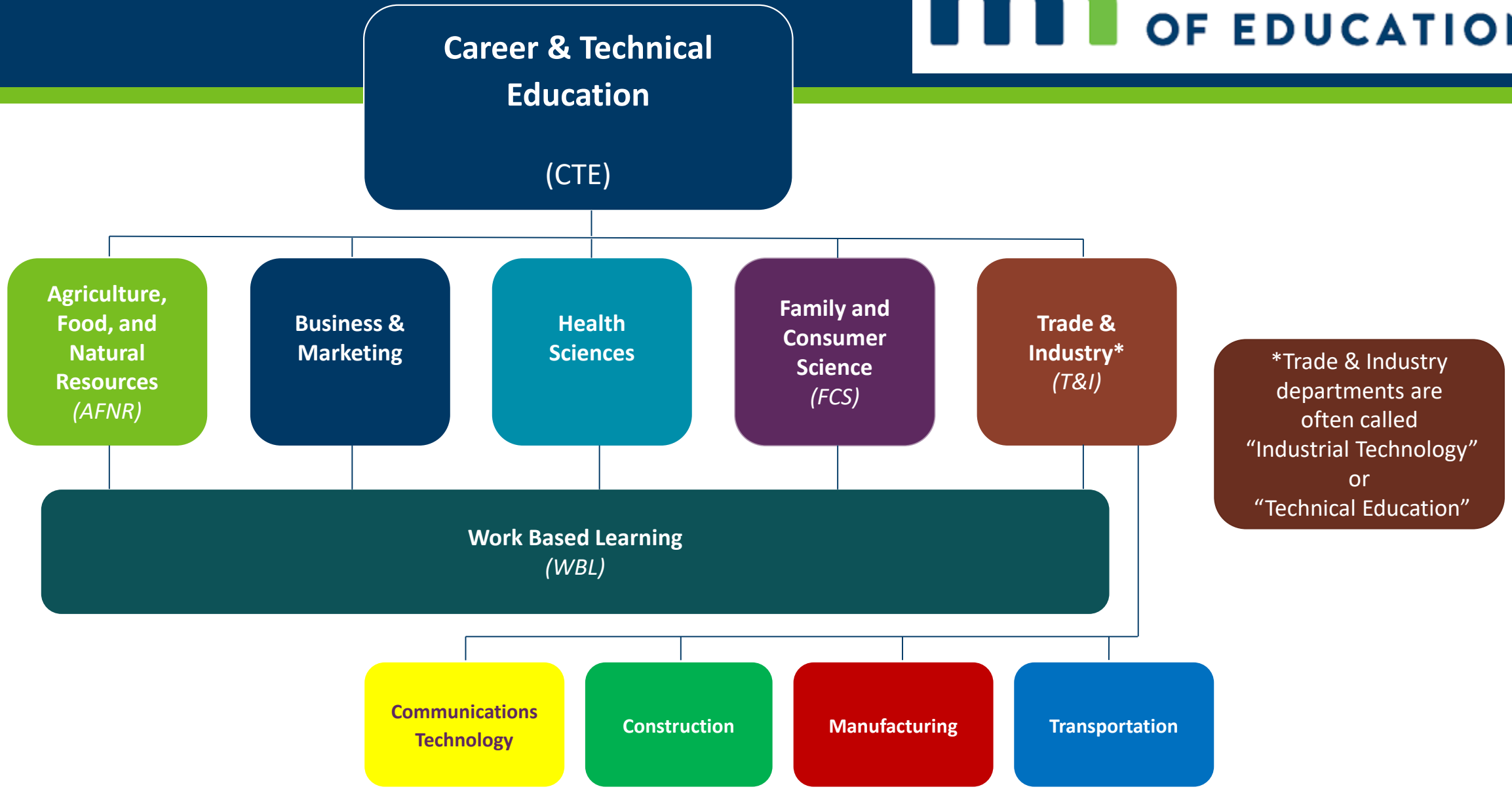
DEPARTMENT OF EDUCATION

MDE Updates, Program Approval, & New Stuff

Lindsey Brockberg and Tim Barrett


Career & Technical Education
(CTE)
Agriculture, Food, and Natural Resources (AFNR)
Business & Marketing
Health Sciences
Family and Consumer Science (FCS)
Trade & Industry* (T&I)
*Trade & Industry departments are often called "Industrial Technology" or "Technical Education"
Work Based Learning (WBL)
Communications Technology
Construction
Manufacturing
Transportation

MDE Updates

AFNR Specific Updates

Personal Finance Requirements

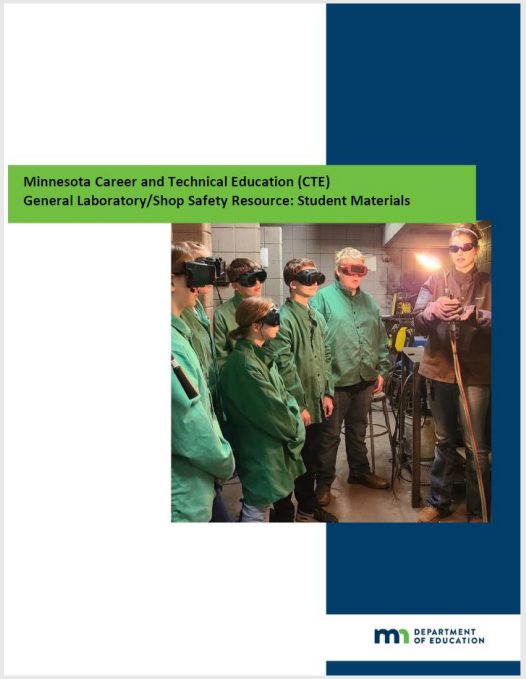
- Working Group
- Public Feedback ended September 23rd

Credit Equivalency

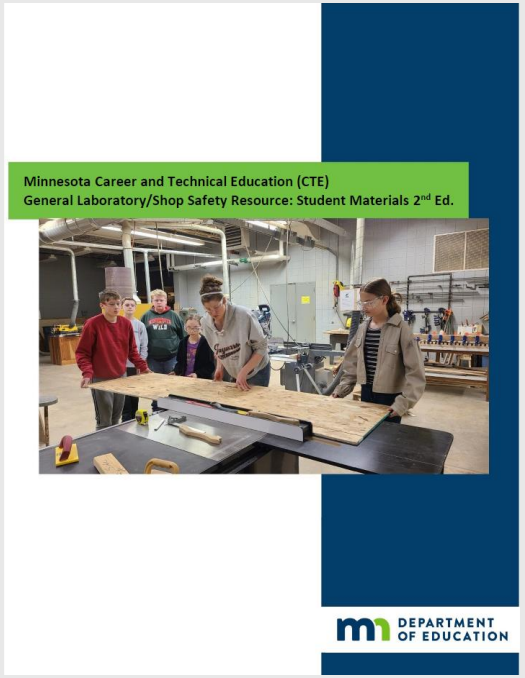
- Career and Technical Education Credit Equivalencies (mn.gov)

MAELC Blueprint

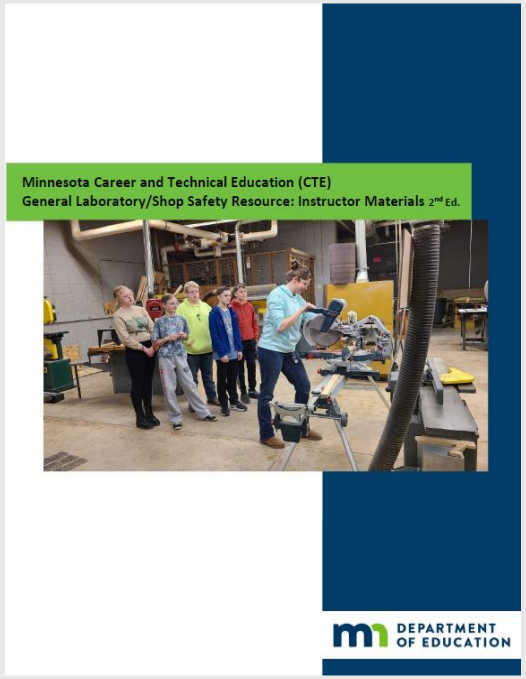
Safety Training Resource Updated!



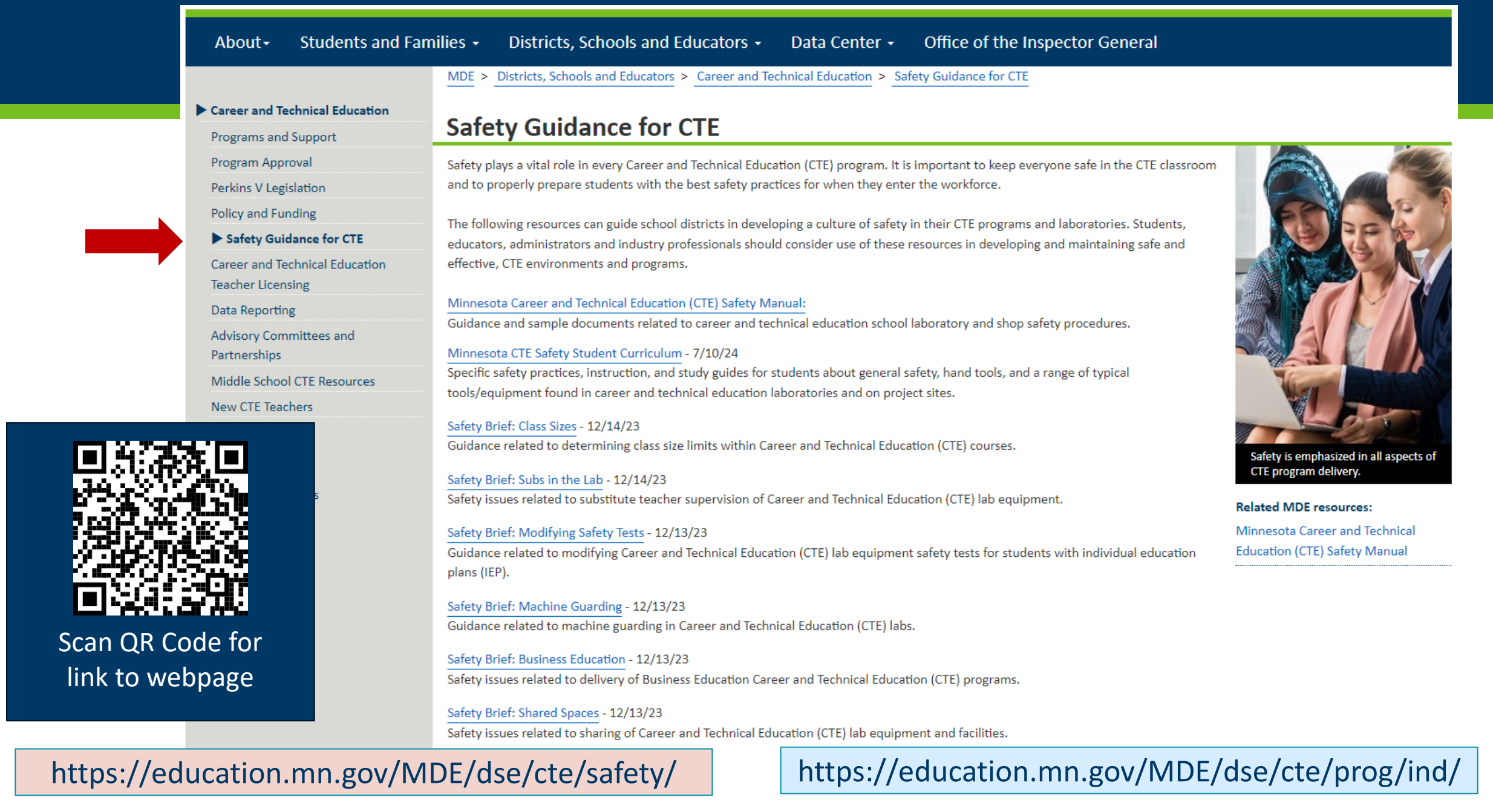
Safety Guidance
75 pages



Student Curriculum
380 pages



Teacher Curriculum
333 pages



Scan QR Code for link to webpage

https://education.mn.gov/MDE/dse/cte/safety/

https://education.mn.gov/MDE/dse/cte/prog/ind/

PELSB Stuff

- Have you renewed your license or your Out-of-Field Permissions (OFPs)?
- Up-to-date to access CTE Funding
- PELSB contact:
  - https://mn.gov/pelsb
  - pelsb@state.mn.us
  - 651.539.4200

Program Code	Construction (171000)	Manufacturing (171710)	Transportation (170302)	Aviation (170400)	Communication Technology (171502)	Information Technology (171512)
License Codes	**300100** 171000 171016	**300200** 171710 171720 172300 172302 172306 172350	**300700** 170301 170302 170303	**300700** 170400	**300000** 171500 171510 171515 171900	**300000** 171500

PELSB: who to contact

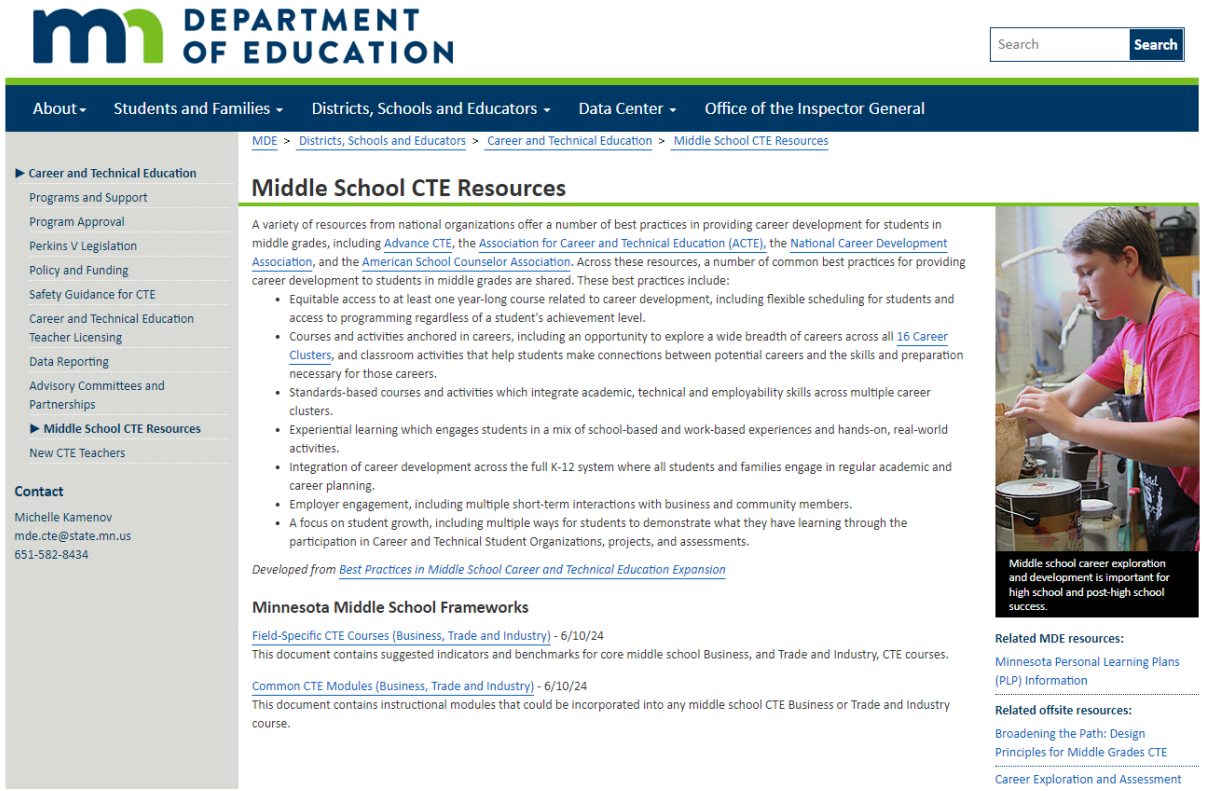
MINNESOTA PROFESSIONAL EDUCATOR LICENSING AND STANDARDS BOARD

PELSB Quick Reference Guide for Charter Schools and Districts

Category	Examples of Topics	PELSB Webpage	Contact Person	Email Address
Aspiring Educators	• Apply for a license • Find a preparation program • Licensure requirements	https://mn.gov/pelsb/aspiring-educators/	Licensing Executives or Customer Service	pelsb@state.mn.us
Current Educators	• View Clock Hours and Renewal Trainings • Renew license • Apply for additional license	https://mn.gov/pelsb/current-educators/	Licensing Executives or Customer Service	pelsb@state.mn.us
Pathways to Licensure	• Licensure via Portfolio	https://mn.gov/pelsb/aspiring-educators/portfolio/	Stacy Jeffrey	stacy.a.jeffrey@state.mn.us
	• American Indian Educators	https://mn.gov/pelsb/index/amineduc/	Tribal Nation	Requires resolution or letter of support from a Tribal Nation.
	• Heritage Language Educators	https://mn.gov/pelsb/index/heritagelangculture/	Grant Boulanger	grant.boulanger@state.mn.us
Licensure Renewal	• Mandatory Requirements • Out-of-State Renewal • Renewing an Expired License	https://mn.gov/pelsb/current-educators/renew/	Keile LaMotte	Keile.Lamotte@state.mn.us
Licensure Compliance/ STAR report	• What license can do what assignments? • STAR report • Advice on how to fix a licensure violation	https://mn.gov/pelsb/districts/data-submissions/star/	Caren Custer	star.PELSB@state.mn.us
Special Permissions	• Out-of-Field Permission (OFP) • Cross-Curricular Delivery Permission (CCDP) • Related Services needed in teaching positions	https://mn.gov/pelsb/districts/permissions/	Jason Jensen	special.permission.PELSB@state.mn.us
Educator and Licensure Reports	• Teacher Supply and Demand Report • Tiered Licensure Report • Teacher Preparation Program Report • Educator Employment Report • Staff License Lookup	https://mn.gov/pelsb/board/reports/	Multiple PELSB Staff, dependent on specific data	pelsb@state.mn.us

September 2024

Middle School Frameworks



https://education.mn.gov/MDE/dse/cte/ms/

- Two types of modules:
  - General
  - Program-specific
- Used by all middle school CTE teachers

CDL Resource

- Obtaining a MN CDL
- CDL requirements
- Resources

Consumer vs Professional Grade

Consumer

- Light to moderate use
- Lacks advanced functionalities
- No industry-specific safety and performance
- No specialized industry application
- Limited customization

Professional Grade

- Withstands heavy use
- Reflects current industry technology
- Meets safety, performance, & regulatory standards
- Relevant to specific field of study
- Scalable to different levels of training

Consumer vs Professional Grade Cont.

