

Purpose and Summary

Tech Prep in Minnesota is an established sequenced program of study designed to help students gain academic knowledge and technical skill in the last two years of high school, as they prepare for technical programs of study in college or apprenticeships. The program leads to an associate degree, an apprenticeship certificate or a baccalaureate degree in a technical field and employment in high-wage, high-skill careers. College credit for qualifying courses is available within some Tech Prep programs. Tech Prep is a federal grant program under the Carl D. Perkins Vocational and Technical Education Act of 1998.

The Minnesota program offers students a wide variety of opportunities to explore careers and prepare for college. The consortia which link colleges and high schools cover a wide portion of Minnesota. The list of partnerships is located at: <http://www.cte.mnscu.edu/hstocollegetrans/consortiaresources/index.html>

The purpose of this resource document is to provide examples of existing program examples that meet the new Carl Perkins requirements.

1. The CTE high school students are enrolled in academic and technical **programs that lead to achieving a high school graduation credential.**
2. The program provides CTE high school students the **knowledge and skills to become college and work ready.**
3. The program provides high school and college CTE students with **credential-based skill proficiency.**
4. The CTE educational programs prepare students for **high skill, high wage, and high demand careers.**
5. The program assures that CTE **students make the transition to further education or employment** at various self-determined **stop-out points** along a chosen career path.

Highlights of the cluster pathway examples

- Several of the pathway examples have relationships directly from the high school to universities and baccalaureate programs.
- At least one of the examples has a paid internship in its curriculum to provide students with an opportunity at experiential learning where they can decide if this career is for them.
- One state in a bold move to address the need for teachers in its area, developed relationships between over 100 high schools and numerous universities and colleges. The goal is to introduce large numbers of young persons to the teaching profession.
- Several of the examples allow students to fulfill an occupational certification while in high school and then work in this livelihood while their credits transfer to an educational program with a path to a superior credential and further skilled occupation.
- Industry is very involved in many of the examples by providing facilities for labs, internships, advisory committee members and donations for curriculum and staff.
- All of the examples prepare students for high skill, high wage and high demand careers. In at least one instance where the wages and employment were not substantial at the two year credential level, the desired program outcome was a baccalaureate degree and professional employment.

- Two plus two plus two programs are numerous and successful.
- Evidence was presented that students participating in these programs were graduating from high school at an increased rate compared to students in the typical high school curriculum.

Clusters, Pathways and Program examples

Agriculture, Food and Natural Resources Pathway

Harrisburg Area Community College (HACC) agribusiness program,

College in the High School' effort that allows qualified high school juniors and seniors to select special courses taught by their local agricultural educators who have been qualified by HACC. Students who successfully complete the class work earn three college credits which can be transferred to approximately 70 percent of the colleges and universities throughout the United States. <http://www.cte.mnscu.edu/researchcorner/Future%20Work/PA%20Agribusiness.pdf>

Architecture and Construction Pathway

Eastland-Fairfield Career and Technical Schools Architecture & Construction Management Tech Prep program

The Architecture & Construction Management Tech Prep program is a two-year commitment designed to develop and prepare juniors and seniors to pursue a career in the various fields of the design and construction industry. There is an academic focus on integrated education, having a math and science component as part of each year of the program graduates are pursuing careers in: Architecture, Engineering, Landscape Architecture, Interior Design, Construction Management and others.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Twelve%20Architecture.pdf>

Arts, AV Technology and Communications

Academy of Careers and Technology, Graphics Communications Program

The graphics communication program at the Academy trains students to plan, design, layout, and produce a variety of print materials. It includes training for students in the use of computer applications for desktop publishing. The school has articulation agreements with Southern West Virginia Community and Technical College and West Virginia University Institute of Technology. The associate degree Printing Technology curriculum covers basic printing technology processes such as offset lithography, gravure, flexography, and screen printing as well as camera, layout and stripping, desktop publishing, electronic pre-press, and bindery.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Academy%20of%20Careers%20and%20Technology.pdf>

Business Management and Administration

Miami Valley Tech Prep consortium Business Technology Cluster

MVTPC has a strong partnership with Sinclair Community College. Sinclair provides Tech Prep students with the opportunity to earn college credits in high school, as well as offering a scholarship for students meeting specific qualifications. The Miami Valley Tech Prep consortium Business Technology Cluster program opportunities are designed as: a college-bound program. Seamless education starting in grade 11 through an Associate degree and can lead to a bachelor's degree. High level, college prep academics taught with a fun, hands-on approach. High Tech career training that begins in high school. Technical study in a choice of ten pathways and a partnership between education and business & industry to build the high skilled workforce of the future.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Miami%20Valley%20Tech%20Prep%20consortium%20Business%20Technology%20Cluster.pdf>

Education and Training

Teacher Academy - Senior Only, Tech Prep Collaborative Program of EHOVE and BGSYU Firelands College

