Career And Technical Education

ISD 709
February 10, 2015

Career And Technical Education Mission

Provide Technical Training And Experience Leading To Career Success And Life-long Learning

Our Five Goals
- **Goal 1:** Designing Programs Of Study
- **Goal 2:** Effectively Utilize Employer, Community And Education Partnerships
- **Goal 3:** Improve Services To Special Populations
- **Goal 4:** Provide A Continuum Of Service Provisions For Enabling Student Transitions
- **Goal 5:** Sustain The Consortium Structure Of Secondary And Postsecondary Institutions

Our Guiding Principles

- Career & Technical Education and academic education must be integrated in a more comprehensive way.
- College and work readiness skills are one and the same.
- Each student needs at least some education or advanced training past high school, whether community and technical college, university, industry certification, or advanced training through work.
- Federal Perkins funding for Career & Technical Education is not an entitlement at either the state or local level.
- All education spending must be connected with student success outcomes.
- High schools and colleges should continue Career & Technical Education programs and activities that have worked well.
- Career & Technical Education must be strategically placed within the broader vision, mission and goals for education within the State of Minnesota.

Our Basic Beliefs About Learning

We believe …

Career and Technical Education is a vital educational component for all students.

Students need career exploration and training to prepare for their futures.

Student performance and achievement are the measures of our accountability.

Students should strive to achieve at their highest potential, which is essential for quality learning.

Co-curricular activities serve a vital role in education.

Communication and networking between staff and business partners is vital to program development.

Minnesota Career Fields, Clusters & Pathways

Marketing, Sales, and Service
- > Buying and Merchandising
- > Distribution and Logistics
- > E-Marketing
- > Management and Entrepreneurship
- > Marketing Communications and Promotion
- > Marketing Information Management and Research
- > Professional Sales and Marketing

Business, Management, and Administration
- > Administrative and Information Support
- > Business Analysis
- > Business Financial Management and Accounting
- > Marketing
- > Human Resources
- > Management

Finance
- > Banking and Related Services
- > Business Financial Management
- > Financial and Investment Planning
- > Insurance Services

Hospitality and Tourism
- > Lodging
- > Recreation, Amusements and Attractions
- > Restaurants and Food/Beverage Services
- > Travel and Tourism

Agriculture, Food, and Natural Resources
- > Animal Systems
- > Agribusiness Systems
- > Environmental Service Systems
- > Food Products and Processing Systems
- > Natural Resources Systems
- > Plant Systems
- > Power, Structural, and Technical Systems

Arts, Audio/Video Technology, and Communications
- > Audio/Video Technology and Film
- > Journalism and Broadcasting
- > Performing Arts
- > Printing Technology
- > Telecommunications
- > Visual Arts

Information Technology
- > Information Support and Services
- > Network Systems
- > Programming and Software Development
- > Web and Digital Communications

CAREER FIELD — Agriculture, Food, & Natural Resources

CAREER FIELD — Business, Management, & Administration

CAREER FIELD — Arts, Communications, & Information Systems

Foundation Knowledge and Skills
Academic and Technical Literacy

Employability • Ethics • Systems
Teamwork • Career Development
Problem Solving • Critical Thinking
Information Technology Application
Legal Responsibilities • Communication
Safety, Health and Environment
Social Studies • Math • Science
English • Personal Finance

Law, Public Safety, Corrections, and Security
- > Correction Services
- > Emergency and Fire Management Services
- > Law Enforcement Services
- > Legal Services
- > Security and Protective Services

Human Services
- > Consumer Services
- > Counseling and Mental Health Services
- > Early Childhood Development and Services
- > Family and Community Services
- > Personal Care Services

Government and Public Administration
- > Revenue and Taxation
- > Foreign Service
- > Governance
- > National Security
- > Planning
- > Public Management and Administration Regulation

Education and Training
- > Administration and Administrative Support
- > Professional Support Services
- > Teaching/Training