Consumer

- Limited customization
- Basic customer service
- Lack advanced safety protections
- Low cost, used for light or individual use
- Limited warranties & fewer repair options

Professional Grade

- Manufacturer support & training
- Best safety features
- Higher cost & durability
- Parts available & extended warranties

- ▶ Career and Technical Education
  - Programs and Support
  - Program Approval
  - ▶ Perkins V Legislation
  - Policy and Funding
  - Safety Guidance for CTE
  - Career and Technical Education Teacher Licensing
  - Data Reporting
  - Advisory Committees and Partnerships
  - Middle School CTE Resources
  - New CTE Teachers

Contact

Michelle Kamenov
mde.cte@state.mn.us
651-582-8434

Perkins V Legislation

The ***Strengthening Career and Technical Education for the 21st Century Act of 2018***, also known as ***Perkins V***, was designed to improve and expand high-quality Career and Technical Education (CTE) programs that meet both student and employer needs. It maintains a strong focus on academic rigor in CTE programs, while also emphasizing development of technical skills and employability skills that prepare students to be career and college ready after graduation. Perkins V promotes stronger connections between secondary and postsecondary education through greater emphasis on Programs of Study (POS), and stronger connections between education and industry through greater emphasis on work-based learning (WBL) experiences and industry-recognized credentials.

Implementation of Perkins V ensures that career and technical education programs are an integral part of a well-rounded secondary education, meeting the needs of students and educational systems as part of Minnesota's "Every Student Succeeds Act" (ESSA) plan. Learn more about Minnesota's ESSA plan.

Minnesota uses the consortium model of secondary and postsecondary partnerships to facilitate allocation of Perkins V federal grant funds intended to spur innovation and support programs of study aligned with high-skill, high-wage, or in-demand occupations or industries. In order to access Perkins grant funds, local school districts must have approved CTE programs taught by appropriately-licensed CTE teachers. As part of the development of consortia Perkins plans, each consortia conducts a Comprehensive Local Needs Assessment (CLNA) which guides the development of their two-year consortia plans and priorities. Access the CLNA Reporting Framework. Teachers and administrators seeking assistance with compliance issues related to Perkins V implementation are encouraged to contact their consortium leaders.

Resources provided below will provide information and guidance for understanding the Perkins V legislation and its implications.

Consumer versus Professional Grade Equipment - 8/5/24
Explanation of the differences between consumer grade and professional grade equipment to assist teachers and administrators with selection of tools and equipment for Career and Technical Education (CTE) programs.

Secondary Equipment, Curriculum and Approved Uses of Perkins V Funds - 8/29/22
Information about procedures for equipment acquisition, curriculum and other Career and Technical Education (CTE) student support activities with secondary Perkins funding.

Secondary Perkins Equipment/Curriculum Request Form - 7/25/22
Form used by Perkins Consortia to submit requests for use of Perkins funds for allowable equipment and curriculum resources.

Perkins Equipment Request Form Completion Tips - 6/24/22
Handout to assist Perkins Consortia Leaders with proper completion of the Equipment/Curriculum Request Form.

General Guidance for Perkins V Local Uses of Funds - 7/28/21
Description of criteria for approved and unallowable uses of Perkins V funds.

Career Technical Education Classes Provide Hands-On Learning Experiences

Related offsite resources:

- Minnesota State - Career Technical Education
- Minnesota State - Perkins Consortia Resources (map, handbook, more)
- Minnesota State Plan – Federal Perkins Grant
- U.S. Department of Education

Scan QR Code for link to webpage

https://education.mn.gov/MDE/dse/cte/perk/

Ongoing & Potential Projects

- **Student-Built Structures**
- T&I Basics
- More Students in T&I

MDE Trade & Industry Page Resources

Contact

Tim Barrett
mde.cte@state.mn.us
651-582-8677

- Manufacturing accounts for the largest share of the state's gross domestic product (14 percent), and employs 324,000 workers.
- The transportation and warehousing sector employs 105,670 people—up 25 percent since 2010.
- In 2019, 144,575 workers were employed in the construction sector. Construction is projected to grow 8.9 percent by 2026.
- Informational Technology (IT) companies operate statewide across all industries and Minnesota is a growing hub for data centers, financial technology (fintech), and the Internet of Things (IoT).

Professional Development:

Trade and Industry Professional Development Calendar - 8/30/23

Calendar of professional development opportunities for teachers of Trade and Industry programs.

+ Career Exploration

+ Frameworks and Standards

+ Program Approval and Equipment Requests

+ Trade and Industry Newsletter Archive

Scan QR Code for link to webpage

https://education.mn.gov/MDE/dse/cte/prog/ind/

Minnesota Career and Technical Education (CTE) Safety Manual

Career and Technical Education Teacher Licensing

Related offsite resources:

Department of Employment and Economic Development (DEED) Data Center

Department of Labor & Industry--Construction and Skilled Trades Career Counseling Resources

International Technology and Engineering Education Association (ITEEA)

Midwest Teachers of Transportation and Industrial Areas (MTTIA)

Minnesota Department of Employment and Economic Development (DEED)--Job Skills Transfer Assessment Tool (JOBSTAT)

Minnesota Technology and Engineering Educators Association (MTEEA)

Project Lead the Way

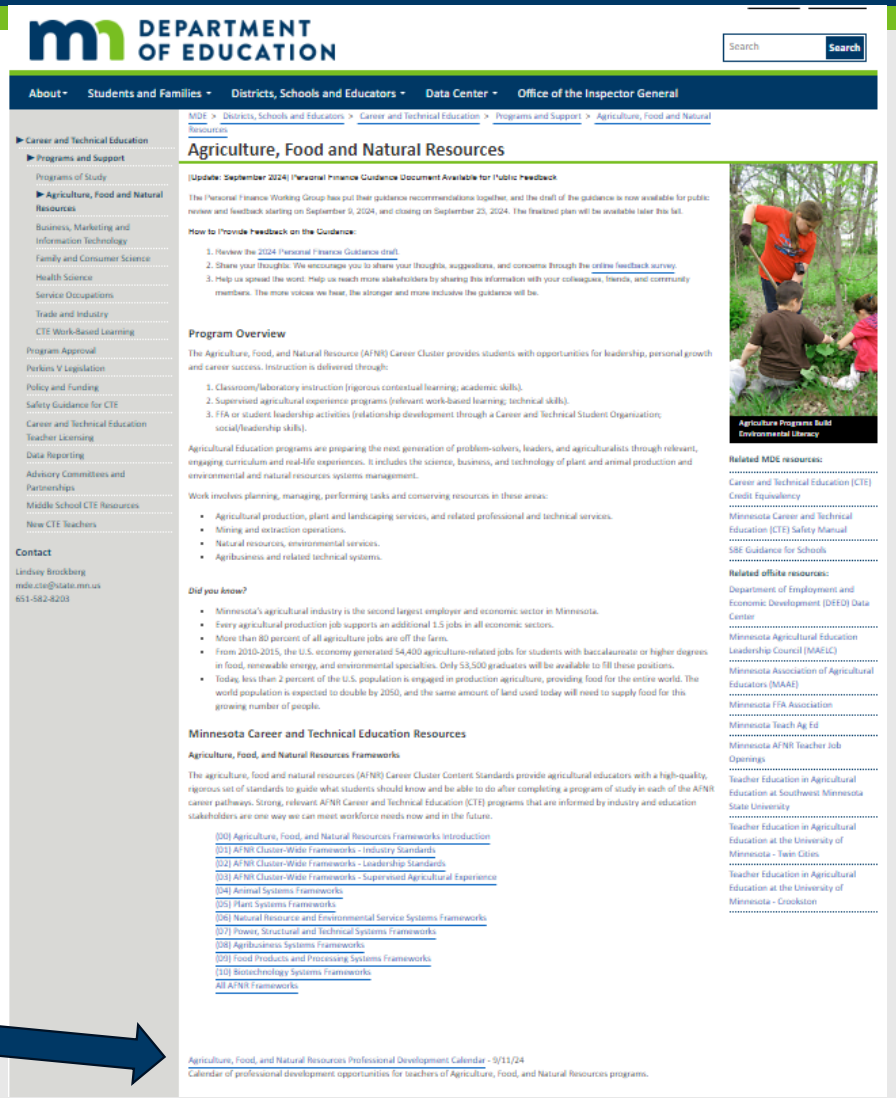
SkillsUSA Minnesota

MDE Resources
Specific to Agriculture, Food and Natural Resources

- Agriculture, Food and Natural Resources (mn.gov)
  - My contact information
  - Updates
  - Helpful links – safety manual, partners, frameworks,

and more.

PD link



Programs of Study & Program Approval

MDE Programs vs. Programs of Study

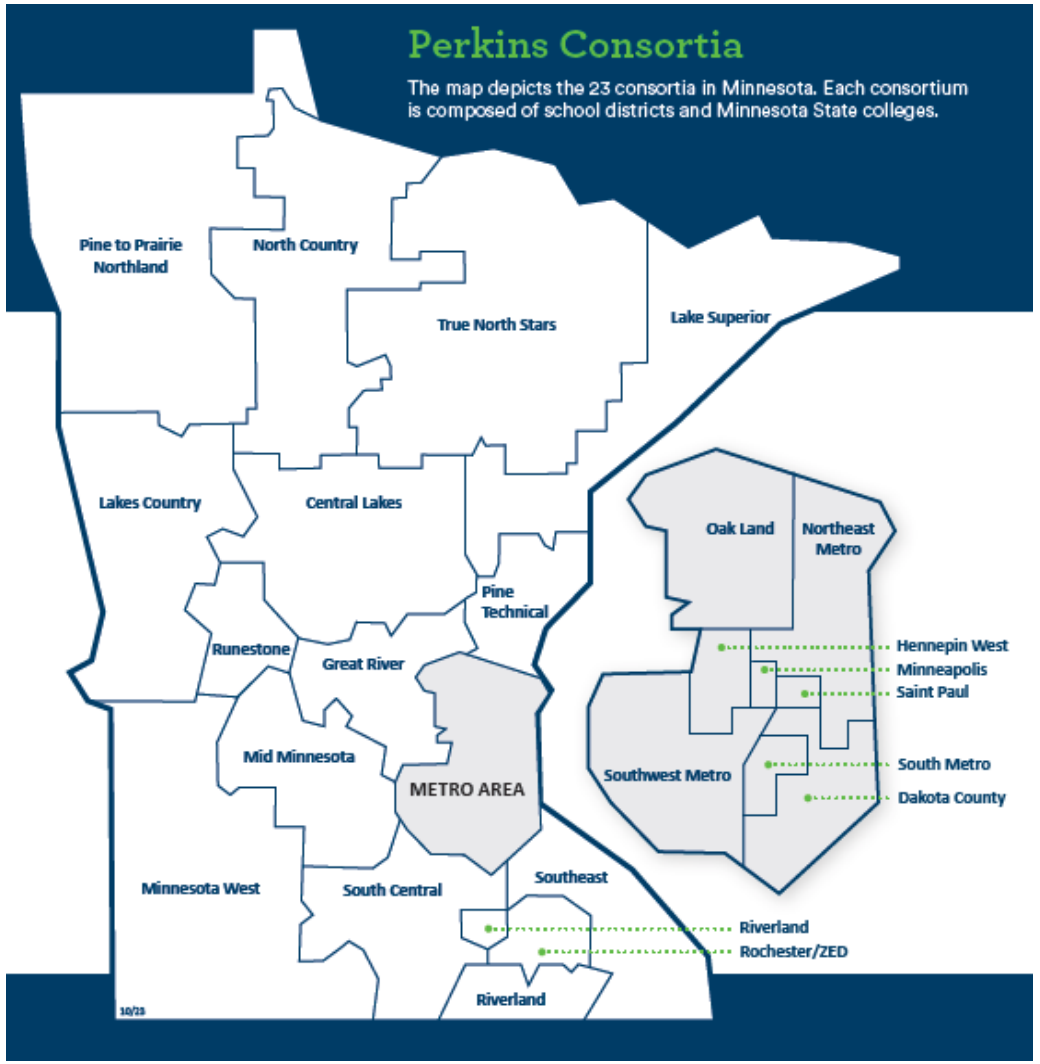
Relationship Between Programs and Programs of Study

Program Approval

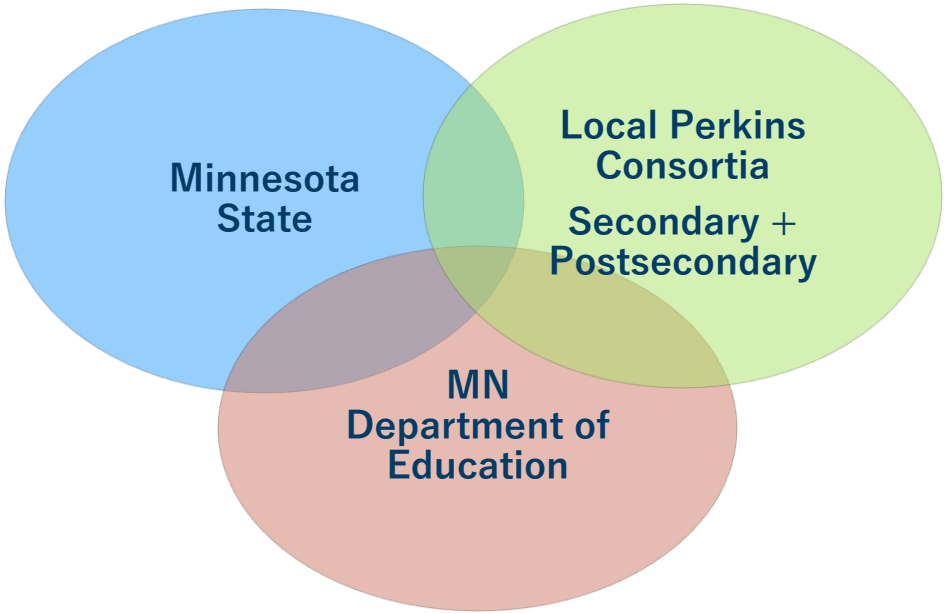
MDE-Approved CTE Program + Minnesota State Academic Program = Program of Study

https://www.minnstate.edu/system/cte/programs/index.html

Strengthening Career and Technical Education for the 21st Century: Perkins V



- We are in Perkins V now
- CLNA – Comprehensive Local Needs Assessment
- New Performance measures



Focus of Statewide Work—Aligning to Workforce Needs

- Analyze Comprehensive Local Needs Assessment (CLNA)
  - What are the local/regional workforce needs?
  - Do our programs offer courses/pathways to meet those needs?
- Utilize RealTime Talent Research Data
  - Regional workforce trend reports
  - http://www.realtimetalent.org/research-2/cte-pathways/
- Talk to your Advisory Committee!

