

Warren Technical High School

Denver, Colorado

Focus on CTE Courses for Academic Credit

Colorado Innovation Profile

Colorado's Career and Technical Education programs are developing a seamless system of education that ensures ease in student transition from one educational system to another and from one level of instruction to another.

There are eight key strategies that Colorado CTE teachers and administrators are applying:

- *Implementing Career and Technical Education Plans of Study;*
- *Strengthening Accountability for Results;*
- *Moving To a Project-Based Focus for Local Planning and Implementation;*
- *Assessing Career and Technical Skills;*
- *Integrating Academic and CTE Skills and Knowledge;*
- *Transforming Professional Development, Recruitment and Retention of CTE Teachers;*
- *Ensuring Effective Instruction and Strategies for Special Populations; and*
- *Connecting CTE to Employers and Workforce Priorities.*

The Colorado Community College System has prepared a series of "Innovation Profiles" that describe how Colorado's schools, community colleges and community partners are creating innovative strategies to improve their programs on behalf of students.

Key Innovation Activity

Related Strategy: Integrating Academic and CTE Skills and Knowledge

Warren Tech is a regional CTE high school serving the Jefferson County School District in the Denver Metropolitan Area. To make it possible for students to earn all their required academic credits toward high school graduation, Warren Tech has developed a wide array of fully integrated CTE and academic courses. These courses are recognized for academic credit on the student's transcript by the school district.

Background

In order to receive a diploma from the Jefferson County School District, students must complete 24 credits in grades 9-12 in the following areas of instruction:

- English Language Arts – 4 credits
- Social Studies – 3 credits (*including history, geography, civics, and economics*)
- Mathematics – 3 credits (*at least 1 credit must be at the level of algebra I or above*)

- Science – 3 credits
- Physical Education/Health – ½ credit
- Fine/Practical Arts – ½ credit
- Approved electives – 8 credits

A credit is the equivalent of the completion of a full-year course. A half-credit is the equivalent of the completion of a semester course.

Jefferson County high school students who enroll at Warren Tech can choose from 25 CTE programs, and anyone who has graduated from high school, received a GED, or is age 21 or older may enroll in certain Warren Tech programs through Red Rocks Community College (RRCC).

Programs offered at Warren Tech are half-day programs, so students who attend must carefully manage their schedules to ensure they can complete the required number of academic and elective credits needed to graduate from high school. As academic requirements for students are increased, students may feel they have less time for elective courses such as CTE.

Beginning in 2006, Warren Tech principal Joe Shaw decided that the school needed to address this situation directly or CTE courses would be squeezed out of the curriculum and student participation at Warren Tech would suffer. To make it easier for students to continue participating in its CTE programs (and other CTE courses offered in comprehensive high schools), Warren Tech leadership and faculty began systematically developing an array of integrated CTE/academic courses.

As of summer 2008, Warren Tech offers the following programs that count for either full or partial academic credit on the student's high school transcript (not just for elective credit):

- Auto Body – Principles of Chemistry and Physics
- Auto Technology - Algebra
- Biotechnology – Molecular Biology, Genetics, Microbiology
- CAD/Drafting – Geometry Principles (0.5 credit in Geometry)
- Computer Technology/Video Game Design – Computer Science Math
- Cosmetology – 3 Separate Programs – Anatomy with Lab
 - Esthetics (1 credit in Science)
 - Hairstyling (1 credit in Science)
 - Nail Tech (1 credit in Science)
- Dental Assisting – Anatomy with Lab (.5 credit in Science)
- Fire Science – ½ credit of PE and Science (pending)
- Graphic Design – Language Arts
- Health Sciences – Anatomy and Physiology & English/Language Arts
- Horticulture/Floral Design – Plant and Soil Science
- Hospitality/Event Planning – Language Arts
- Landscape Operations (1 of 6 total program credits can be Science)
- Multimedia – Language Arts
- Power Equipment & Motorcycle Technology – Physics 1 credit in Physics)
- Precision Machining Technology (1 of 6 total program credits can be Math)
- TV Video – Language Arts

Warren Tech is committed to academic integration to ensure that multiple pathways stay open for students. Recently, Motorcycle Technology was approved for a full Physics credit, and Multimedia was approved for a language arts credit.

To develop its integrated CTE/Academic courses, Warren Tech follows a prescribed development process that includes the following steps:

- Each CTE course must follow a course outline template that reflects units of instruction, explicit information on literacy standards, and academic content standards;
- Assessments in each course measure student learning in the core academic content, as well as CTE content;
- The course is reviewed by school district academic content specialists to validate the rigor of the academic content and alignment to the district's standards;
- The course materials are formally presented to the district's content curriculum coordinator;
- Based on input by the content curriculum coordinator, the course is reviewed, revised, and finalized;
- The finalized course is presented to the content curriculum director with a copy of the request for approval by the district's DLEA (Department of Learning and Education Achievement) Executive Director and Secondary Reform Coordinator;
- The curriculum is reviewed and approved by the district's chief academic officer;
- The newly approved curriculum is presented to the district's high school principals and high school counselors;
- Warren Tech coordinates with the school district Secondary Reform Coordinator to identify class/course numbering to be used to award academic credit;
- Warren Tech conducts an annual review of curriculum content against new CTE developments and/or revised district content standards.

Many of Warren Tech's academic crosswalk documents can be found at the school's website at www.warrentech.org. The academic crosswalk information is found under the "WT Info" section.

Key Factors in Implementation

A formalized Curriculum Development and Review Process

Warren Tech's disciplined and coordinated curriculum crosswalk and development process is essential to gaining buy-in of school district officials, high schools principals and school counselors. Engaging multiple stakeholders is essential to build an understanding of and support for the integrated CTE/Academic courses.

Insisting on Program Rigor

One strategy that helps Warren Tech students excel is offering quality programs that raise the level of rigor. Warren Tech, like many technical and vocational schools, had historically been thought of by many educators in the county as an option only appropriate for students that have not succeeded at comprehensive high schools. Through the intensive academic/CTE integration project within the Jefferson County School District, as well as its collaboration with Red Rocks Community College faculty on dual enrollment programs, Warren Tech is working to change that image, so that CTE is perceived as a rigorous pathway toward academic proficiency, college readiness and workplace success.

Results

Warren Tech offers 25 programs, 20 of which offer Approved Academic Credit that meets core academic graduation requirements. It is very possible that a Warren Tech student could simultaneously earn between one to three academic credits per year in one or more academic content areas.

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This Innovation Profile was created by **Meeder Consulting, LLC** (www.meederconsulting.com), a firm specializing in leadership and aligning education systems with workforce needs, on behalf of the Colorado Community College System (CCCS). CCCS administers and leads career and technical education in Colorado on behalf of secondary education, community colleges and other CTE providers. Information about CTE in Colorado can be found at www.cccs.edu and www.ColoradoStatePlan.com.