

CTE Monthly

October 2014

CTE Quick Facts

Did you know?

► 57 percent of California Partnership Academy graduates fulfilled course requirements for admission to University of California or California State University systems, compared to 36 percent of graduates statewide.ⁱ

► Postsecondary CTE concentrators achieve significantly higher earnings than those who majored in academic fields, particularly students employed in an industry related to their program of study.ⁱⁱ

Public Support Strong for CTE

Public awareness of the need for CTE and career guidance is on the rise, as indicated by the results of the [2014 PDK/Gallup poll, part II](#):

- 87 percent of Americans agree that secondary students need more education on career choices, including 60 percent who strongly agree.
- More than three-quarters of Americans want a greater emphasis on preparing students for in-demand careers.
- More than 60 percent are in favor of requiring at least one internship per student during high school.ⁱⁱⁱ

In addition, the factors that respondents chose as most helpful in preparing students for the workplace will sound familiar to CTE advocates, including 21st-century skills such as dependability, persistence and teamwork as well as doing a real-world project that takes at least 6 months.

CTE excels at developing students' employability skills, helping them apply technical and academic skills to realistic workplace scenarios and preparing them for college and careers.

i Career Academy Support Network and California Department of Education, [Profile of the California Partnership Academies 2009-2010](#), October 2011.

ii Jacobson and Mokher, *Florida Study of Career and Technical Education*, 2014 as cited in the [2014 National Assessment of CTE Final Report](#).

iii Bushaw and Calderon, [The 46th Annual PDK/Gallup Poll of the Public's Attitudes Toward the Public Schools: Part II](#), Kappan Magazine, October 2014.

iv The Manufacturing Institute, [U.S. Manufacturing is the World's Eighth Largest Economy](#).

v Advanced Manufacturing Portal, [U.S. Manufacturing in Context](#).

vi Georgetown Center on Education and the Workforce, NRCCTE and NASDCTEC, [Career Clusters: Forecasting demand for high school through college jobs: 2008-2018](#), 2011.

vii Bureau of Labor Statistics, [Employment Projections: Replacement Needs](#).

viii Georgetown Center on Education and the Workforce, NRCCTE and NASDCTEC, [Career Clusters: Forecasting demand for high school through college jobs: 2008-2018](#), 2011.

Career Spotlight



CareerClusters®
PATHWAYS TO COLLEGE & CAREER READINESS

positive evolution of manufacturing over the past several decades in the United States. The Manufacturing Career Cluster includes career pathways ranging from Logistics and Inventory Control to Health, Safety and Environmental Assurance. With such a sweeping array of pathways to choose from, it comes as no surprise that the American manufacturing sector, when looked at on its own, ranks as the world's eighth largest economy.^{iv}

Although manufacturing is one of the most productive sectors of the U.S. economy—every \$1 spent generates \$1.35 in additional economic activity—the manufacturing industry was among the industries most impacted by the recent economic recession.^v Declines in employment hit their lowest point in 2009 and are projected to return to pre-recession levels by the end of the decade.^{vi} Approximately 2 million additional openings are expected in this same period from retirements

and other replacement needs of the sector.^{vii} Manufacturing is also experiencing a period of transformation and increasingly requires advanced technologies. As this trend continues, the educational requirements for these positions will increase. As one study has projected, more than 40 percent of manufacturing jobs will require some form of postsecondary education by 2018.^{viii}

In New Jersey, the [Middlesex County Vocational-Technical Schools](#) welding and machine tool technology programs, located in the district's Piscataway and East Brunswick campuses, prepare students to earn the American Welding Society's Level 1 Welder certification and also provide instruction for blueprint reading, machine theory, metallurgy, measuring techniques and computerized numerical control. Students work with a variety of fabrication materials from metal alloys to plastics, wood and other materials. Those who successfully complete the welding program of study have the opportunity to earn up to six postsecondary credits through an articulation agreement with Ohio Technical College. The programs partner closely with White Marine, a local ship repair and fabrication enterprise, to offer students valuable work-based learning opportunities. The company often hires students following their graduation.