Program Approval

5 Elements of Program Approval:*

1. Program Design
   - Student Leadership Development
   - Career Exploration & Experiential Learning
   - Safety Practices, Training, and Assessment
2. Appropriately-licensed CTE Teacher
3. Two or more non-duplicative courses in each program
4. Advisory Committee
5. Acknowledgement of Statement of Assurances

**Compliance based on statute*

Program Approval Resources

AFNR

https://www.mnffa.org/teacher-resources

Trade & Industry

Google folder:

https://drive.google.com/drive/u/0/folders/1UkGPyE5y_bL1SYSvDt_idVXLE6mt63E9

Scan QR Code to reach folder

P-file: Data Derives from Program Approval

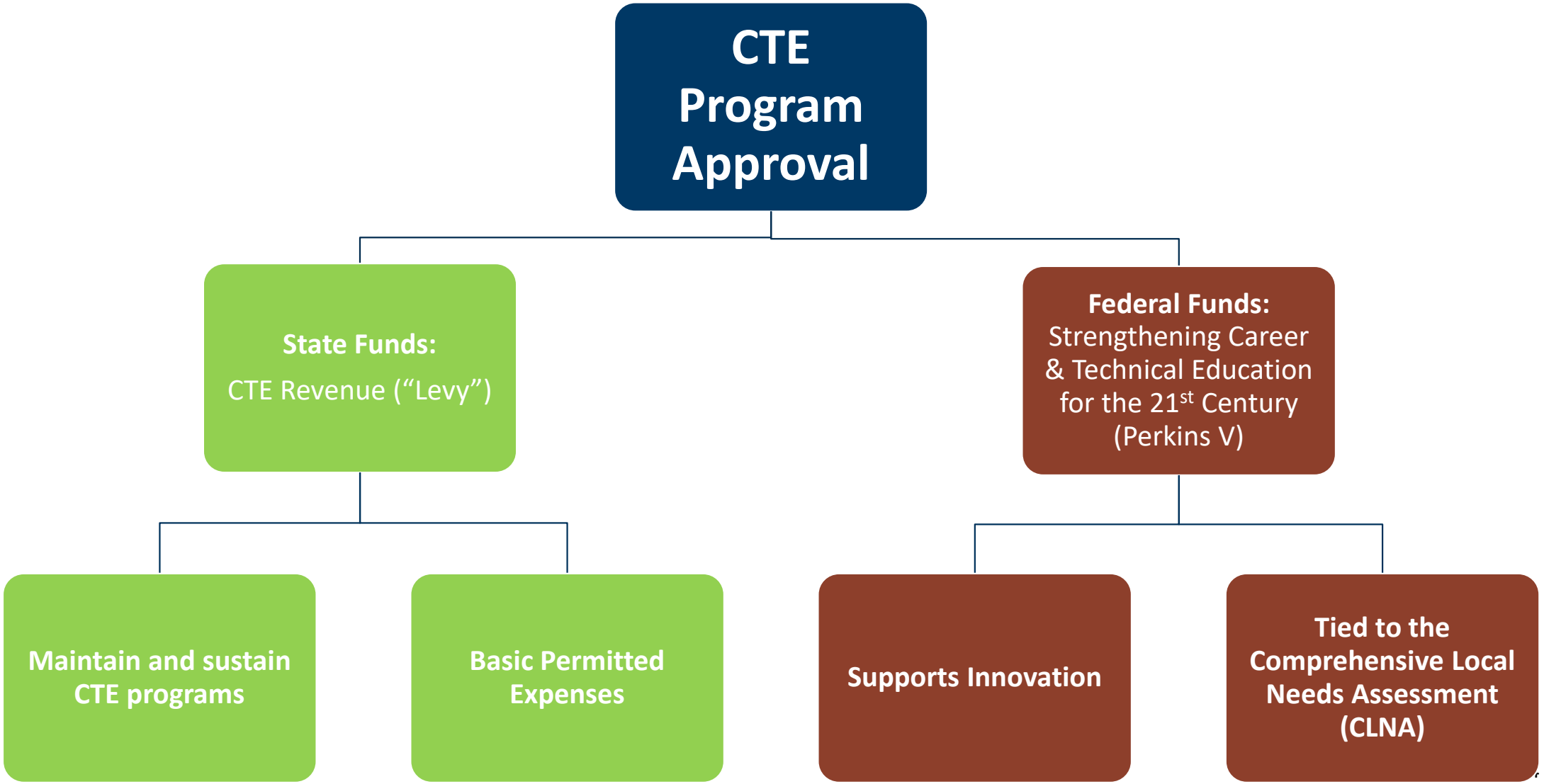
Carl D. Perkins (P-file) Record Layout 2023

Data Elements	Length	Position	Valid Data	Notes
School Year	2	1-2	Numeric	2020-21 = (FY) "21" in the first two positions of the code
School District	4	3-6	Numeric	District number from the MDE-Org "District/School" list
District Type	2	7-8	Numeric	District Type from the MDE-Org "Organizational Type" list
School Number	3	9-11	Numeric	School number from MDE-Org "District/School" list
MARSS ID Number	13	12-24	Numeric	K-12 Minnesota Automated Reporting Student System (MARSS) Student ID
Program Code	6	25-30	Numeric	Six-digit program code from Table C on Program Approval webpage (Column C)
Course Code	2	31-32	Numeric	Two-digit course code from Table C on Program Approval webpage (Column D)
Course Length in Minutes	5	33-37	Numeric	Total number of course minutes for the term in which it was taken (e.g., trimester, semester, quarter, block, skinny, or year).
Grade Received	1	38	P or N	Proficient/Not Proficient
Single Parent	1	39	Y or N	Self-report
Out of Workforce*	1	40	Y or N	[*Change from FY20] Does not apply to secondary students, no entry will default to N.
Technical Skill Assessment*	1	41	Y or N	[*Change from FY20] Technical Skill Assessment data are no longer part of the Perkins V accountability system. This data element will remain in place. Districts are still able to report these data if they choose to do so, however, Minnesota Department of Education (MDE) will not be producing any reports.
TSA Proficiency*	1	42	P or N	[*Change from FY20] Same as above
Last Name	40	43-82	Alpha	
First Name	40	83-122	Alpha	
Middle Name	40	123-162	Alpha	
Suffix	04	163-166	Alpha	
Gender	01	167	M or F	
Date of Birth	08	138-175	Nu	YYYYMMDD

Data Record Example

212853010400000000000000140710150 4840PNNYPLASTNAME FIRSTNAME MIDDLENAME SUFX G YYYYMMDD

Funding Connected to Program Approval



Funding Options for CTE

Perkins V – Federal Funding

- Requested through Perkins consortium
- Equipment/Professional Development

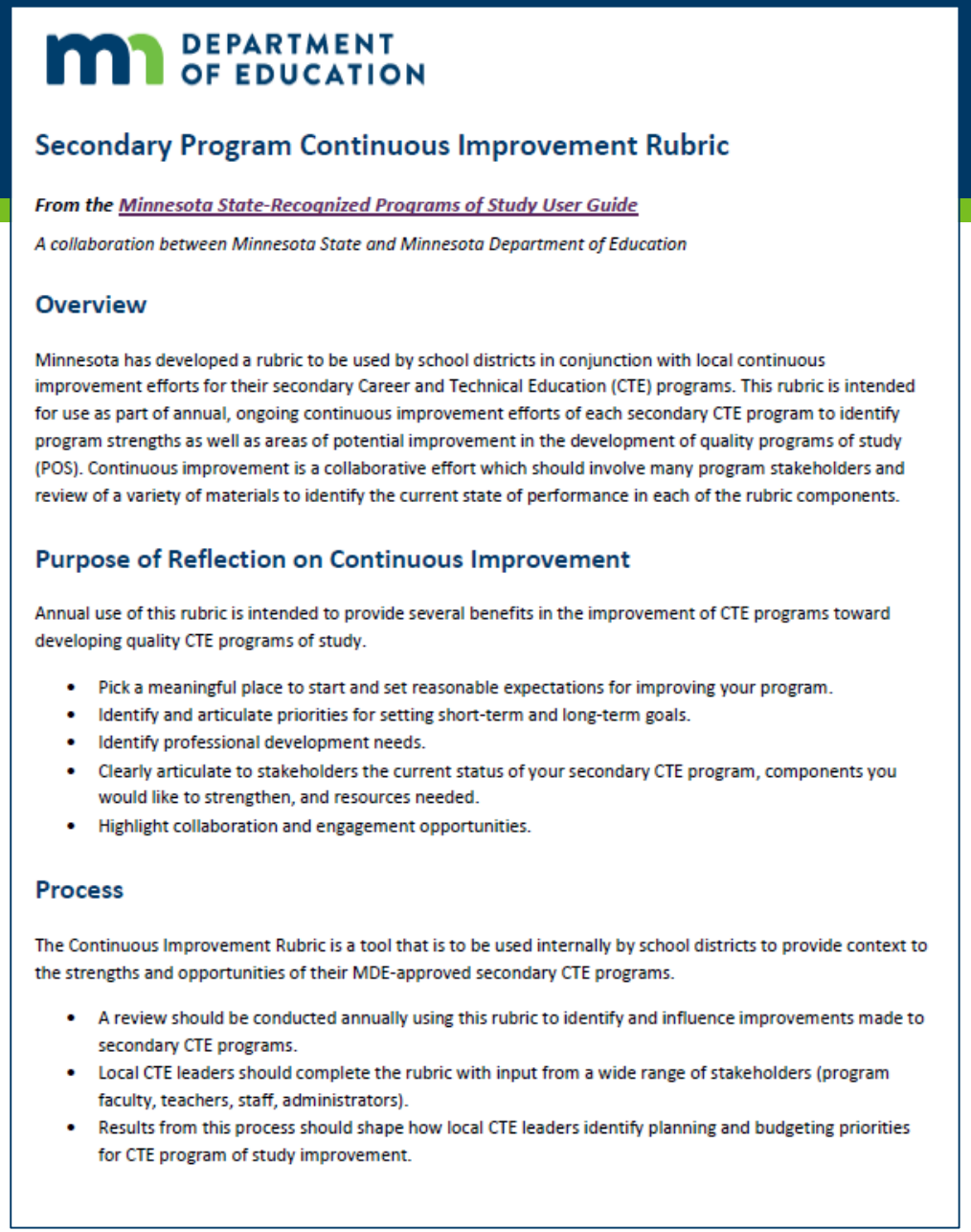
CTE Levy Funding – State Funding

- 35% reimbursement for eligible expenditures
  - Teacher Salaries
  - Instructional CTE Supplies

Compliance vs Continuous Improvement

- State requires compliance to minimum standards
- Elements can also help districts address continuous improvement
  - Existing and new courses align with local workforce needs data
  - Course sequences encourage concentrators in career pathways
  - Strong instructional practices, objectives aligned with Frameworks

Program Rubric



DEPARTMENT OF EDUCATION

Secondary Program Continuous Improvement Rubric

From the Minnesota State-Recognized Programs of Study User Guide

A collaboration between Minnesota State and Minnesota Department of Education

Overview

Minnesota has developed a rubric to be used by school districts in conjunction with local continuous improvement efforts for their secondary Career and Technical Education (CTE) programs. This rubric is intended for use as part of annual, ongoing continuous improvement efforts of each secondary CTE program to identify program strengths as well as areas of potential improvement in the development of quality programs of study (POS). Continuous improvement is a collaborative effort which should involve many program stakeholders and review of a variety of materials to identify the current state of performance in each of the rubric components.

Purpose of Reflection on Continuous Improvement

Annual use of this rubric is intended to provide several benefits in the improvement of CTE programs toward developing quality CTE programs of study.

- Pick a meaningful place to start and set reasonable expectations for improving your program.
- Identify and articulate priorities for setting short-term and long-term goals.
- Identify professional development needs.
- Clearly articulate to stakeholders the current status of your secondary CTE program, components you would like to strengthen, and resources needed.
- Highlight collaboration and engagement opportunities.

Process

The Continuous Improvement Rubric is a tool that is to be used internally by school districts to provide context to the strengths and opportunities of their MDE-approved secondary CTE programs.

- A review should be conducted annually using this rubric to identify and influence improvements made to secondary CTE programs.
- Local CTE leaders should complete the rubric with input from a wide range of stakeholders (program faculty, teachers, staff, administrators).
- Results from this process should shape how local CTE leaders identify planning and budgeting priorities for CTE program of study improvement.

- Tool for annual, ongoing continuous improvement
- 11 elements to assess
- 3 Levels of Development
  - Exemplary
  - Quality
  - Emerging

https://education.mn.gov/MDE/dse/cte/data/prog/

Home | About | Students and Families | Licensing | Districts, Schools and Educators | Data Center | COVID-19

MDE > Districts, Schools and Educators > Career and Technical Education > Program Approval

Search | Search

- Career and Technical Education
  - Programs and Support
  - Service-Learning
  - Program Approval
  - Perkins V Legislation
  - Policy and Funding
  - Career and Technical Education Teacher Licensing
  - Data Reporting
  - Advisory Committees and Partnerships
  - New CTE Teachers

Contact

mde.cte.program.approval@
651-582-8333

Program Approval

Districts, Cooperatives, and Charter Schools need to submit a Program Approval Form to the Minnesota Department of Education (MDE) if they are:

- Applying for a new program,
- Making updates to an existing program, such as course additions or revisions, or
- A district within a Perkins V consortium that is up for five-year program renewal.

The programs and courses listed within your district's Program Approval Database are the programs and courses that you will report to MDE in your P-file (Perkins data submission). Find more information about program approvals and your data submission below.

3 Program Approval Database - 4/5/23
This Career and Technical Education (CTE) file displays programs approved under Minnesota Rule 3505.

1 Program Approval Form - 3/21/23
Complete this Program Approval application form as part of the five-year approved program review cycle or if your district is seeking approval for a new program.

4 Program Approval Revision/Amendment Form - 4/4/23
Complete the Amendment form any time there is a teacher and course change to an existing state-approved CTE program. Amendments are processed throughout the year, however, course amendments will only be publicly updated to the Program Approval Database annually each Spring.

2 Table C - 4/5/23
List of all Career and Technical Education Programs, Courses, and Teacher Licensure requirements for Minnesota's program approval and data collection.

Building Effective Advisory Committees - 4/22/22
Guidance on effective CTE advisory committees, which are a required component of CTE program approval.

Program Approval Checklist and Timeline - 3/17/23
Overview of the CTE program approval process. Document includes specific preparation suggestions as well as a sample district timeline.

The MDE Program Approval Process Ensures Quality Programs For Students

Sign up for email alerts

Related MDE resources:

Data Submission

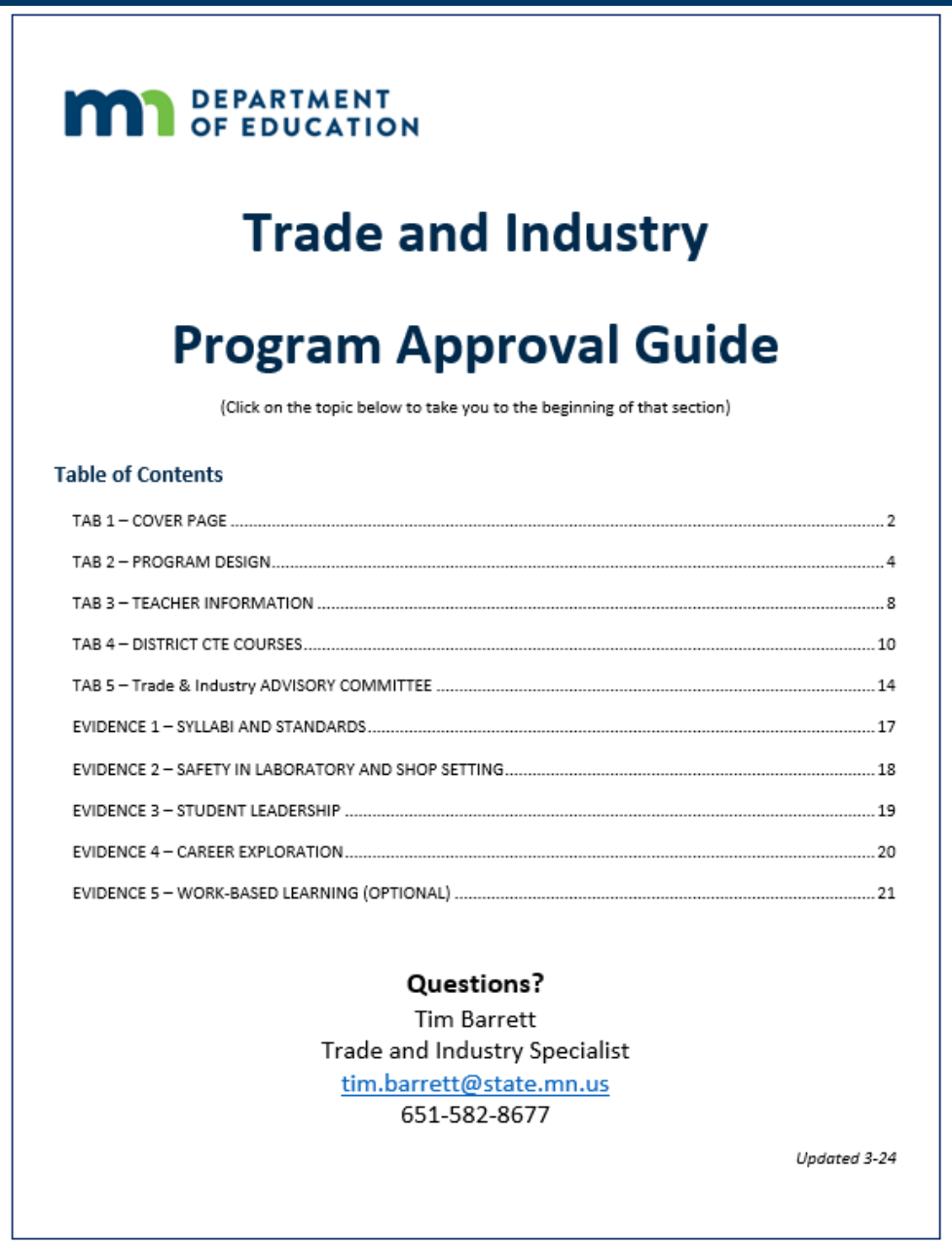
Important Reminder!

