the postsecondary level and for career readiness.

Virginia ACTE supports continued priority funding for Career and Technical Education classroom lab equipment and program improvement to prepare students for a competitive workforce and further education.

### Rationale

Under the Virginia Standards of Accreditation, high schools are required to offer a minimum of three Career and Technical Education programs to meet students' needs. School divisions in the state exceed the minimum and have multiple labs that must be regularly updated to meet industry and local workplace needs. Under the present funding level, local and federal funds support the largest percentages of CTE equipment resources to meet state requirements and the future needs to the Virginia economy.

- General Assembly funding allocated to CTE during the previous 10 sessions has provided essential support for helping to keep Virginia CTE classrooms equipped with the technology and materials students will use in the workplace.
- The 2016 General Assembly level funded Career and Technical Education equipment at \$1.8 million with a base allocation of \$2,000 and the remainder distributed on the basis of student enrollment in secondary Career and Technical Education courses.
- Funding included \$2 million to update equipment to industry standards and provide experiences that translate to the workforce.
- \$1.4 million was allocated for equipment in high-demand, high-skill, and fast-growing industry sectors identified by the Virginia Board of Workforce Development and based on data from the US Bureau of Labor Statistics and the Virginia Employment Commission.
- Funds provided by the General Assembly are distributed among 132 school divisions, including middle and high schools, many local technical centers, and 10 regional career and technical centers. These funds are used to provide project-based and industry-relevant educational experiences not otherwise available to public school students.
- The average cost of equipment in a standard CTE lab ranges from \$20,000 to more than \$250,000.
- A recent survey by the Virginia School Board Association found that 50 percent of school divisions received less funding in recent years.
- "Sixty-seven percent of respondents in a 2011 manufacturing skills-gap study indicated that they [Virginia's manufacturers] were experiencing a shortage of qualified workers—with 12 percent reporting severe shortages and 55 percent indicating moderate shortages. CTE plays a vital role in helping American business close this gap by building a competitive workforce for the 21st century" ("Boiling Point? The Skills Gap in US Manufacturing," Deloitte Consulting and The Manufacturing Institute, 2011).
- Virginia's public schools can help close this gap through adequately funded Career and Technical Education programs.

### Virginia ACTE proposes the following recommendations to strengthen Virginia's CTE system:

- 2.1 Virginia's policy leaders must continue priority funding for CTE program improvement to promote statewide consistency in course offerings and quality. This would help all students prepare for entry into a competitive workforce and to be college and career ready.
- 2.2 Virginia's policy leaders should increase funding for equipment as needed for credentialing assessments as required by industry standards.
- 2.3 The base allocation level should be changed from \$2,000 to \$5,000 to provide an equitable base distribution of funds to each school division, especially smaller and rural school divisions. Currently only 18.22 percent of the state equipment funding is used for the base allocation and 81.78 percent of the funding for student enrollment allocation.

Virginia ACTE supports funding for the Governor's STEM Academies and Governor's Health Sciences Academies, which prepare students for high-demand, high-wage, and high-skill careers in Virginia.

### Rationale

- Research demonstrates higher levels of learning and performance when students learn essential academic skills in a relevant context and when those skills are applied to real-world settings, as they are in CTE courses and programs.
- Secondary CTE programs build upon elementary STEM experiences and integrate STEM initiatives in all Career Clusters by teaching performance-based and team-based learning, critical thinking, problem solving, and the design process.
- Twenty-three Governor's STEM Academies have been implemented across the Commonwealth and are designed to expand options for students to acquire STEM literacy and technical knowledge and skills while earning an industry credential.
- Eight Governor's Health Sciences Academies are now in place and represent a partnership between public school divisions, healthcare institutions, the private sector, and institutions of higher education to create rigorous programs to prepare students for careers in the health sciences.
- Equipment funding for Governor's STEM Academies and Governor's Health Sciences Academies comes from the state level-funded equipment budget.
- There is a need to provide reliable, sustainable, and identifiable funding streams for the Governor's STEM Academies to ensure that labs are updated to meet the needs of rapidly changing curriculum and to provide a rigorous and relevant program of study based on industry needs.
- The 2016 General Assembly appropriated \$600,000 for Governor's STEM Academies and Governor's Health Sciences Academies and state-identified challenged schools.
- Governor's STEM Academies, Governor's Health Sciences Academies, and other STEM initiatives, all relevant to all Career and Technical Education programs, are growing.
- These academies provide options and experiences for students to acquire STEM literacy and other critical problem-solving skills, knowledge, technological literacy, performance-based instruction and assessment, and credentials that will prepare them for postsecondary education and for high-skill, high-demand, and high-wage careers in Virginia.

### Virginia ACTE supports the following recommendations to expand the integration of Virginia's Career and Technical Education curriculum with the Standards of Learning and STEM initiatives:

- 3.1 Virginia's policy leaders must improve support for a performance-based educational system that incorporates the standards for career and technological literacy, authentic assessment, and the infrastructure for college and career readiness in all public schools.
- 3.2 Virginia's policy leaders must recognize Career and Technical Education as an integral component of K–12 STEM initiatives and acknowledge CTE's unique ability to provide STEM instruction in secondary education in the commonwealth.
- 3.3 The General Assembly should continue to increase permanent line-item funding to support the Governor's STEM Academies and Governor's Health Sciences Academies.