Make CTE Funding a Priority in FY 2015

In July, the Senate Labor, Health and Human Services, and Education Appropriations subcommittee approved a Fiscal Year (FY) 2015 funding bill that would increase the Perkins Basic State Grant to \$1.123 billion, a \$5.4 million increase over FY 2014! We applaud the efforts of Chairman Tom Harkin and Ranking Member Jerry Moran in producing this bill with an emphasis on education and workforce training, as well as the 25 senators and 94 representatives who signed a letter calling for this increase in Perkins earlier this year.

We now call on Congress to work toward a bipartisan agreement on a long-term FY 2015 funding measure that builds upon the investment in Perkins included in the Senate subcommittee bill. It is essential that we make funding CTE a top priority for this fiscal year.

Program Spotlight

Center for Energy Workforce Development Energy Industry Fundamentals

To help grow the energy workforce and expose students to careers in energy, the Center for Energy Workforce Development has created the American National Standards Institute (ANSI)-accredited [Energy Industry Fundamentals \(EIF\) curriculum](#). It offers an overview of the electric and natural gas utility industry and the infrastructure for energy transmission, generation and distribution across 7 modules that can be delivered at the high school or community college level.



The course includes business models, regulations, types of energy and energy conversion, the transmission and distribution of generated power, emerging technologies and careers in the energy industry. After the first five modules (modules 6 and 7 are optional), students can take an assessment to earn the ANSI-accredited EIF credential.

The curriculum can be delivered in a variety of ways. For instance, at [Estrella Mountain Community College](#) in Avondale, Arizona, the course is taught through an instructor-led online format. This helps the students more easily digest the course material, so they can spend class time talking about real-world scenarios in the energy industry and doing relevant, interactive projects. Upon finishing the EIF course, students can pursue education for a more specific discipline, such as maintenance technician or power plant operator.^{ix}

Student Spotlight

Through his education at the [North Orange County Regional Occupational Program \(ROP\)](#) in California, Danny is on his way to achieving his dreams of a media career. Danny elected to take the ROP Computer Graphics and Design course after school in his senior year, during which he learned about electronic layout, design and illustration for preparing electronic and print-ready artwork.



According to Danny, the course gave him access to technology he would not have otherwise been able to use, such as the Adobe Creative Suite.

This material was approved for publication on the California Association of Regional Occupational Centers and Programs (CAROCP) website. The full story may be viewed at www.ROCPinspire.org.

After graduation, Danny enrolled full-time at Golden West College, studying digital media. He also freelances as a designer, using skills he gained at the North Orange County ROP, and continues to work on the YouTube channel he started with a ROP classmate.^x

CTE Supports Academic Coursetaking

CTE can engage students and help them gain academic knowledge and skills, in addition to technical and employability skills.



Research has found positive academic impacts from attending a CTE high school: Students attending CTE high schools in Philadelphia were more likely to successfully complete a college preparatory mathematics sequence, including Algebra I, Algebra II and Geometry, than those attending other schools in the district.^{xi}

Other research has shown how CTE-academic integration fosters achievement: The Southern Regional Education Board has found that high school students who take an integrated CTE and academic curriculum are more likely to meet college and career readiness goals than those taking an academic curriculum alone.^{xii}

ix Center for Energy Workforce Development, [Get Into Energy Update: Focus on Energy Industry Fundamentals](#), May 2014.

x California Association of Regional Occupational Centers and Programs [website](#).

xi Neild, Boccanfuso and Byrnes, [The Academic Impacts of Career and Technical Schools: A Case Study of a Large Urban School District](#), Johns Hopkins University Center for Social Organization of Schools, 2014.

xii [Southern Regional Education Board](#), High Schools That Work 2012 Assessment.



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This newsletter is a collaborative publication of the Association for Career and Technical Education and the National Association of State Directors of Career Technical Education Consortium. It aims to keep Congress informed about CTE events, data, best practices and student success stories.