All completed application materials should be submitted to the MDE Program Approval mailbox

(do NOT send directly to the Program Specialist!)

mde.cte.program.approval@state.mn.us

Program Approval Guide



DEPARTMENT OF EDUCATION

Trade and Industry

Program Approval Guide

(Click on the topic below to take you to the beginning of that section)

Table of Contents

Questions?

Tim Barrett
Trade and Industry Specialist
tim.barrett@state.mn.us
651-582-8677

Updated 3-24

Provide step-by-step instructions

- Go through each tab of spreadsheet
- Includes sample form examples
- Chart of program codes and corresponding teacher licenses
- Alternative evidence examples

Scan QR Code to reach folder

New courses or teachers can be added anytime

New programs can be added any year

Advisory Committees

5 Elements of Program Approval:*

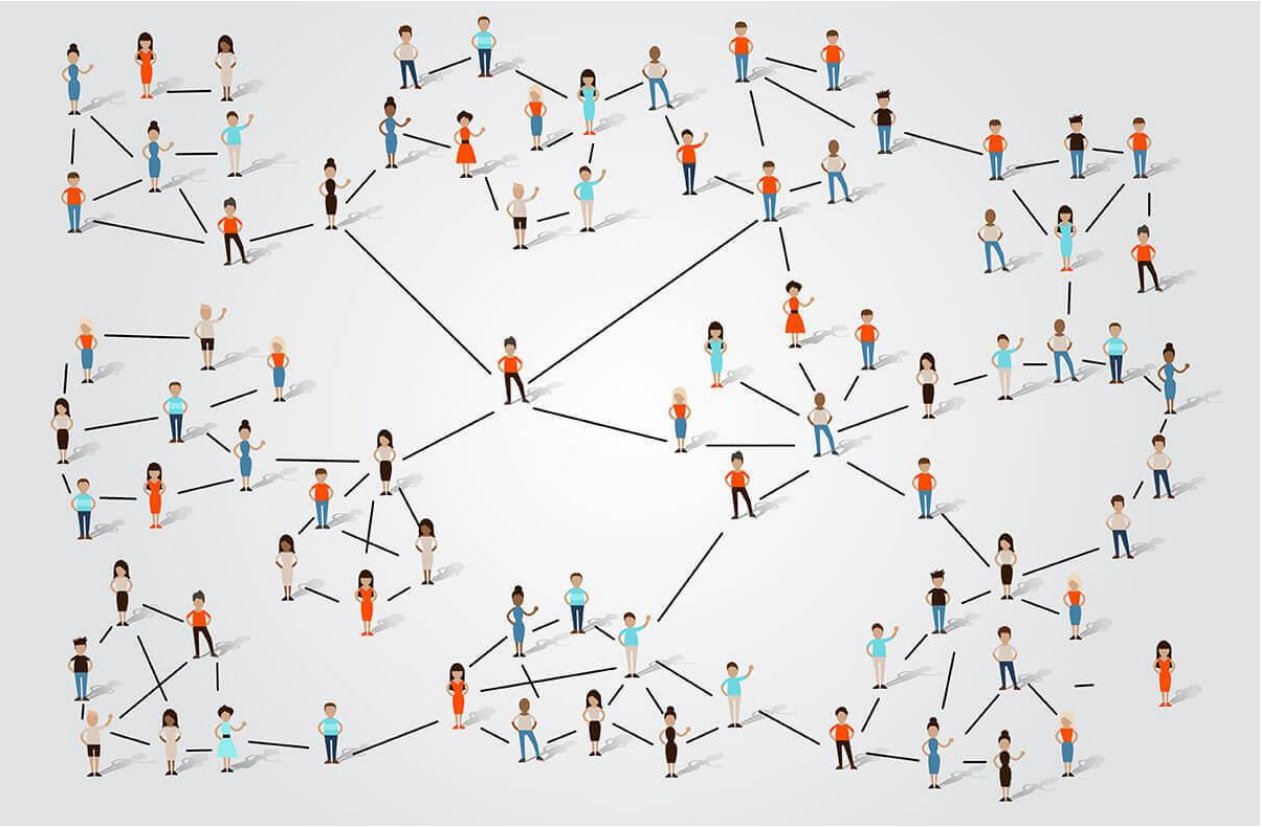
1. Program Design
   - Student Leadership Development
   - Career Exploration & Experiential Learning
   - Safety Practices, Training, and Assessment
2. Appropriately-licensed CTE Teacher
3. Two or more non-duplicative courses in each program
4. **Advisory Committee**
5. Acknowledgement of Statement of Assurances

**Compliance based on statute*

Advisory Committee Members - Where do I find them?

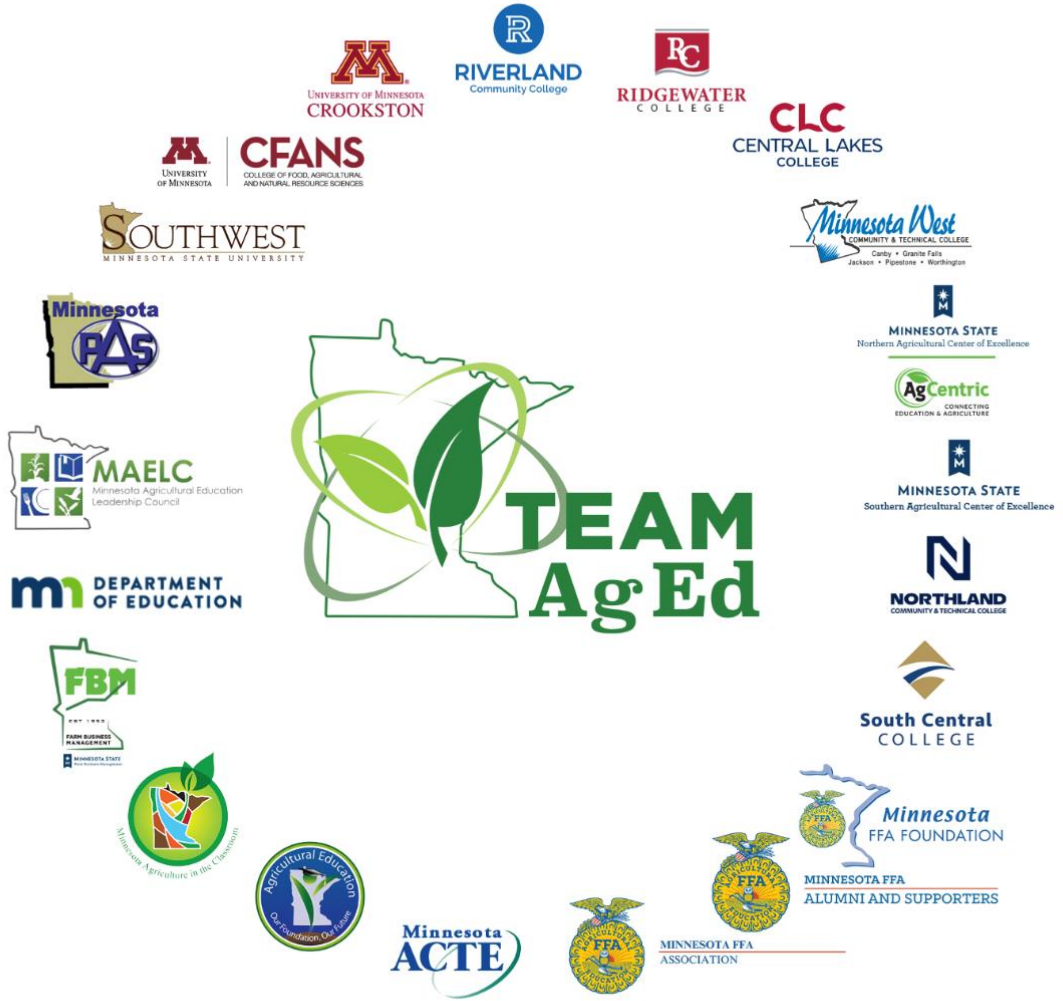
People you already know –

- School staff
- Vendors or to current partners
- Committee referrals
- Parents/Former students
- Personal contacts



- Career outreach groups
- Chamber of Commerce
- Trade Associations
- Post-secondary partners

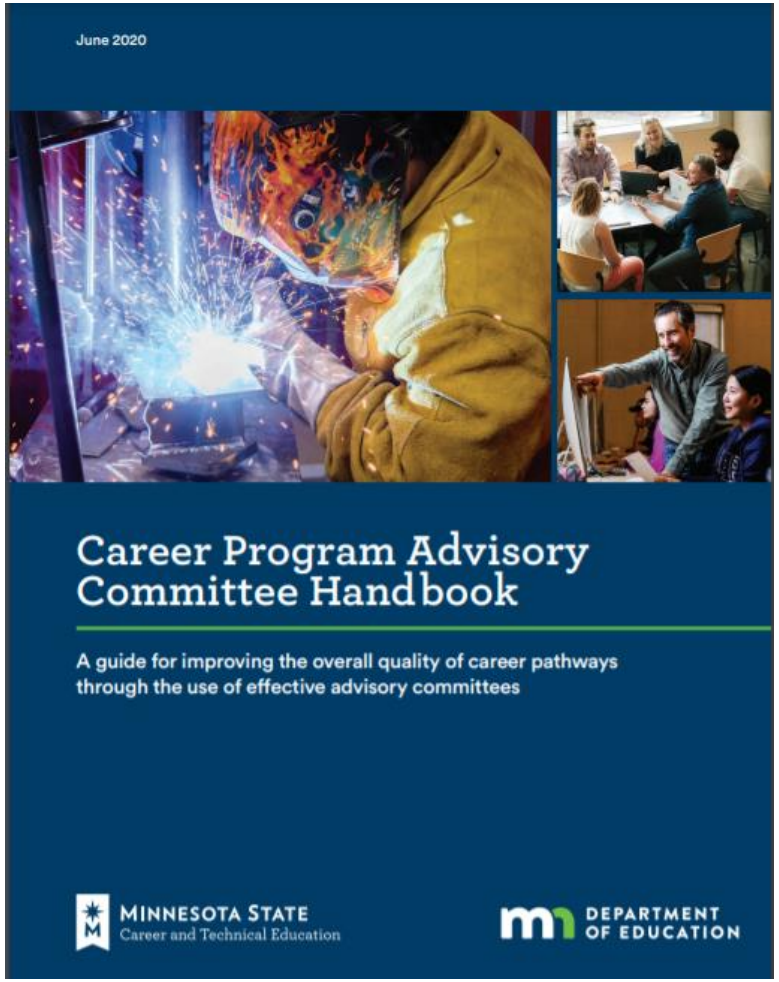
They have connections they can share with you



Putting It All Together

Career Program Advisory Committee Handbook

- Advisory Committee Basics
- Recruiting Members
- Managing Your Advisory Committee
- Goal Setting and Planning



https://www.minnstate.edu/system/cte/consortium_resources/documents/Minnesota-State-Career-Advisory-Handbook-June-2020-web.pdf

Student Leadership & Career Exploration

5 Elements of Program Approval:*

1. Program Design
   - **Student Leadership Development**
   - **Career Exploration & Experiential Learning**
   - Safety Practices, Training, and Assessment
2. Appropriately-licensed CTE Teacher
3. Two or more non-duplicative courses in each program
4. Advisory Committee
5. Acknowledgement of Statement of Assurances

**Compliance based on statute*

What is the difference?

Student Leadership

- Student-directed experiences
- Builds employability skills
  - Problem solving
  - Critical thinking
  - Communication skills
  - Teamwork
  - Research skills
  - Creativity
  - Innovation

Career Exploration/Experiential Learning

- Learn about potential career pathways
- Network with industry professionals
- Understand work culture/environment
- Discover interests and abilities
- Determine strategic plan for professional goals

Types of Student Leadership Options

CTSO:
(Career and Technical Student Organization)

SkillsUSA MINNESOTA

AFNR CTSO

Other Organizations:

- FIRST/VEX Robotics
- Supermileage
- Engineering Challenges
- Drone Racing
- Solar Regatta
- Etc.

Other Methods:

- Student-led assistance or training
- Rotating team leaders/foreperson
- Class Mentoring
- In-school skill competitions
- Community projects

Career Exploration Process

Step 1: Engage in Self-Assessment

Step 2: Evaluate Majors and Careers

Step 3: Research Careers

Step 4: Gain Experience ★

https://seaver.pepperdine.edu/career-services/students/careerexploration/

Industry Engagement & Career Exploration

Start Simple

- Guest Speakers
- Informal Talks
- Resume Reviews
- Mock Interviews
- Info Sessions
- Informational Interviews
- Career or Job Fairs/Expos
- Student Leadership Orgs

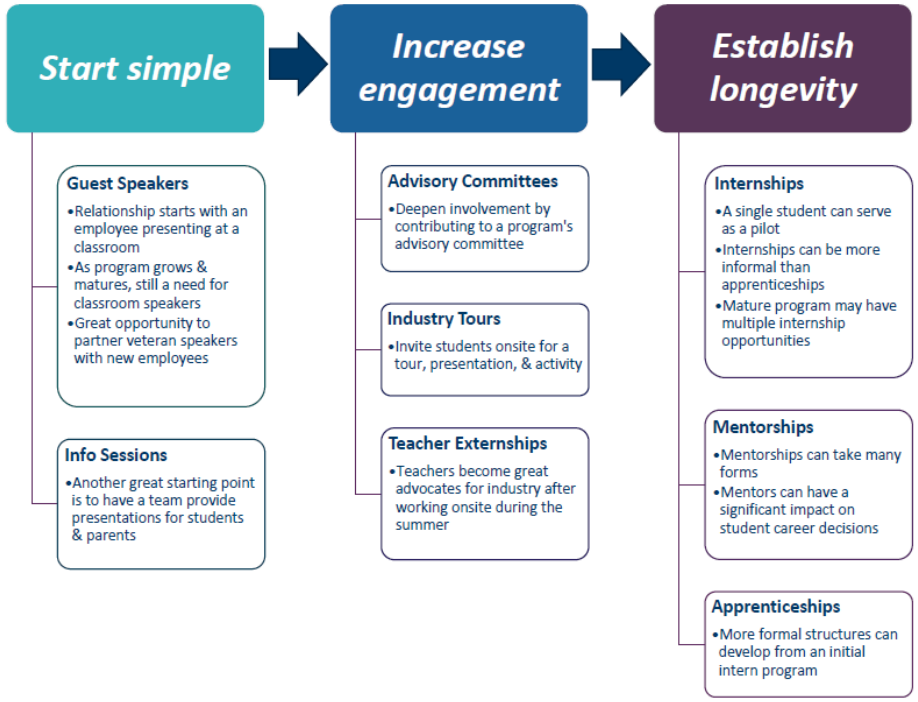
Increase Engagement

- Advisory Committees
- Teacher Externships
- Job Shadows
- Speed Networking Events
- Career Days
- Career Workshops
- Industry Tours
- Hands-on Training