CAREER FIELD — Human Services

CAREER FIELD — Engineering, Manufacturing, & Technology

Health Science Technology
CAREER FIELD

Health Science
- > Biotechnology Research and Development
- > Diagnostic Services
- > Support Services
- > Health Informatics
- > Therapeutic Services

Transportation, Distribution, and Logistics
- > Facility and Mobile Equipment Maintenance
- > Health, Safety, and Environmental Management
- > Logistics Planning and Management Services
- > Sales and Services
- > Transportation Operations
- > Transportation Systems/Infrastructure Planning, Management, and Regulation
- > Warehousing and Distribution Center Operations

Architecture and Construction
- > Construction
- > Design/Pre-construction
- > Maintenance/Operations

Manufacturing
- > Production
- > Manufacturing Production Process Development
- > Maintenance, Installation, and Repair
- > Quality Assurance
- > Logistics and Inventory Control
- > Health, Safety, and Environmental Assurance

Science, Technology, Engineering, and Mathematics
- > Engineering and Technology
- > Science and Math (Investigative, Informational, and Educational)

Minnesota STATE COLLEGES & UNIVERSITIES

Minnesota Department of Education

Legend: ■ = Career Cluster   > = Career Pathway   Explanation provided on reverse side.

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October 2007

2014–2015 CTE Courses And Grade Level

Business, Management, And Administration

      Computer 6

      Computer Application 8

      Computer Topics 8

      Computer Graphics (9–12)

      Business And Personal Finance (10–12)

      Marketing I, II (10–12)

2014-2015 CTE Courses And Grade Level

Agriculture, Food, And Natural Resources
Plant Science I, II (9-12)
Forestry, Fish And Wildlife II (9-12)

2014-2015
CTE Courses And Grade Level

Arts, Communication, And Information Systems
Graphic Arts I, II, II (9-12)
Sound And Motion (9-12)

2014-2015 CTE Courses And Grade Level

Engineering, Manufacturing, And Technology
- PLTW 7 – Industrial Tech
- PLTW 8 – Industrial Tech
- CAD For Architecture (9-12)
- CAD For Engineering And Industry (9-12)
- Civil Engineering and Architecture (9-12)
- Construction Technology I, II, III (9-12)
- FAB Lab (9-12)
- Introduction To Engineering Design (9-12)
- Woodworking Technology And Manufacturing (9-12)
- Automotive I, II, III (9-12)

2014–2015 CTE Courses And Grade Level

Health Science

Introduction To Nursing Home Health (11–12)
Medical Occupations (11)

2014-2015 CTE Courses And Grade Level

Human Services
   FACS 7
   FACS 8
   Advanced Deli Management (9-12)
   Classical Cooking (9-12)
   Classical Line Cooking (9-12)
   Deli Management (9-12)
   Foods And Healthy Living (9-12)
   Global Foods (9-12)
   Intro To Foods (9-12)

Standards/Credits/Licensure

The Minnesota Legislature has enacted M.S. 120B.024 which states in part:

> (c) A career and technical education course may fulfill a science, mathematics, or arts credit requirement in addition to the specified science, mathematics, or arts credits under paragraph (a), clause (2), (3), or (5).

Additional Options to Meet Graduation Credit Requirements

Course	Required Course Fulfilled	Credit
Forestry, Fish, and Wildlife	Science Elective	1.0
Plant Science – Greenhouse	Science Elective	1.0
Landscape Horticulture	Science Elective	1.0
Marketing I and II	Economics	.5
Computer Graphics	Media Arts	.5
Graphic Arts/Digital Design I, II, and III, Imaging	Media Arts	1.0

