



**Oregon Department of Education  
Office of Educational Improvement and Innovation**



**Program Brief on  
Career and Technical Education**

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## Overview

### What is unique about Career and Technical Education?

Career and technical education (CTE) is an essential component of the total education system in Oregon and is critical to the state's ability to compete in a global economy. CTE occurs in a variety of settings and levels including middle school career exploration, secondary program, postsecondary certificates and degrees, and customized training for employees in the workplace. CTE also provides students and adults (1) the technical skills and knowledge necessary to succeed in occupations and careers, (2) the cross-functional or workplace basics necessary for success in any occupation or career (such as problem solving, teamwork, and the ability to find and use information) and (3) the context in which traditional academic skills and a variety of more general educational goals can be enhanced.

## Program Focus

### 1. Integral component of the total educational system, offering career-oriented benefits for all students.

Career and technical education offers benefits for all students ranging from providing a contextual environment for developing higher-level academic skills to providing specific industry certification in an occupational field. CTE offers educational benefits to students pursuing careers requiring specific technical skills as well as providing a strong foundation for those pursuing a traditional four-year (or more) degree. It is an integral component of the total educational mission, contributing to the goals of high academic achievement, student retention and motivation, and the development of general workplace and life skills. Because CTE is integral to the total educational system, partnerships with other educators, as well as business professionals, are essential. Career and technical education has a long and successful history of enhancing student leadership, teamwork, and citizenship skills through Career and Technical Student Organizations.

### 2. Draws its curricula, standards, and organizing principles from the workplace.

It is this principle that connects and defines all career and technical education. General education curriculum is primarily drawn from one of two sources: (1) the academic discipline or (2) the workplace. Career and technical education is unique because it draws its curriculum primarily from the workplace. The workplace provides the context, objectives, and organizing concepts for instruction and assessment. The workplace also defines the standards of performance necessary, including those required for academic, technical, and employability skills.

### 3. Maintains high levels of excellence through identification of academic and workplace standards, measurement of performance (accountability), and high expectations for student success.

Career and technical education focuses on the standards required in the workplace. This includes high academic standards as well as technical standards. Standards are measured through a variety of validated tools and accountability systems.

### 4. Closing the achievement gap.

With the passage of the Carl D. Perkins Career and Technical Education Act of 2006, Congress required that CTE students be held to the same academic standards as all other students. This change in policy, whereby career and technical education was no longer viewed as a second chance educational system but a partner in the first chance system, is embraced by the CTE community. Building on efforts to increase the integration of academic and CTE coursework, career and technical education has been successful in impacting student academic achievement.

### 5. Contributes to Oregon's PK-20 initiative.

CTE speaks to the issues that contribute to Oregon's PK-20 initiative and the Unified Educational Enterprise (UEE). CTE is more than just technical skill attainment. It has a long history of designing and implementing innovative strategies that engage students in a coherent and seamless lifelong learning process. These innovations include, but are not limited to:

- Academic and technical skill integration,
- Applied learning, and
- Seamless transition practices.

## Effective Practices and Models

Career and technical education bridge the education and workforce development systems. CTE teaches technical skills to students to prepare them to succeed in the workforce; however, it also provides a relevant context to engage students in school and to help them attain necessary academic skills. Because of the variety of benefits to students, CTE leaders have chosen to hold the system accountable to each of these benefits rather than just looking at technical skill attainment. Quality CTE programs including the following criteria:

- Curriculum, instruction and student evaluation systems provide a sequential program of study.
- Connections with postsecondary education assure that the program leads directly to advanced learning opportunities.
- Leadership development, citizenship responsibilities, career preparation and personal growth are all included in the program.
- School and community support continuing professional development of teachers and counselors.
- Access to the program is available to all students.
- Connections are in place with business, industry and labor to support continuous improvement.
- School administration supports long-range planning and continuous improvement.
- Comprehensive guidance and counseling is an integral part of the program.

## Program Results

Oregon offer students Perkins-eligible CTE programs in 186 school districts and all 17 community colleges. Schools organize their approved CTE programs into one of six broad career areas – (1) Agriculture, Foods & Natural Resources; (2) Arts, Information & Communication; (3) Business & Management; (4) Health Services; (5) Human Resources and (6) Industrial & Engineering Systems.

- Over 47% of Oregon high school students enroll in an approved CTE program.
- Students completing 2 or more credits in a CTE career area perform above the state average on Oregon's 10<sup>th</sup> grade assessments in reading, writing and mathematics.
- Over 60% of 11<sup>th</sup> and 12<sup>th</sup> grade high school CTE students participate in dual credit programs that allow students to receive both high school and community college credit.
- Special populations, minority, disabled and economically disadvantaged students participate in CTE at the same levels as in the general population.