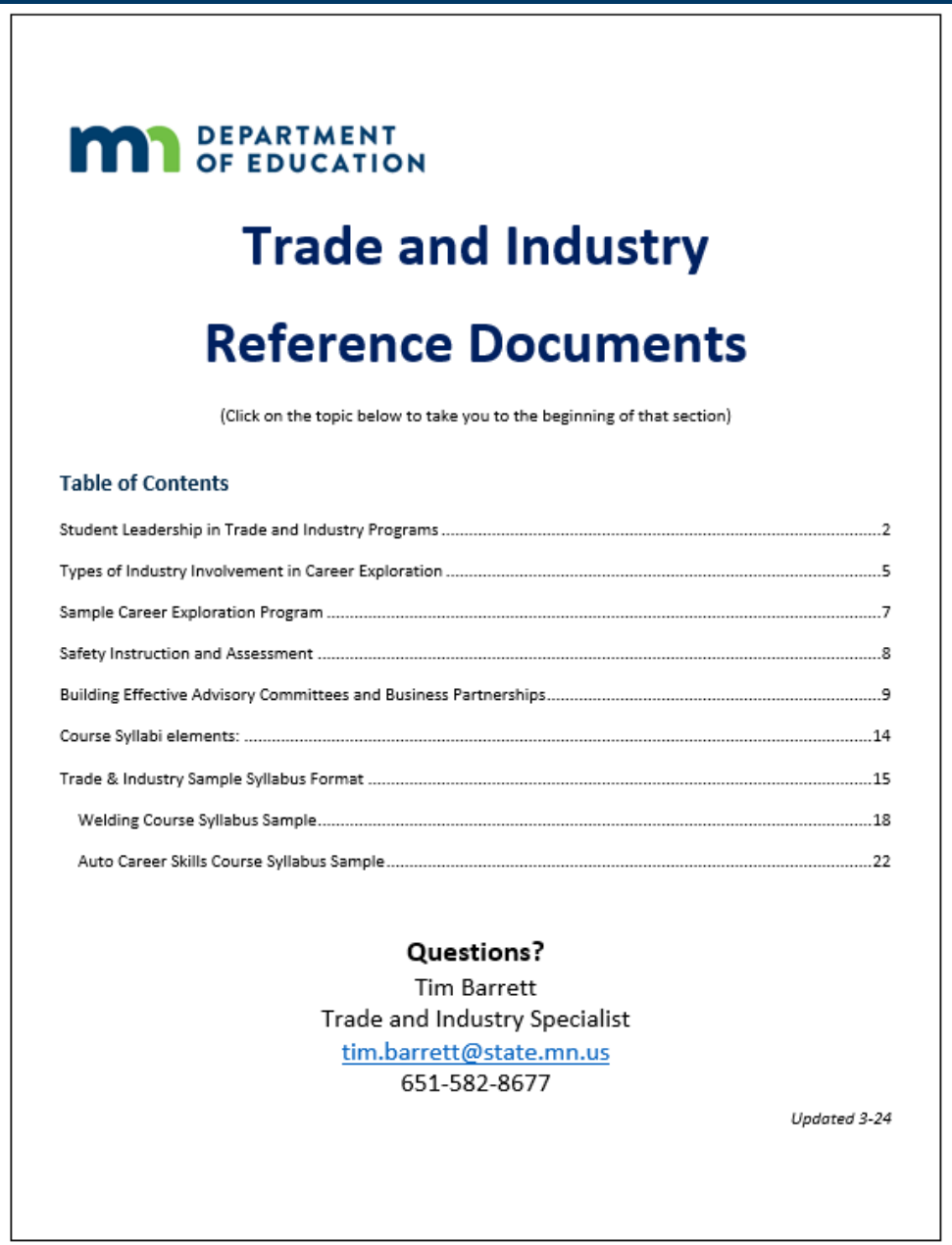
Establish Longevity

- Cooperative Education/Co-Ops
- Mentorships
- Internships
- On-the-Job Training (OJT)
- Pre-Apprenticeships
- Apprenticeships
- Registered Apprenticeships*

*MN Dept. of Labor program



Program Approval Elements



DEPARTMENT OF EDUCATION

Trade and Industry

Reference Documents

(Click on the topic below to take you to the beginning of that section)

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Questions?

Tim Barrett
Trade and Industry Specialist
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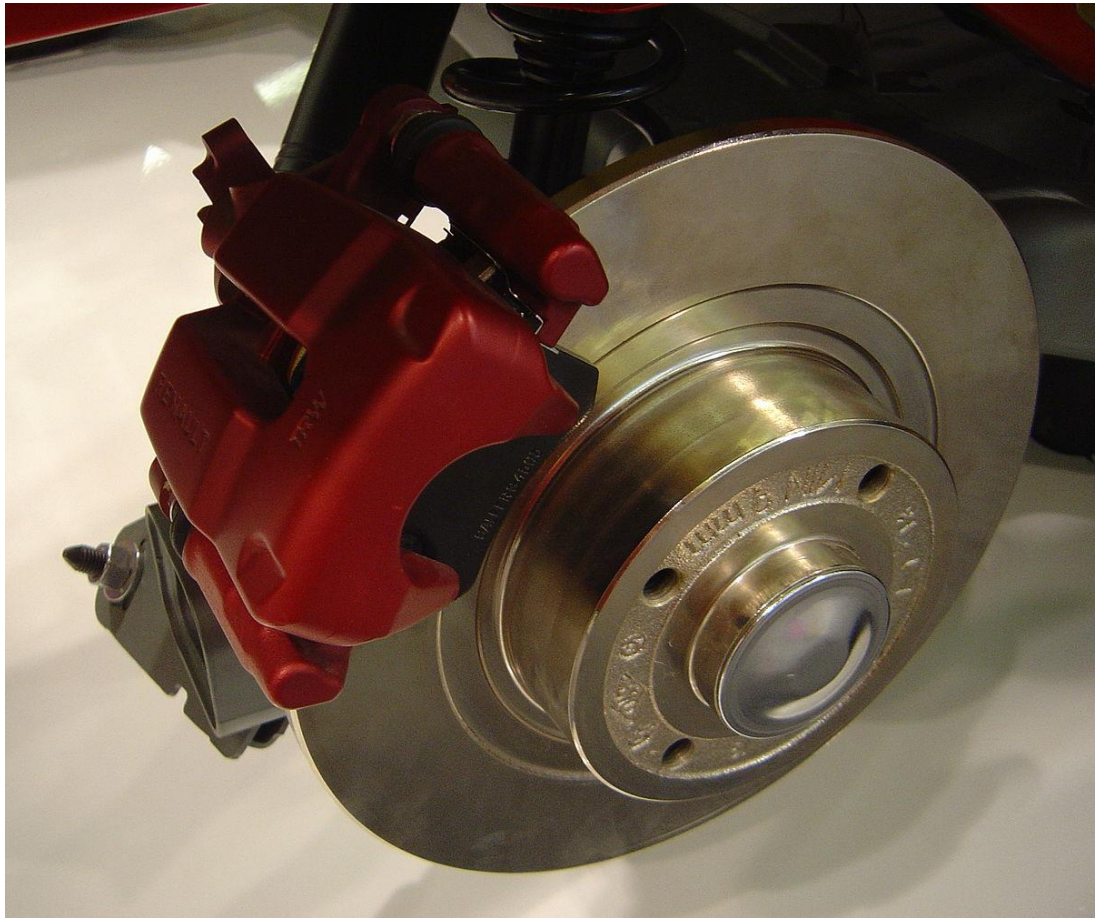
651-582-8677

Updated 3-24

- Additional information about elements
  - Student Leadership
  - Career Exploration
  - Safety Instruction and Assessment
  - Advisory Committees/Industry Engagement
  - Course Syllabi
    - Suggested elements
    - Syllabus samples
- Compliance vs Continuous Improvement

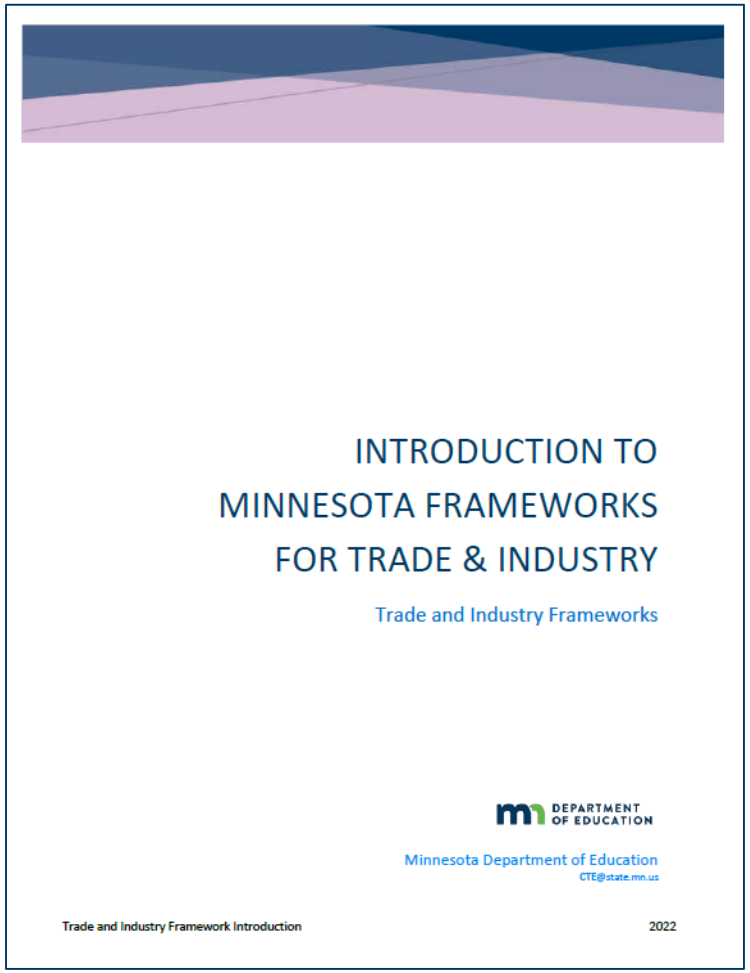
10-minute Break



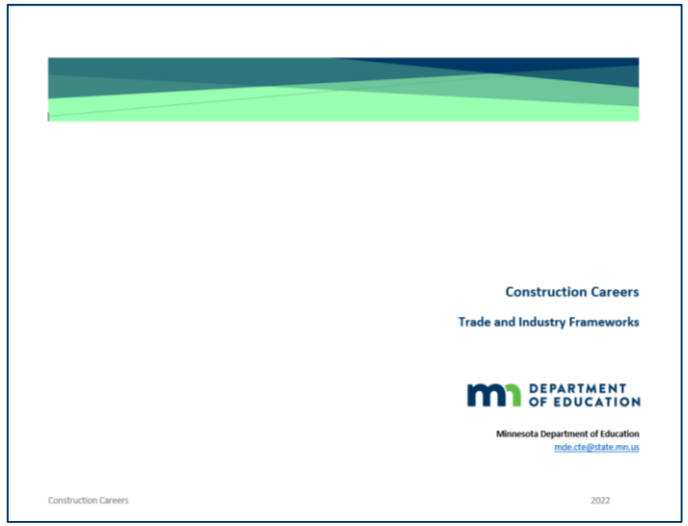
Frameworks and Evidence

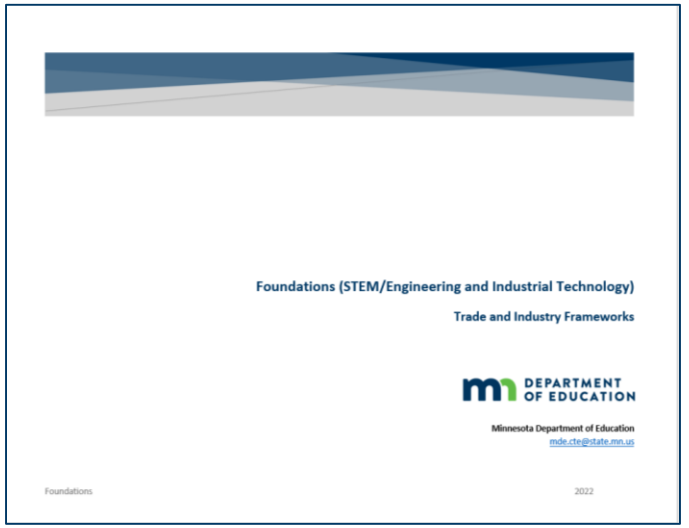
What are “Frameworks”?

- “Standards” for elective areas!
- Guides to develop new courses or modify existing ones
- Standards
  - Performance Indicators
  - Benchmarks
  - Learning Targets