College Articulation

111901–111902 **Accounting I**	LSC ACCT1500	Personal Finance 3 Credits
111511–111512 **Advanced Computers I**	LSC CIS1510	Access 2 Credits
	LSC CIS 1515	Excel 2 Credits
	LSC ADSC1715	Word Processing 2 Credits
111400 **Computer Essentials**	LSC ADSC1711	Computer Essentials 1 Credit
251200 **Career Development Internship**	LSC PSYC 1050	Career Exploration 2 Credits
221620 **Plant Science – Greenhouse** 1 Credit	Central Lakes College	Elective– Horticulture
221822 **Landscape Horticulture**	Central Lakes College	Elective–Horticulture 2 Credits
171921–171922 **Automotive Systems I**	LSC (NATEF) ASTE1430	Auto Electrical Fundamentals 3 Cr
172021–172022 **Automotive Systems II**	LSC (NATEF) ASTE1500	Charging & Starting Systems 3 Cr
	LSC (NATEF) ASTE2440	Brakes 4 Credits
172121–172122 **Automotive Technology I**	LSC (NATEF) ASTE1460	Basic Fuel System Service 2 Cr
172221–172222 **Automotive Technology II**	LSC (NATEF) ASTE1470	Basic Engine Drivability 3 Cr
	LSC (NATEF) ASTE2400	Suspension and Steering Repair 3
	LSC (NATEF) ASTE2410	Basic Wheel Alignment 2 Cr
102201–102202 **Graphic Arts/Digital Design I**	Mesabi/Range Tech	Graphic Design & Print
102301–102302 **Graphic Arts/Digital Design II**	GRAP1235	Communications 4 Credits
102401–102402 **Graphic Arts/Digital Design III**		

College Articulation

201521–201522 **Early Childhood and Education Professions**

	WITC 307–105	Intro Early Childhood Ed 2 Cr
	Hennepin Tech CHO1000	Childcare as a Profession 2 Cr
111101/111102 **Computer Applications**	LSC ADSC1430	Integrated Office Software 3 Cr
110000 **Business & Personal Finance**	LSC ACCT1500	Personal Finance 3 Credits
161220 **Introduction to Foods**	Art Institutes CU1210	Culinary Concepts in Theory 2 Cr
161320 **Classical Line Cooking**	Art Institutes CU1610	Fundamentals Classical Tech 6 Cr
161420 **Classical Cooking**	Art Institutes CU1471	Sanitation and Safety 4 Credits
221420 **Forestry, Fish & Wildlife**	Vermillion NRT1212	General Forestry 3 Credits
	Vermillion NRT1226	Principles Wildlife Management 3
	Vermillion NRT1265	Introduction Natural Resources 3
171621–171622 **Construction Tech I**	LSC	Building Construction 1 Credit
171721–171722 **Construction Tech II**	LSC	
171821–171822 **Construction Tech III**	LSC	

College In The Schools

Lake Superior College

Marketing II – MKTG1421

Principles Of Marketing – 3 Credits

Medical Occupations – NUNA 1400–1410

Intro To Nursing/Long Term Care/Home Health – 3 Credits

Intro To Nursing – ALTH 1400–1410

Intro To Allied Health/Medical Terminology

Value Added

Articulation Credit At Local Colleges
College In The Schools (CITS)
Program Of Study – MDE
STEM Opportunities – Agriculture, Graphic Arts, Computer Science Principles
Advisory Committees
Service Learning
       Community Fund Raisers
       Building In The Community
       Bethany Crisis Nursery
       DNR Certified East High School Forest
       FFA Forestry Farm – Maple Syruping
       UMD and NRRI White Pine Research Project
       Farm To School Initiatives (School Garden)
       Bedding Plant Production
       Pheasants Forever Pollinator Garden Collaboration (Lakewalk)

Value Added

CTE High School And Elementary Partner – East And Congdon Tomato Man Project … Urban Ag Day … Educating elementary about agriculture. They had tractors, goats, chickens, and more.