Seniors enrolled in this program learn what it is like to be a teacher by spending time in area elementary schools. These students attend their associate high schools' academic courses in the morning or afternoon, then serve as interns in elementary school classrooms for the rest of the day. Once a week, they attend a seminar to learn a host of competencies related to teaching. Under the direction of a teacher, they prepare lesson plans, give instruction and do assessments. The internships are totally relevant to their future and help them choose their career path within the field of education. The hands-on experience, along with the seminar, will put them ahead in college. The Teacher Academy serves about 25 students a year. In the first two years, 85 percent of the students continued in a postsecondary teacher training programs. Students feel strongly that the academy helps them make career choices.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Teacher%20Academy.pdf>

Finance

Academy of Finance Northeast High School of St. Petersburg, FL

The Academy of Finance will: Make you aware of career opportunities in the financial field, provide the skills necessary to work in the financial service industry, Increase your knowledge and appreciation of basic financial concepts and Provide hands on experience by working in a real branch of a credit union. This program has a transfer relationship with St. Petersburg College towards Financial Services AS program and or a Bachelor Applied Science in Banking. Students completing this innovative (*BANK-BAS*) program will be prepared for careers in a variety of banking and financial services environments. Graduates will be prepared for potential positions such as: Asset Managers, Banking Center (Branch) Managers, Commercial Bankers/Lenders, Credit Analysts, Financial Analysts, Financial Planners, Investment Bankers, and Private Wealth Managers.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Academy%20of%20Finance.pdf>

Government and Public Administration

Valencia Community College Option – Paralegal Articulated A.S. to B.S. Career Path

Career Pathways are available in several Career Clusters for Orange and Osceola District school students. These career themes help schools ensure that students acquire the knowledge and skills necessary for multiple career options within each career cluster. Recommended academic and technical curriculum is identified on each career pathway. Students have an opportunity to earn college or technical center credits for work completed in high school. A specific pathway assessment is required for all areas. Court Reporting prepares you for employment as an official or freelance court reporter, scopist, transcriptionist and captioner/captionist. Legal Administrative Specialist prepares you for employment as a legal secretary. Voice Writing-Court Reporting prepares you for employment as a voice writer/voice writer assistant. A transfer agreement permits credits to transfer to University of Central Florida in the Bachelor of Applied Science. Options exist in law enforcement, corrections, justice administration and security administration.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Valencia%20Community%20College%20Option.pdf>

Health Science

Lakeland Community College Allied Health Technologies Tech Prep Program

Senior high school students study class such as medical terminology class which gives them college credit from Lakeland Community College. These credits are offered during their Med

Tech related class which gives them a head start next year. Seniors also are interviewed for medical positions at Hillcrest Hospital and many other doctor and dental offices. This is a part of their program and they will be employed this entire year. Other seniors are busy learning medical skills in the classroom this semester.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Lakeland%20Community%20College%20Allied%20Health%20Technologies%20Tech%20Prep%20Program.pdf>

Hospitality and Tourism

Montgomery College Hospitality Tech Prep Program .

The demand for trained professionals in the hospitality industry continues to explode. In the United States, tourism is currently the third largest retail industry, behind automotive and food stores. Travel and tourism is the nations largest services export industry and one of America's largest employers. Students can customize their studies by taking one of three concentrations. The concentrations are: Food and Beverage Management, Supervision and Management, and Meeting or Conference and Event Planning. Both programs have industrial certification. The hotel/travel pathway meets the requirements for ServeSafe certification. And, the restaurant management pathway meets the ServeSafe and Prostart certification

requirements. <http://www.cte.mnscu.edu/researchcorner/Future%20Work/Montgomery%20College%20Hospitality%20Tech%20Prep%20Program.pdf>

Human Services

Sauk Valley Community College Social Services Program

Courses in the Human Services pathway at Morrison High School have a transfer agreement with the Social Services program at Sauk Valley Community College. Seniors may enroll in courses at Sauk Valley Community College for both high school and college credit. Selected courses may not duplicate those already offered through Morrison High School and must be approved by the principal prior to registering for the class at either Morrison High School or Sauk Valley.

The Sauk Valley Community College social service curriculum is designed for students interested in obtaining employment in the broad field of human services. The social service program provides a comprehensive course of study, including human relations, group process, social problems, social work theory, policies, and skill development. Second year students will have an opportunity to apply and expand their knowledge through two supervised, on-the-job, practicum experiences.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Sauk%20Valley%20Community%20College%20Social%20Services%20program.pdf>

Information Technology

Yorktown State University Information Technology Program

Yorktown State University offers programs to train computer professionals at all levels. Their programs are coordinated to local Ohio high schools where students can take courses preparing them for work or for continuing their education through postgraduate certification programs.