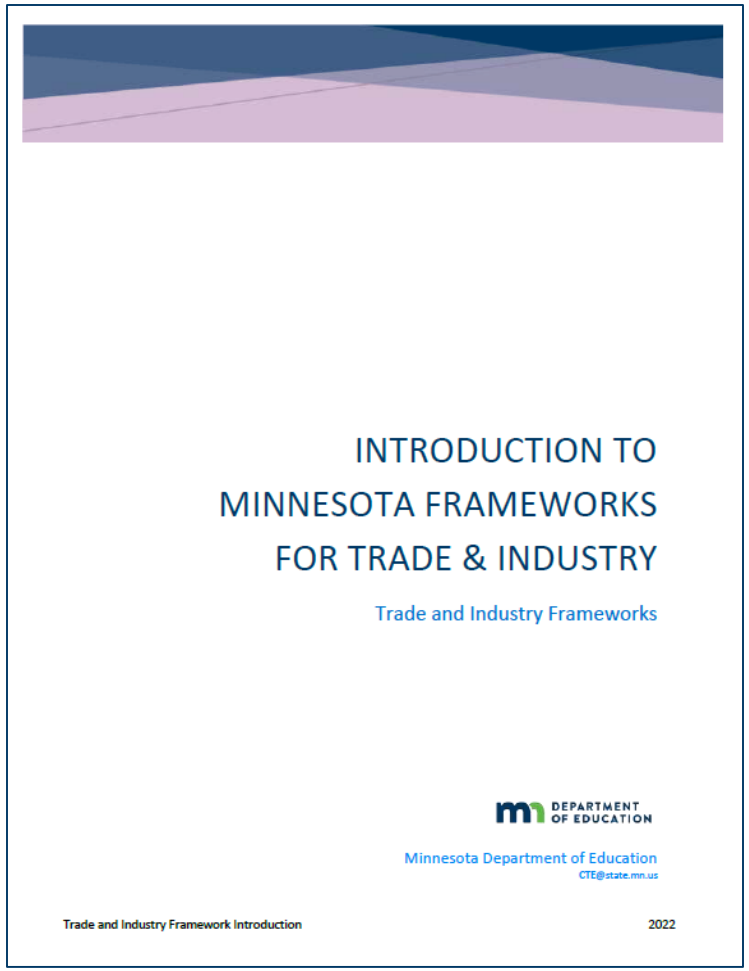


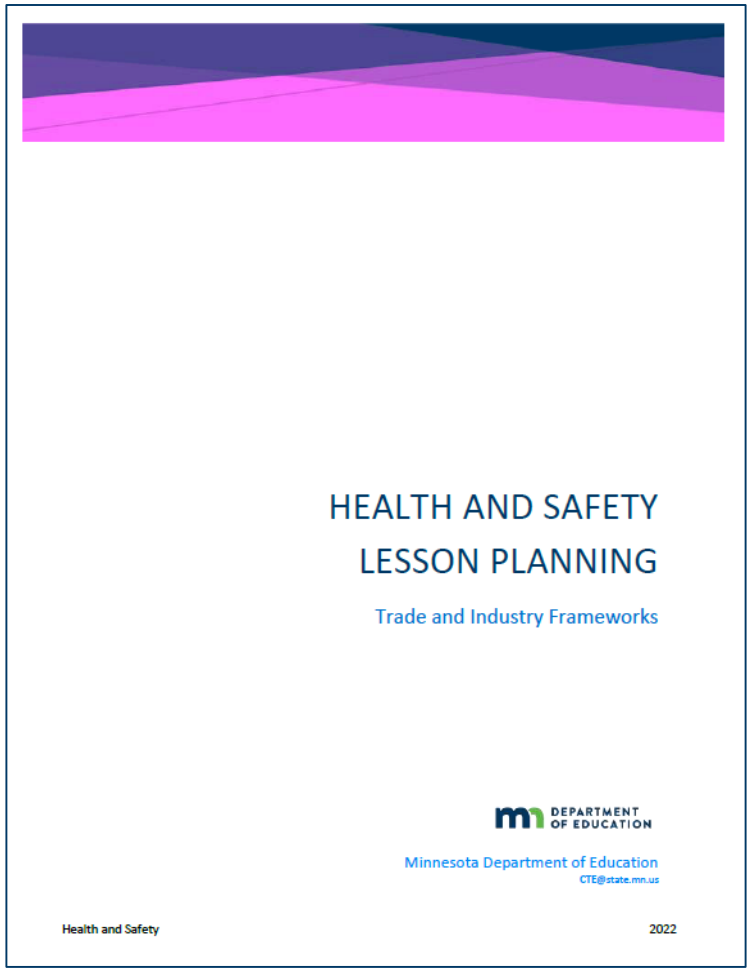
Trade & Industry Frameworks

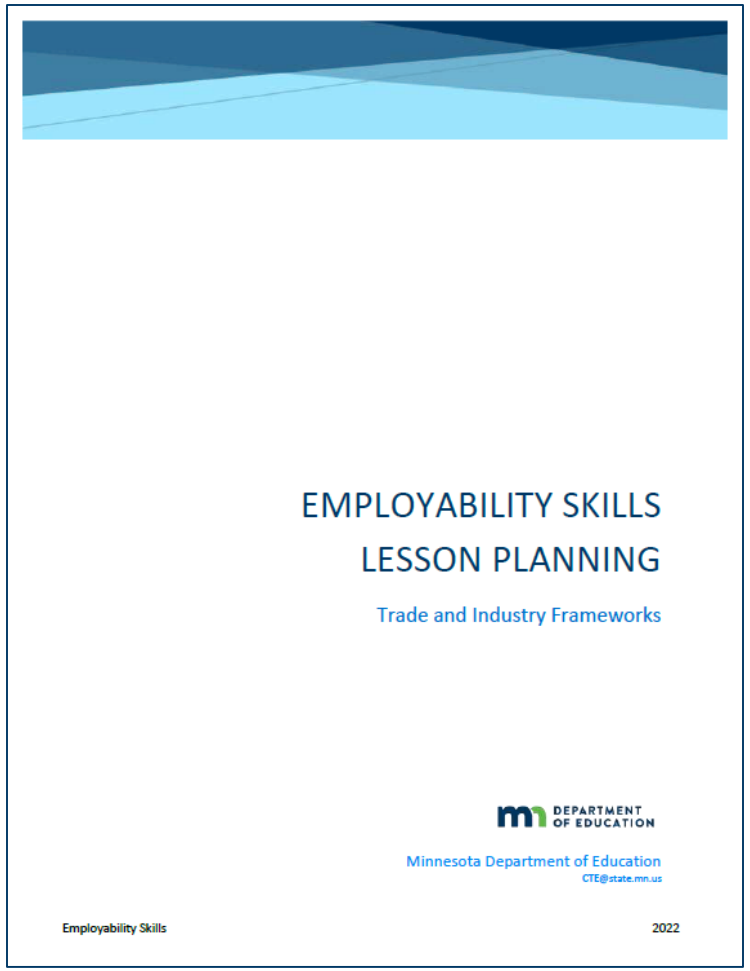




Trade & Industry Framework Supports



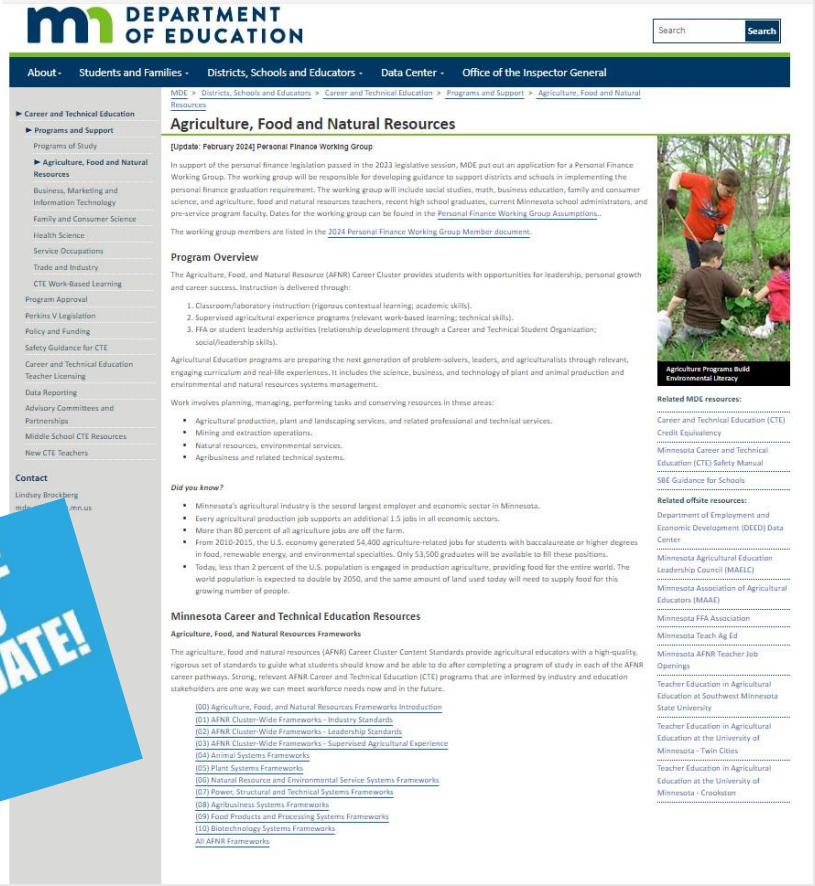




MDE Resources
Specific to Agriculture, Food and Natural Resources

- Agriculture, Food and Natural Resources (mn.gov)
  - My contact information
  - Updates
  - Helpful links – safety manual, partners, frameworks,

and more.



Employability and Health & Safety Skills

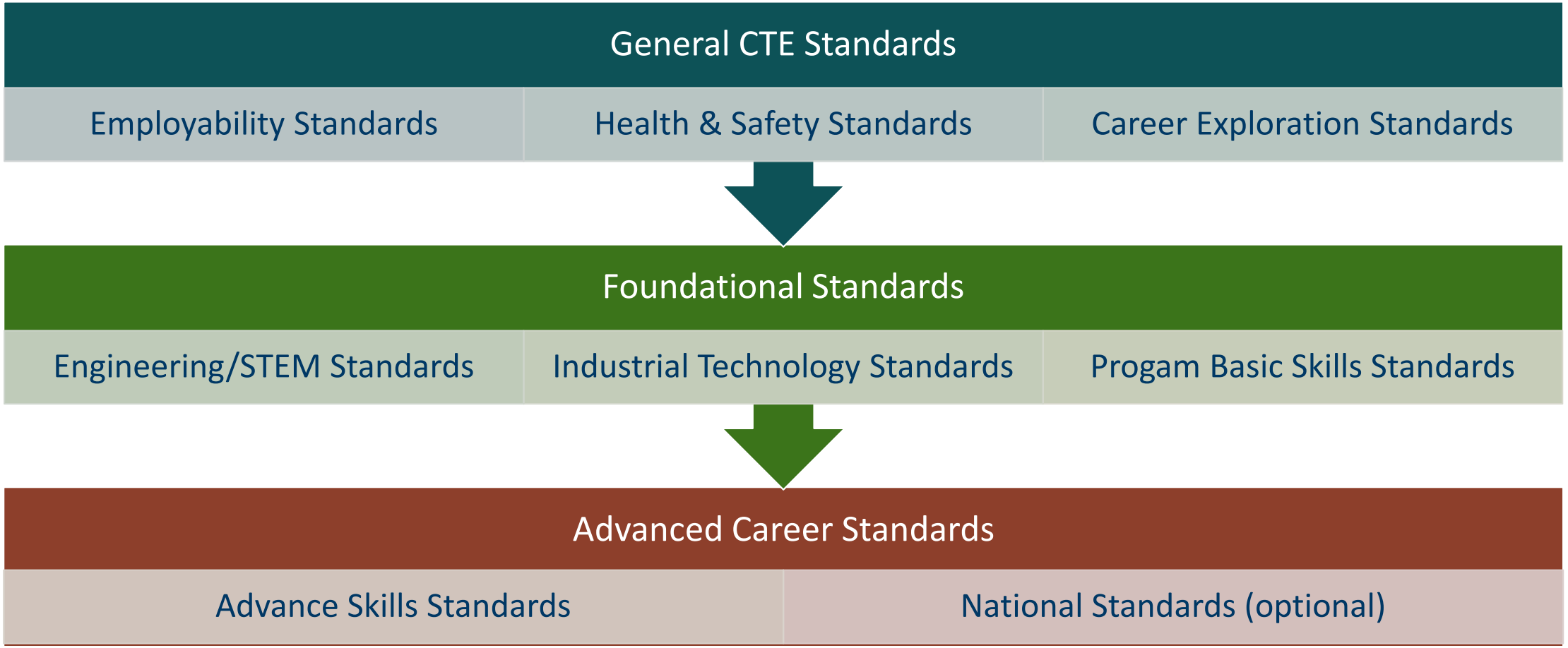
EMPLOYABILITY SKILLS FRAMEWORK

Employability Skills: A Crucial Component of College and Career Readiness
Individuals require many skills to be college and career ready, including academic knowledge, technical expertise, and a set of general, cross-cutting abilities called "employability skills."

Health and Safe Environments: Safety Practices Lesson Plan Components

Category	Component	Included in Lesson Plan: Yes or No?	Notes
Culture of Safety A shared perception, belief, value, and attitude that combine to create a commitment to safety and an effort to minimize harm.	**Safety Responsibility** Students take actions to ensure the safety of self and others, in accordance with established personal and jobsite safety practices.		
	Preventative Action Students anticipate and prevent work-related injuries and illnesses.		

Progression of Standards



Scan QR Code for link to webpage

Career Exploration

Frameworks and Standards

Minnesota Trade and Industry Frameworks

Frameworks provide teachers in these career fields with high-quality, rigorous indicators and benchmarks to identify what students should know and be able to do after completing a program of study in any of the Trade and Industry pathways. MDE Specialist Tim Barrett is the key contact for accessing information and training on the use of these Framework tools.

Program Area Frameworks

The purpose of this Framework is to provide educators and administrators with a guide for curriculum development, assessments, program development and program approvals.

- Trade and Industry Construction Framework
- Trade and Industry Manufacturing Framework
- Trade and Industry Transportation Framework
- Trade and Industry Communications Technology Framework
- Trade and Industry Foundations Framework

Trade and Industry Support Documents

The following resources were developed to assist with using the Trade and Industry Frameworks and ensuring the embedding of vital skills and instruction into every program area.

- Introduction to Frameworks
- Employability Skills Lesson Planning
- Health and Safety Lesson Planning

National Industry Standards

Here are links to different national standards concerning various Trade and Industry program areas. Many of these are tied to credentials that students can obtain or at least start learning on their way to certification:

- ASE (Automotive Service Excellence) Foundation
- AWS (American Welding Association)
- CSTA (Computer Science Teachers Association)

Construction and Skilled Trades Career Counseling Resources

International Technology and Engineering Education Association (ITEEA)

Midwest Teachers of Transportation and Industrial Areas (MTTIA)

Minnesota Department of Employment and Economic Development (DEED)--Job Skills Transfer Assessment Tool (JOBSTAT)

Minnesota Technology and Engineering Educators Association (MTEEA)

Project Lead the Way

SkillsUSA Minnesota

St. Cloud State University Department of Technology Education

Trades Hub

https://education.mn.gov/MDE/dse/cte/prog/ind/

What is the Ideal Syllabus?

Syllabus vs Evidence

Syllabus Elements:

1. Course Description
2. Standards Addressed
3. Course Outline
4. Safety Instruction!
5. Student Leadership
6. Career Exploration/Experiential Learning

Other Evidence:

1. SkillsUSA Chapter Guide/POW (Program of Work)
2. Meeting Agendas
3. Safety Handbook/Tests
4. Articulation agreements

Why do I need a syllabus?

A well written syllabus sets the tone for the class!

- Good to share with state…
- But more important to share with –
  - Students and Parents
  - School Administration
  - Industry Partners and Community

What do we want to share with the world?

How do we want to present our program?

Is there a more effective way to do it?

What should I include in a syllabus?

What do I put in?

What do I leave out?

Sample Syllabus Format

Trade & Industry Sample Syllabus

Course Title:

Program Code: **Course Code:**

Course Registration Number (optional item, use for local enrollment catalog number):

Grade Level: **Prerequisites:**

Articulated Agreements, and/or Dual Credit Opportunities:

***Note**: It's important to list this on the syllabus because even though it may not currently qualify for articulation or dual credit it can start the conversation to lead to such opportunities. Perhaps an administrator or instructor didn't even know this was an option for example.*

Technical Skill Assessment:

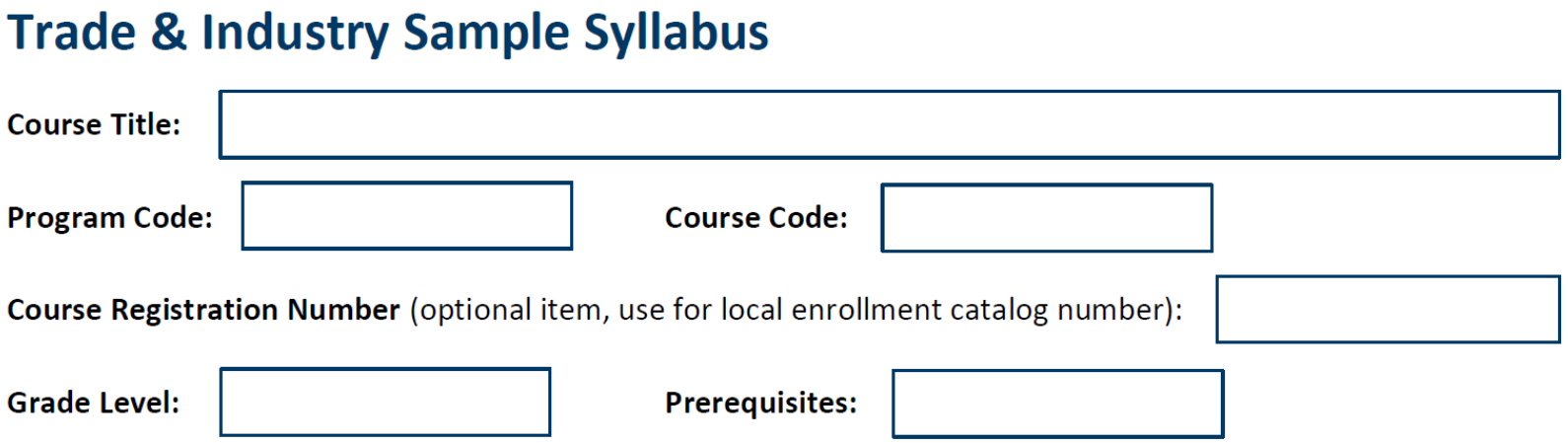
Note: *Again, another important item to list as it may not be required, but can lead to discussion among stakeholders and industry partners.*

Course Description:

- This format is only an example
- Suggested fields reflect MDE interest for Program Approval
  - Areas of review
  - Evidence for program/course
- Districts can use any format

General Information

- Use title listed in district catalogue
- Connect to MDE program/course codes
- List other elements included in district catalogue



Trade & Industry Sample Syllabus

Course Title:

Program Code: **Course Code:**

Course Registration Number (optional item, use for local enrollment catalog number):

Grade Level: **Prerequisites:**

Additional Information

Postsecondary credits

- Articulate credit
- Concurrent credit

Technical Skill Assessment and/or Industry Credential

Examples:

- OSHA 10
- ASE (Automotive Service Excellence)
- CompTIA IT Fundamentals

Articulated Agreements, and/or Dual Credit Opportunities:

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Technical Skill Assessment:

Note: *Again, another important item to list as it may not be required, but can lead to discussion among stakeholders and industry partners.*

General course description and standards

Course Description:

Note: *Course descriptions are typically done in paragraph form and give a broad overview of the course. It's important to include career pathway information, experiential learning opportunities and relevant career planning information. Career exploration is a required component of work experience career seminar courses.*

CTE Frameworks, Local or National Standards, Benchmarks:

Course Description

- Table C & Frameworks
- Adapt to your actual course
- Don't forget career exploration!

CTE Frameworks

- Check MN T&I Frameworks
- Consider National Standards
- List only what is important & relevant

Questions about what to list

Do I need to list all the standards in an area?

Questions about what to list

Do I need to list Benchmarks & Learning Targets?

How do I determine which standards?

Which standards?

Which benchmarks?

How do I include frameworks into syllabi?

List major standards from general CTE areas:

- employability skills
- health & safety
- career exploration

How do I include frameworks into syllabi?

List major standards from foundational areas:

- engineering/STEM
- industrial technology
- basic program skills

How do I include frameworks into syllabi?