High schools and community colleges in every region across Oregon have implemented and sustained quality CTE programs. Examples of the range of CTE program offered include:

### High School CTE Programs

- The Reynolds High School Automotive Technology program integrates rigorous academic content with industry-recognized technical skills. The program content is based on the industry standards from the National Automotive Technician Education Foundation (NATEF) and the National Institute for Automotive Service Excellence (ASE). Through faculty review of the industry-standards, the automotive and science teachers identified sufficient rigor within the industry standards to award academic physics credit for students completing the Automotive program.
- Taft High School in the Lincoln County School District has an award winning Culinary Arts program. The program is based on the industry standards from the National Restaurant Association's ProStart program. Students operate a school-based catering business which requires student proficiency meeting the career-related learning standards and technical knowledge and skills. Students also have the opportunity to display their proficiency through ProStart-sponsored culinary competitions.
- Perrydale High School incorporates student leadership opportunities in their Agriculture Science and FFA program. Perrydale has been recognized nationally for their community-wide food drive led by FFA students. This quality CTE program is an example of taking the lessons learned in the classroom and putting them into action in the community.
- The majority of high school CTE programs offer Tech Prep college credit opportunities where students earn and transcript community college CTE credit for their high school coursework. The high school CTE course must meet the content standards of the community college CTE course with a signed articulation agreement describing the college course requirements and the grading policy. Access to Tech Prep opportunities is critical for all CTE students in Oregon. High schools in Northeastern Oregon – Cove, Enterprise, LaGrande – have been able to offer Tech Prep access and college credit opportunities for their CTE students by establishing articulation agreements with Walla Walla Community College. Rainier and Clatskanie High Schools have done the same with Lower Columbia Community College in Longview.

### Community College CTE Programs

- Portland and Mt. Hood Community Colleges have demonstrated the power of industry partnership for high-quality CTE programs. Both colleges use manufacturer-specific automotive training programs. Portland partners with General Motors; Mt. Hood partners with Ford. Both manufacturers have invested equipment and employee resources into the instructional facilities that are used by students during the day and by the manufacturer's dealers for technician skill updating in the evenings.
  - Columbia Gorge Community College is an example of a college's role in addressing an economic and workforce development demand. CGCC's program development for wind generation technicians has been a collaborative effort with economic development and wind generation operators.
  - Oregon community colleges collaborate to meet the needs in other high demand areas. Each of the accredited community college Health Care programs has addressed the need to expand access for training programs to all parts of Oregon.
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### Regional CTE Partnership Models

- Lane Community College, Lane Educational Service District, and Lane County School Districts, Apprenticeship, Trades, and Business community are partnering to design and operate the Regional Technical Education Center (RTEC). Existing local organizations with expertise related to collaborative workforce development and interagency efforts (e.g., Lane Workforce Partnership, Lane Metro Partnership) are leveraging resources for the Center. RTEC is providing the quality technical training and education in the region leading to high-skill, high-wage careers and regional economic development.
- The Center for Advanced Learning (CAL) is a charter school started and operated by the Centennial, Corbett, Gresham-Barlow and Reynolds school districts. CAL students are dual enrolled. They alternate days between their home high school and CAL. At CAL students choose between three career areas: Medical/Health Sciences, Information Technology and Engineering/Advanced Manufacturing. For every successfully completed course students receive college credit and also earn credits that count toward graduation from their home high school. Teachers at CAL come from local high schools and from the career field students may want to pursue.

### CTE Research and Development Projects

- **Math-in-CTE**—Lane ESD is one of only four sites nationwide participating in the 2006-2007 Math-In-CTE Technical Assistance Program. This innovative project developed by The National Research Center for Career and Technical Education (NRCCTE) at the University of Minnesota, is recognized by the U.S. Department of Education, Office of Vocational and Adult Education. Math-in-CTE utilizes a new professional development and teacher leadership model that pairs a career and technical education (CTE) teacher with a high school math teacher to explicitly teach and reinforce math concepts in the given career field. Nationally, the initiative has involved over 200 teachers and 4,000 students in 12 states..
- **Technical Skill Measurement**—Perkins IV requires states to implement valid and reliable measurement of technical skill attainment using industry-based standards and, to the degree possible, resulting in an industry-recognized credential or certificate. The High Desert ESD region is conducting a pilot to measure technical skill attainment using established assessments from the National Occupational Competency Testing Institute (NOCTI). Central Oregon CTE programs will be assessing in Spring 2007 student attainment of technical skills in 17 different occupational areas.

### Related Links and References

- National Association of State Directors for Career and Technical Education Consortium (NASDCTEc): <http://www.careertech.org>
  - Association for Career and Technical Education (ACTE): <http://www.acteonline.org>
  - National Tech Prep Network (NTPN): <http://www.cord.org/ntpn/>
  - College and Career Transition Initiative (CCTI): <http://www.league.org/league/projects/ccti/index.html>
  - Oregon Student Leadership Development Center: <http://www.oregonsldc.com/foundation.htm>
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