Value Added

National And Industry Certification

AYES – Automotive Youth Educational Systems Certification

CASE – Curriculum For Agricultural Science Education

Serv Safe – Culinary Arts

CNA – Medical Occupations

MOS – Microsoft Office Specialist

MTA - Microsoft Technology Associate

IC3 – Internet And Computing Core Certification

Adobe Certifications – Flash, Dreamweaver, Photoshop,
Premier, Illustrator, InDesign

QuickBooks – Managerial Accounting Software

Value Added

Student Organizations

BPA – Business Professionals of America

FFA – National **FFA** Organization

HOSA – Future Health Professionals

Skills USA – Skilled Workforce

Internships – Apprenticeships

Clinical – Medical Occupations

School Stores – Marketing

CTE PLC

Accountability 2.0 And The World's Best Workforce

- ❖ Evaluate each student's progress toward meeting the standards.
- ❖ Review and evaluate the effectiveness of instruction and curriculum.
- ❖ High-quality instruction, rigorous curriculum, instructional technology,
and a collaborative professional culture.
- ❖ Advisory Committees.

CTE PLC

Career Development Standards

❖The student will understand the career planning process.

❖The student will demonstrate an understanding of the relationship between educational preparation and career planning.

❖The student will identify a variety of post-secondary career opportunities and identify the available financial assistance programs.

❖The student will learn the necessary skills to prepare, to seek, obtain, maintain and change employment.

❖The student will identify interpersonal skills needed to be an effective employee.

❖The student will understand that the changing workplace requires lifelong learning and training.

CTE PLC

Critical Workplace Skills Standards

Career Preparation

The student will know and demonstrate the process of getting a job and will prepare employment documents.

Legal/Safety

The student will identify and follow legal and safety guidelines pertaining to the workplace.

Professional Character

The student will identify and demonstrate professional character traits.

Interpersonal Communication

The student will identify and demonstrate effective interpersonal communication in the workplace.

CTE PLC

All Aspects Of An Industry Curriculum And Assessment

      Business Planning

      Management

      Health, Safety And Environment

      Community Issues

      Principles Of Technology

      Personal Work Habits

      Technical And Production Skills

      Labor Issues

      Finance

CTE – PLC

SCANS - Secretary's Commission On Achieving Necessary Skills Standards

Foundation Skills

Basic Skills … Reading, Writing, Arithmetic, Mathematics, Listening, Speaking

Thinking Skills … Creative Thinking, Decision Making, Problem Solving, Mental Visualization, Knowing How To Learn, Reasoning

Personal Qualities … Responsibility, Self-Esteem, Sociability, Self-Management, Integrity/Honesty

Workplace Skills

Resources … Manages Time, Manages Money, Manages Materials And Facility Resources, Manages Human Resources

Interpersonal … Participates As A Member Of A Team, Teaches Others, Serves Clients/Customers, Exercise Leadership, Negotiates To Arrive At A Decision, Works With Cultural Diversity

Information … Acquires And Evaluates Information, Organizes And Maintains Information, Interprets And Communicates Information, Uses Computers To Process Information

Systems … Understand Systems, Monitors And Corrects Performance, Improves And Designs Systems

Technology … Selects Technology, Applies Technology To Task, Maintains And Troubleshoots Technology

Program Approval – 2012

Advisory Committee Role
Advisory Committee Membership
Advisory Committee Operations
Community Partnerships/Resources
Teaching Credentials
Professional Development
Professional Organizations
Paraprofessionals/Technical Tutors
Program Assessment
Continuous Program Improvement Process (CPI)
Career Development
Career Clusters And Career Pathways
Curriculum Content
Instructional Delivery
Student Assessment
Leadership Development/Student Organizations
Work-Based Learning Program (WBL)
Self Assessment

Facts

CTE is critical to ensuring that the United States leads in global competitiveness.

CTE is a leader in building collaborative connections among education, economic development, and workforce development to ensure alignment of policies and program delivery.

CTE standards incorporated in the programs are rigorous, blend academic and technical content, and internationally benchmarked.

Students who enroll in CTE are prepared as global citizens with an innovative and entrepreneurial spirit and who are boundless in their ideas and endeavors to stimulate positive economic change.

CTE is a result-driven system that demonstrates a positive return on investment.

CTE delivered through comprehensive programs of study aligned to The National Career Clusters framework.

CTE actively partners with employers to design and provide high-quality, dynamic programs.