List major standards for more advanced technical skill:

✚ Career Exploration

— Frameworks and Standards

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- CSTA (Computer Science Teachers Association)

Sample Syllabus Standards

MN Trade & Industry Frameworks for Communications Technology

Performance Indicator/Standard	
Measures/Benchmarks	**Learning Targets**
HS.03 Demonstrate Digital Citizenship	
HS.03.03 Engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices	3.3.2 Understand and utilize digital etiquette in online interactions
HS.04 Observe and follow proper safety procedures	
HS.04.05 Uses equipment and tools safely. Completes safety training on pertinent equipment and applies safe operating procedures	4.5.5 Demonstrate the proper techniques when using tools and equipment
CE.01 Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.	
CE.01.04 Research the scope of career opportunities available and the requirements for education, training, certification, and licensure.	1.4.1 Assess various career options including training costs, starting and average pay, and advancement opportunities.
PH.01 Understand the history, evolution, and current trends of photography.	
PH.01.01 Investigate the role and development of photography in past and present cultures and current trends	1.1.2 Describe the significance of influential historical photographers
PH.03 Understand the elements and principles of design and composition	
PH.03.01 Identify and apply the elements of design	3.1.3 Incorporate color, line, shape, texture, space, and value in photographs
PH.03.02 Identify and apply the principles of design	3.2.3 Indorporate principles of balance, contrast, rhythm, repetition, movement, variety, emphasis, and unity in photographs
PH.03.03 Identify and apply the guidelines for composition	3.3.3 Incorporate guidelines for composition (e.g., simplicity, rule of thirds, point of view, focal point, proportion/scale, and framing)
PH.05 Implement digital workflow processes	
PH.05.02 Demonstrate editing techniques	5.2.1 Utilize selection tools and layer masks to manipulate specific parts of an image 5.2.3 Utilize use of layers in photo-editing software 5.2.5 Apply image adjustments (e.g., levels, curves, contrast)
PH.06 Demonstrate competence in presentation techniques and portfolio development	
PH.06.01 Demonstrate knowledge in displaying printed images	6.1.2 Select work and present appropriately in an exhibition

- HS.01 Maintain a healthy and safe environment
- HS.02 Foster personal safety
- HS.04 Observe and follow proper safety procedures
- CE.01 Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans
- CB.01 Recognize the impact of financial, technical, environmental, and labor trends on the past and future of the construction industry
- CB.03 Apply fundamental design techniques
- CB.04 Perform general construction skills
- CB.05 Identify material properties and hardware
- CB.06 Demonstrate proper building and repair processes for all types of structures
- CB 11 Demonstrate career exploration and business skills

Student Leadership

SkillsUSA MINNESOTA

iteea RE@CH challenge

Student Leadership:

Note: *Career and Technical Student Organizations (CTSOs) or alternative leadership activities play an important role in helping to develop student leaders. Listing them in the syllabus helps students, parents and stakeholders know of these unique opportunities for student growth. They should align with information on the Program Approval form.*

Real World Design Challenge

YDSC YOUTH DRONE SPORTS CHAMPIONSHIPS

HIGH TECH KIDS

VEX ROBOTICS COMPETITION INSPIRATION FOR THE FUTURE

FIRST UPPER MIDWEST

MTEEA MINNESOTA TECHNOLOGY AND ENGINEERING EDUCATORS ASSOCIATION

SuperMileage

Service Learning/ Afterschool Clubs

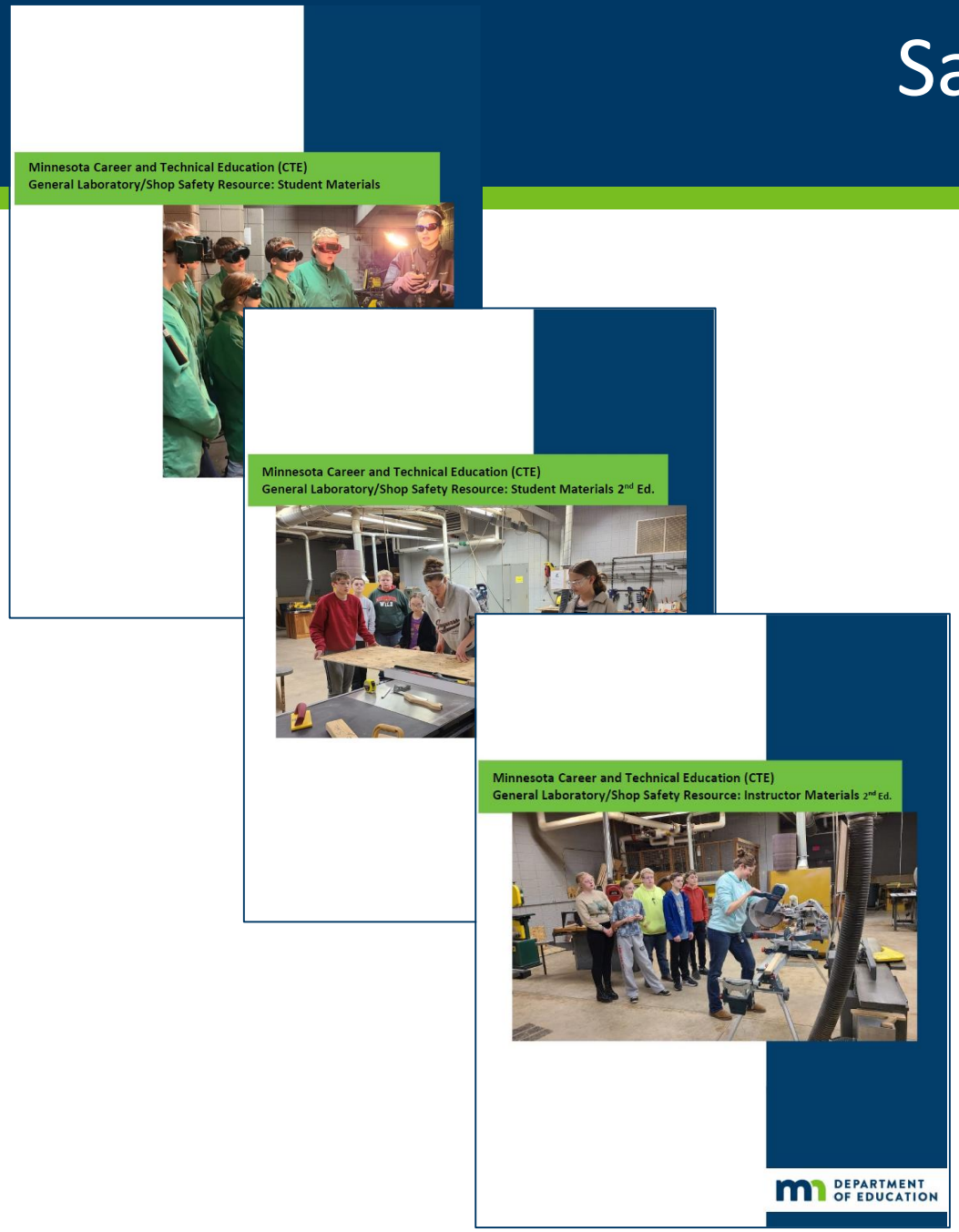
Course outline or schedule

Course Outline, Specific Goals and/or Outcomes for Learners:

Note: *This is one of the most important of the syllabus. It's an opportunity to list learner outcomes in more detail and specificity. The course outline can be especially helpful to new instructors as it provides the overview needed to develop individual lesson plans. A timeline should be added to the outline to help with planning purposes and to help keep the class flowing in a timely manner.*

- General plan of the course
  - Structure information in logical order
  - Tied to learning goals
  - Breaks down into subtopics
  - Guide for progression
  - Helps students know –
    - What the course is about
    - Where it is going
    - Why the course is taught
    - What is required

Safety Instruction and Assessment



Safety Instruction for Lab/Shop:

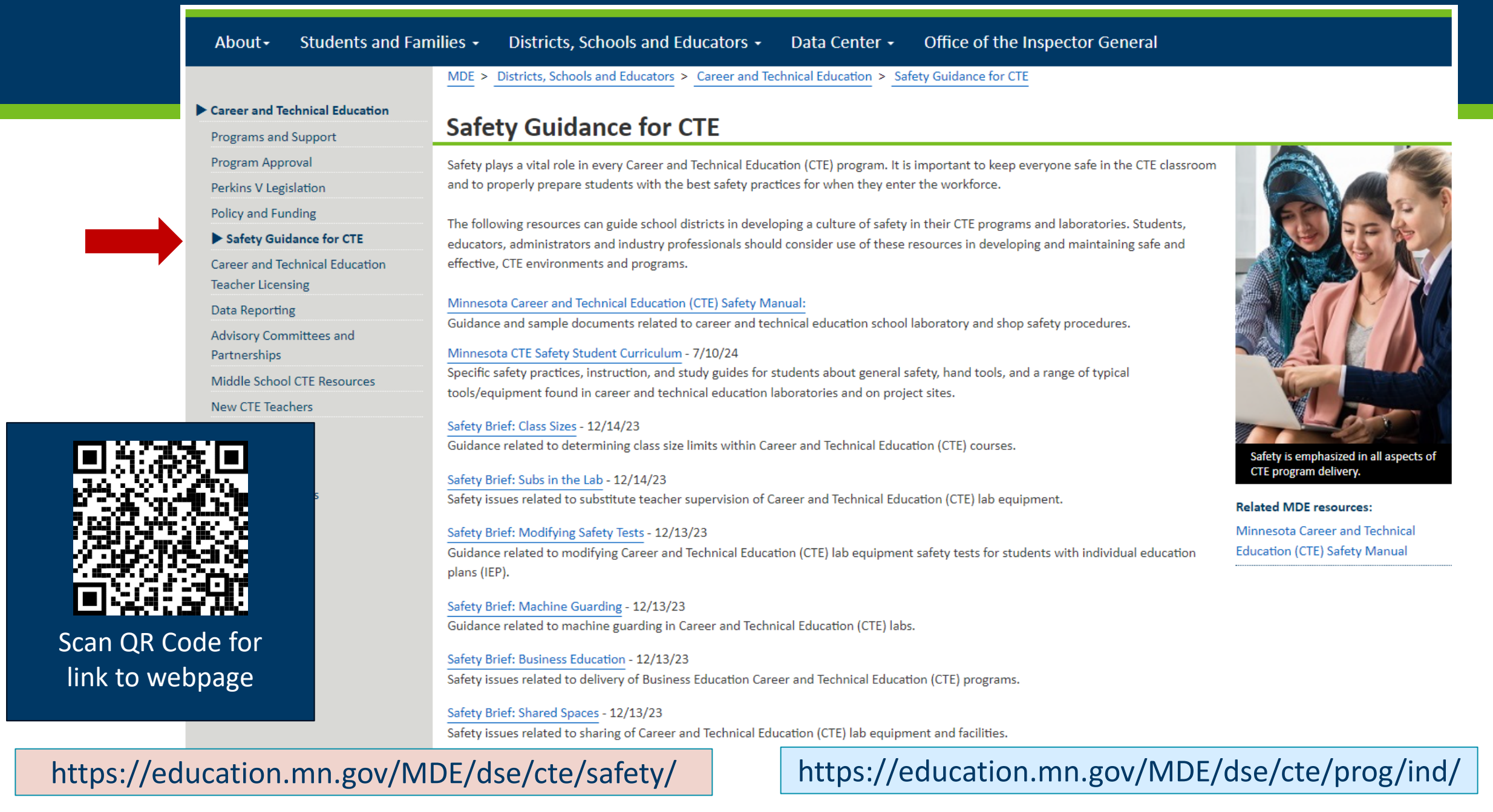
Note: *Safety is paramount in CTE courses that require the use of tools and machines. Best practices involve instructor discussion and demonstration followed by the student passing a written test as well as demonstrating for the instructor, proper tool/machine setup and use. It's important for the instructor to keep accurate records and to maintain copies of written safety tests on all students for as long as deemed appropriate by the school's insurance carrier. If the student is involved in any work-based learning or related work experience activities there needs to be shared responsibility between the instructor and the employer to make sure all child labor laws are being followed and enforced.*

Safety Elements

Clearly describe safety instruction and assessment:

For example, students need to -

- Pass safety tests 100% before using equipment
- Demonstrating safe practices to instructor before use
- Any other items that help in fully understanding the safety practices & instruction.



Scan QR Code for link to webpage

https://education.mn.gov/MDE/dse/cte/safety/

https://education.mn.gov/MDE/dse/cte/prog/ind/

Instructional Materials

Instructional Materials:

Note: *Listing the date of publication for instructional materials is helpful as most schools use a curriculum review cycle and this can help insure instructional materials are current.*

Traditional resources: Textbooks, reference books, etc.

Graphic and interactive materials: Charts, graphs, maps, multimedia, etc.

Presentation items: Lecture notes, etc.

Tests and assessments: Standardized tests, group projects, etc.

District syllabus vs. special program approval syllabus?

Should I create a separate “MDE” syllabus?

PELSB and MDE

- PELSB in charge of & makes decisions related to teacher licensure
  - MDE does NOT

- MDE provide information & guidance
- However, always confirm with PELSB!

Licensing Terminology

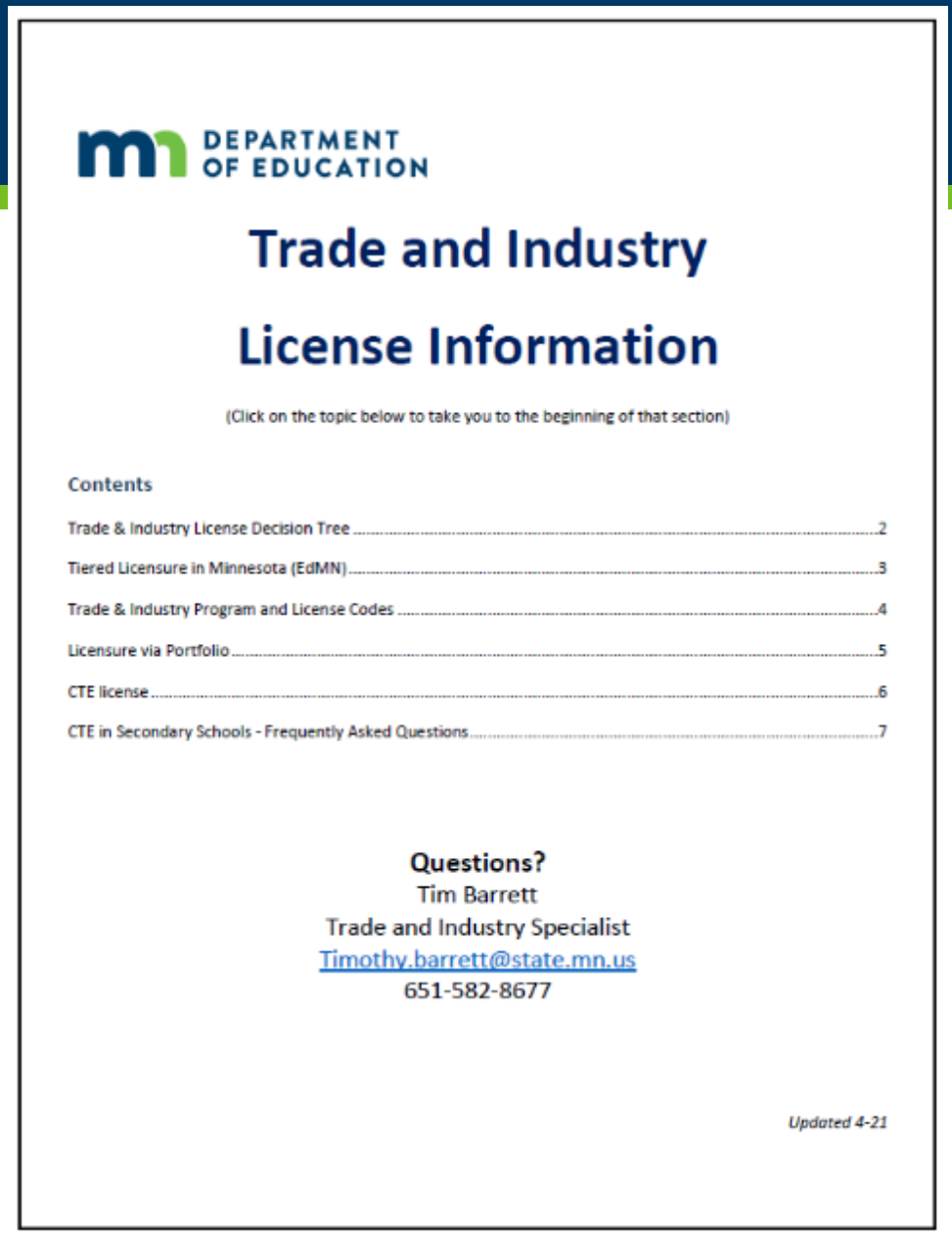
Terms no longer used…

“Vocational license” – replaced with “CTE License”

“Variances” – replaced with “Out-of-Field Permissions” and Tiered licenses

“Certifications” – replaced with “license” and “endorsement”

License Resources



DEPARTMENT OF EDUCATION

Trade and Industry

License Information

(Click on the topic below to take you to the beginning of that section)

Contents

Questions?