The [Mahoning Area Consortium](http://www.mahoningareaconsortium.org) (MAC) Tech Prep programs work with 18 area high schools and Youngstown State University <http://cis.ysu.edu/programs/infot.htm> to create seamless college prep career-technical education programs that begin in the junior year or high school and continue through an associate or bachelor's degree program. College Tech Prep programs stress mathematics, science, communications, and technology. They also emphasize teamwork, applied learning, work-site learning, critical thinking, and problem solving.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/The%20Mahoning%20Area%20Consortium-2.pdf>

Law, Public Safety, Corrections and Security

Four County Career Center and University of Toledo Criminal Science

One of the new Tech Prep programs at the Northwest Ohio Tech Prep group is Criminal Justice Science. Multiple career opportunities are available through federal, state, local and private agencies in a variety of cluster careers such as environmental, emergency management, transportation and corporate security. Careers such as police officer, deputy sheriff, highway patrol, corrections officer, metro parks, FBI, ATF, drug enforcement, forensic science and the US Military, all serve to provide public safety under the umbrella of Homeland Security. Articulation agreements are in place with local colleges include Owens Community College and the University of Toledo.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Four%20County%20Career%20Center%20and%20University%20of%20Toledo%20Criminal%20Science.pdf>

Manufacturing

College of the Mainland Process Technology and Collegiate High School for Petrochemical Careers

Collegiate High School (CHS) is an early college high school for Galveston County Collegiate High School in Galveston County enables students, who remain enrolled in their local high school to complete their school day on the college campus. CHS offers rigorous academic instruction, career guidance, academic counseling, and work-based learning opportunities. By optimizing dual credit opportunities, students are able to complete high school graduation and associate degree requirements simultaneously. As one of only three of the 2006 EWSLA Winners, the program at Gulf Coast Tech Prep Consortium was recognized as a top program in the United States.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Process%20Technology%20and%20Collegiate%20High%20School%20for%20Petrochemical%20Careers.pdf>

Marketing, Sales and Promotion

Fashion Institute of Technology (FIT) Tech Prep Program

The FIT Tech Prep Program, established in 1991, is a partnership program between the Fashion Institute of Technology and several high schools in New York City. The program is geared toward high school juniors and seniors who are interested in pursuing college majors or careers in Advertising and Marketing Communications, Fashion Merchandising Management, Production Management: Fashion and Related Industries, and Textile Development and Marketing. Eighty-five percent of FIT Tech Prep students graduate from high school compared to 57% in the New York City general population.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Fashion%20Institute%20of%20Technology.pdf>

Science, Technology, Engineering and Mathematics

MiraCosta College Biotechnology Pathways

The goal of this plan is to develop and implement a model program to prepare young people for the increasing opportunities in biotechnology, a dynamic and high growth industry in the US and the San Diego area that suffers from a workforce deficiency. Students also select a Path and choose from Laboratory Assistant, Bioprocessing Technician, or Biotechnology Research and Development (R&D) Technician. Students may also earn an associate degree by completing additional general education courses, or apply your coursework to a bachelor's degree. Many biotechnology companies encourage and support further education for their employees. MiraCosta College is one of five Centers of Biotechnology Excellence named by the U.S. Department of Labor.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Action%20Plan%20for%20Higher%20Education.pdf>

Pittsburgh Technology Council Life Sciences Pipeline Initiative

State-funded Workforce Leadership grants have supported the efforts of Catalyst Connection, the Pittsburgh Technology Council and partners to create and further expand the Southwestern Pennsylvania Life Sciences Workforce Pipeline 2+2+2 program since the program's inception in January 2003. Through the Pennsylvania Department of Community and Economic Development (DCED) Workforce Leadership funding, Catalyst Connection and the Pittsburgh Technology Council have been able to form and lead a regional coalition of biotechnology industry stakeholders and educational institutions to develop a workforce pipeline in the life sciences. The goal of the 2+2+2 program is to provide students in the region with applied biotechnology skills through streamlined curriculum that spans high school, two-year community college and four-year degree programs. Junior and senior students at Perry Traditional Academy and McKeesport Area School District have the opportunity to enter the first segment of the program in high school followed by two years of study at CCAC and subsequently complete their final two years of training at Duquesne University.

<http://www.cte.mnscu.edu/researchcorner/Future%20Work/Life%20Sciences%20Pipeline%20Initiative.pdf>

Transportation, Distribution and Logistics

North Harris Montgomery Community College District, Cy-Fair College, Logistics Management Program

The Career and Technology Education program in the Aldine Independent School District near Houston, Texas offers courses in Business Education that can be part of the cooperating college degree programs. The AAS degree in logistics management at Cy-Fair College <http://dstc.nhmccd.edu/6256/> is a four-semester program consisting of courses from the core academic area, business management and logistics management. A certificate called a First Line Logistics Leader Certificate is offered at Kingwood College and Cy-Fair College. Additional courses in logistics are included in the AAS degree. They are Principles of Traffic Management, Domestic and International Transportation, and Economics of Transportation and Distribution. Logistics management is a business management program that prepares graduates for employment in the areas of logistics management, inventory control, materials management, and distribution. <http://www.cte.mnscu.edu/researchcorner/Future%20Work/Logistics%20Management.pdf>