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651-582-8677

Updated 4-21

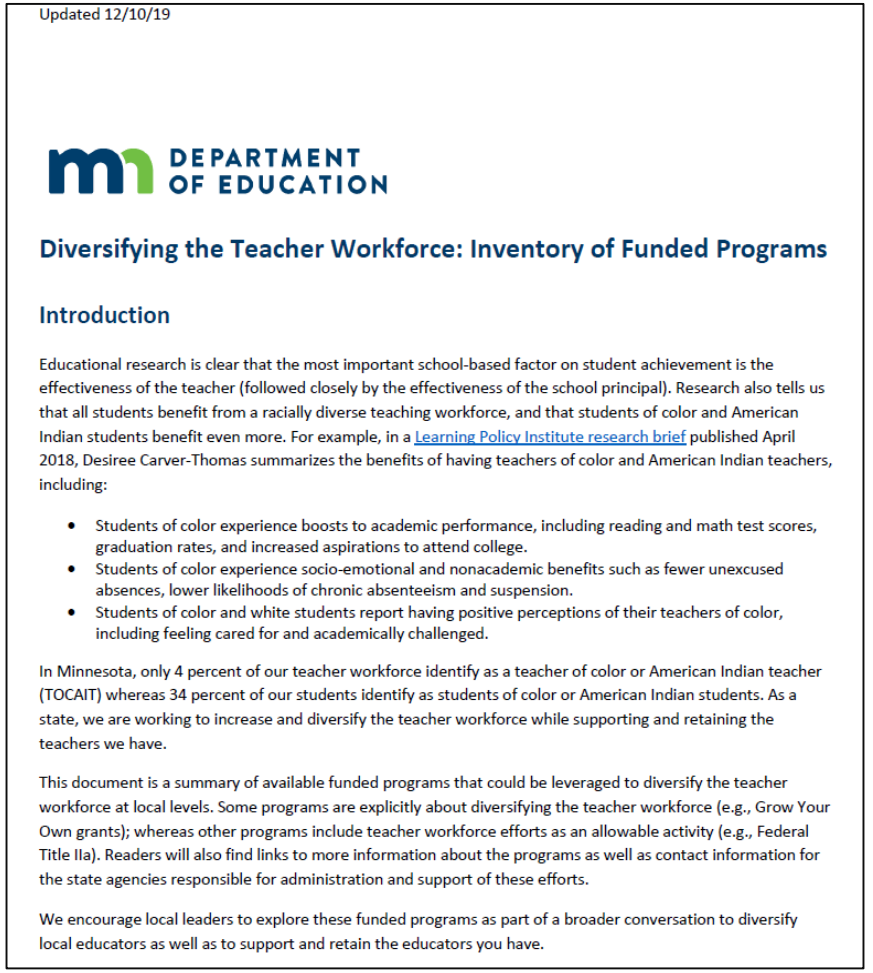
- Provide various license information
  - T&I Decision Tree
  - Tiered License Chart
  - Chart of program codes and corresponding teacher licenses
  - Portfolio options
  - CTE License FAQ
- **DOES NOT REPLACE OFFICIAL INFORMATION**

Funding CTE Teacher Licensing

Inventory of Funded Programs

https://education.mn.gov/MDE/dse/cte/lic/

- Created by MDE, OHE, & PELSB
- List of funded programs
  - Support and diversify CTE educator workforce
  - Living document edited & revised as appropriate



Updated 12/10/19

DEPARTMENT OF EDUCATION

Diversifying the Teacher Workforce: Inventory of Funded Programs

Introduction

Educational research is clear that the most important school-based factor on student achievement is the effectiveness of the teacher (followed closely by the effectiveness of the school principal). Research also tells us that all students benefit from a racially diverse teaching workforce, and that students of color and American Indian students benefit even more. For example, in a Learning Policy Institute research brief published April 2018, Desiree Carver-Thomas summarizes the benefits of having teachers of color and American Indian teachers, including:

- Students of color experience boosts to academic performance, including reading and math test scores, graduation rates, and increased aspirations to attend college.
- Students of color experience socio-emotional and nonacademic benefits such as fewer unexcused absences, lower likelihoods of chronic absenteeism and suspension.
- Students of color and white students report having positive perceptions of their teachers of color, including feeling cared for and academically challenged.

In Minnesota, only 4 percent of our teacher workforce identify as a teacher of color or American Indian teacher (TOCAIT) whereas 34 percent of our students identify as students of color or American Indian students. As a state, we are working to increase and diversify the teacher workforce while supporting and retaining the teachers we have.

This document is a summary of available funded programs that could be leveraged to diversify the teacher workforce at local levels. Some programs are explicitly about diversifying the teacher workforce (e.g., Grow Your Own grants); whereas other programs include teacher workforce efforts as an allowable activity (e.g., Federal Title IIa). Readers will also find links to more information about the programs as well as contact information for the state agencies responsible for administration and support of these efforts.

We encourage local leaders to explore these funded programs as part of a broader conversation to diversify local educators as well as to support and retain the educators you have.

https://education.mn.gov/MDE/dse/cte/progApp/

About ▾ Students and Families ▾ Districts, Schools and Educators ▾ Data Center ▾ Office of the Inspector General

MDE > Districts, Schools and Educators > Career and Technical Education > Program Approval

▶ Career and Technical Education
- Programs and Support
- ▶ Program Approval
- Perkins V Legislation
- Policy and Funding
- Safety Guidance for CTE
- Career and Technical Education Teacher Licensing
- Data Reporting
- Advisory Committees and Partnerships
- Middle School CTE Resources
- New CTE Teachers

Contact

mde.cte.program.approval@state.mn.us
651-582-8333

Program Approval

Districts, Cooperatives and Charter Schools need to submit an application for Program Approval to the Minnesota Department of Education (MDE) if they are:

- Applying for a new program, or
- A district within a Perkins V consortium that is up for five-year program renewal, or
- Making updates to an existing program, such as teacher or course additions or revisions (Amending an approved program).

The programs and courses identified for each district within the Program Approval Database are the programs and courses that districts report to MDE in their P-file (Perkins data submission). Find more information about program approvals and your data submission below.

Building Effective Advisory Committees - 4/22/22
Guidance on effective CTE advisory committees, which are a required component of CTE program approval.

Program Approval Application Form - 3/8/24
Complete this Program Approval application form as part of the five-year approved program review cycle or if your district is seeking approval for a new program.

Program Approval Checklist and Timeline - 3/12/24
Overview of the CTE program approval process. Document includes specific preparation suggestions as well as a sample district timeline.

3

Program Approval Database - 5/16/24
This Career and Technical Education (CTE) file displays programs approved under Minnesota Rule 3505.

Program Approval Revision/Amendment Form - 7/18/24
Complete an Amendment form any time there is a teacher and course change to an existing state-approved CTE program. Amendments are processed throughout the year, however, course amendments will only be publicly updated to the Program Approval Database annually each Spring.

2

Table C - 5/9/24
List of all Career and Technical Education Programs, Courses, and Teacher Licensure requirements for Minnesota's program approval and data collection.

The MDE Program Approval Process Ensures Quality Programs For Students

Related MDE resources:

Data Submission

REVISED Table C

UFARS Code	CTE Program Code/Pathway Title	Program Code	Course Code	Recommended Course Title	Course Description	CTE License	CTE License	CTE License	CTE License	Non Trad	CIP Code	Career Field	Career Cluster	Career Pathway	Minnesota Common Course Number
	TRADE AND INDUSTRY														
	CONSTRUCTION CAREERS														
361	Engineering/STEM	171000	01	Engineering Essentials	Engineering Essential courses provide stud	For this program, one of the following licenses				F	14.0101	04	15	4.21	21001
			02	Introduction to Engineering Design	Engineering Design courses offer students	is required:	300100	171000	171016	F	14.0101	04	15	4.21	21006
			03	Principles of Engineering	Principles of Engineering courses provide s					F	14.0101	04	15	4.21	21007
			04	Digital Electronics	Digital Electronics courses teach students					F	14.0101	04	15	4.21	21008
			05	Computer Integrated Manufacturing	Computer Integrated Manufacturing cour					F	14.0101	04	15	4.21	21010
			06	Engineering Design & Development	Engineering Design and Development cou					F	14.0101	04	15	4.21	21007
			07	Environmental Sustainability	Environmental Sustainability courses help					F	14.0101	04	15	4.21	21024
			08	Civil Engineering & Architecture	Civil Engineering and Architecture courses					F	14.0101	04	15	4.21	21012
361	Industrial Technology	171000	10	Introduction to Industrial Technology	Introduction to Industrial Technology cour					F	15.0000	04	13	4.22	21003
			11	Emerging Technologies	Emerging Technologies courses expose stu					F	15.0000	04	13	4.22	21053
			12	Technology Innovation & Assessment	Technology Innovation and Assessment co					F	15.0000	04	13	4.22	21054
361	Construction --Basic	171000	20	Building Repair & Maintenance	Building Repair & Maintenance courses pr					F	46.0000	04	02	4.23	17010
			21	Carpentry	Carpentry courses provide information rel					F	46.0000	04	02	4.23	17003
			22	Drafting	Drafting—General courses introduce stud					F	15.1307	04	02	4.23	21102
			23	CAD	Frequently offered as an intermediary ste					F	15.1307	04	02	4.23	21107
			24	Architectural Drafting	Drafting—Architectural courses introduce					F	15.1307	04	02	4.23	21103
			25	Career Investigation	Construction Careers Exploration courses					F	46.0000	04	02	4.23	17001
361	Construction --Residential	171000	30	Residential Construction	Residential Construction courses provide s					F	46.0000	04	02	4.24	17002
			31	Framing Carpentry & Exteriors	Framing Carpentry and Exteriors courses p					F	46.0201	04	02	4.24	17004
			32	Residential Masonry	Residential Masonry courses enable stude					F	46.0101	04	02	4.24	17008
			33	Residential Wiring	Residential Wiring courses apply the know					F	46.0301	04	02	4.24	17103
			34	Residential Plumbing	Residential Plumbing courses provide stud					F	46.0502	04	02	4.24	17058
			35	Residential HVAC	These courses synthesize basic and					F	47.0201	04	02	4.24	17056
361	Construction --Commercial	171000	40	Commercial Construction	Commercial Construction courses focus on					F	46.0000	04	02	4.25	17002

T&I_Construction | T&I_Manufacturing | T&I_Transportation | T&I_Communications

Licenses on Table C

UFARS Code	CTE Program Code/Pathway Title	Program Code	Course Code	Recommended Course Title	Course Description	CTE License	CTE License	CTE License	CTE License	Non Trad	CIP Code	Career Field	Career Cluster	Career Pathway	Minnesota Common Course Number
	TRADE AND INDUSTRY														
	CONSTRUCTION CAREERS														
361	Engineering/STEM	171000	01	Engineering Essentials	Engineering Essential courses provide stud	For this progra				F	14.0101	04	15	4.21	21001
			02	Introduction to Engineering Design	Engineering Design courses offer students	is required:	300100	171000	171016	F	14.0101	04	15	4.21	21006
			03	Principles of Engineering	Principles of Engineering courses provide s					F	14.0101	04	15	4.21	21007
			04	Digital Electronics	Digital Electronics courses teach students					F	14.0101	04	15	4.21	21008
			05	Computer Integrated Manufacturing	Computer Integrated Manufacturing cour					F	14.0101	04	15	4.21	21010
			06	Engineering Design & Development	Engineering Design and Development cou					F	14.0101	04	15	4.21	21007
			07	Environmental Sustainability	Environmental Sustainability courses help					F	14.0101	04	15	4.21	21024
			08	Civil Engineering & Architecture	Civil Engineering and Architecture courses					F	14.0101	04	15	4.21	21012
361	Industrial Technology	171000	10	Introduction to Industrial Technology	Introduction to Industrial Technology cour					F	15.0000	04	13	4.22	21003
			11	Emerging Technologies	Emerging Technologies courses expose stu					F	15.0000	04	13	4.22	21053
			12	Technology Innovation & Assessment	Technology Innovation and Assessment co					F	15.0000	04	13	4.22	21054
361	Construction --Basic	171000	20	Building Repair & Maintenance	Building Repair & Maintenance courses pr					F	46.0000	04	02	4.23	17010
			21	Carpentry	Carpentry courses provide information rel					F	46.0000	04	02	4.23	17003
			22	Drafting	Drafting—General courses introduce stud					F	15.1307	04	02	4.23	21102
			23	CAD	Frequently offered as an intermediary ste					F	15.1307	04	02	4.23	21107
			24	Architectural Drafting	Drafting—Architectural courses introduce					F	15.1307	04	02	4.23	21103
			25	Career Investigation	Construction Careers Exploration courses e					F	46.0000	04	02	4.23	17001
361	Construction --Residential	171000	30	Residential Construction	Residential Construction courses provide s					F	46.0000	04	02	4.24	17002
			31	Framing Carpentry & Exteriors	Framing Carpentry and Exteriors courses p					F	46.0201	04	02	4.24	17004
			32	Residential Masonry	Residential Masonry courses enable stude					F	46.0101	04	02	4.24	17008
			33	Residential Wiring	Residential Wiring courses apply the know					F	46.0301	04	02	4.24	17103
			34	Residential Plumbing	Residential Plumbing courses provide stud					F	46.0502	04	02	4.24	17058
			35	Residential HVAC	These courses synthesize basic and					F	47.0201	04	02	4.24	17056
361	Construction --Commercial	171000	40	Commercial Construction	Commercial Construction courses focus on					F	46.0000	04	02	4.25	17002

T&I_Construction | T&I_Manufacturing | T&I_Transportation | T&I_Communications

Course Descriptions on Table C

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Welding courses enable students to gain knowledge of the physical and chemical properties, uses, and applications of various metals. Students gain skills in various processes used to join and cut metals, such as oxyacetylene welding and cutting, plasma cutting, shielded metal arc welding (SMAW or stick), gas metal arc welding (GMAW or MIG), and tungsten inert gas welding (TIG). They gain experience in identifying, selecting, and using appropriate techniques. Other various tools and machines needed in the welding shop will be learned, demonstrated and used as well. Such skills could be mastered by allowing them to practice their welding skills on coupons and small projects. Students may begin to read and interpret blueprints in order to identify, select, and use appropriate techniques. These courses may prepare students to pass relevant industry certifications.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
UFARS Code	CTE Program Code/Pathway Title	Program Code	Course Code	Recommended Course Title	Course Description	CTE License	CTE License	CTE License	CTE License	Non Trad	CIP Code	Career Field	Career Cluster	Career Pathway	Minnesota Comm Course Num
	TRADE AND INDUSTRY														
	MANUFACTURING CAREERS														
361	Engineering/STEM	171710	01	Engineering Essentials	Engineering Essential courses pro	For this program, one of the following licenses				F	14.0101	04	15	4.12	21(
			02	Introduction to Engineering Design	Engineering Design courses offer	is required:	300200	172300	172302	F	14.0101	04	15	4.12	21(
			03	Principles of Engineering	Principles of Engineering courses			172306		F	14.0101	04	15	4.12	21(
			04	Digital Electronics	Digital Electronics courses teach s					F	14.0101	04	15	4.12	21(
			05	Computer Integrated Manufacturing	Computer Integrated Manufactu					F	14.0101	04	15	4.12	21(
			06	Engineering Design & Development	Engineering Design and Developn					F	14.0101	04	15	4.12	21(
			07	Environmental Sustainability	Environmental Sustainability cour					F	14.0101	04	15	4.12	21(
			08	Civil Engineering & Architecture	Civil Engineering and Architecture					F	14.0101	04	15	4.12	21(
361	Industrial Technology	171710	10	Introduction to Industrial Technology	Introduction to Industrial Techno					F	15.0000	04	13	4.13	21(
			11	Emerging Technologies	Emerging Technologies courses e					F	15.0000	04	13	4.13	21(
			12	Technology Innovation & Assessment	Technology Innovation and Assess					F	15.0000	04	13	4.13	21(
361	Manufacturing --Basic	171710	20	Product Development	Product Development courses pro						15.0612	04	13	4.14	13
			21	Production Systems	Production Systems courses provi						15.0612	04	13	4.14	13
			22	Drafting	Drafting—General courses introd						15.1307	04	13	4.14	21
			23	CAD	Frequently offered as an interme						15.1307	04	13	4.14	21
			24	Mechanical Drafting	Drafting—Technical/Mechanical						15.1307	04	13	4.14	21
			25	Career Investigation	Exploration of Manufacturing Occ						15.0612	04	13	4.14	13(
361	Manufacturing --Welding	171710	30	Basic Welding	Welding courses enable students					F	48.0508	04	13	4.15	13
			31	Intermediate Welding	Intermediate welding courses ena					F	48.0508	04	13	4.15	13

Course Descriptions on Table C

24

Welding courses enable students to gain knowledge of the physical and chemical properties, uses, and applications of various metals. Students gain skills in various processes used to join and cut metals, such as oxyacetylene welding and cutting, plasma cutting, shielded metal arc welding (SMAW or stick), gas metal arc welding (GMAW or MIG), and tungsten inert gas welding (TIG). They gain experience in identifying, selecting, and using appropriate techniques. Other various tools and machines needed in the welding shop will be learned, demonstrated and used as well. Such skills could be mastered by allowing them to practice their welding skills on coupons and small projects. Students may begin to read and interpret blueprints in order to identify, select, and use appropriate techniques. These courses may prepare students to pass relevant industry certifications.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
UFARS Code	CTE Program Code/Pathway Title	Program Code	Course Code	Recommended Course Title	Course Description	CTE License	CTE License	CTE License	CTE License	Non Trad	CIP Code	Career Field	Career Cluster	Career Pathway	Minnesota Comm Course Num
	TRADE AND INDUSTRY														
	MANUFACTURING CAREERS														
361	Engineering/STEM	171710	01	Engineering Essentials	Engineering Essential courses pro	For this pro	, one of the following licenses			F	14.0101	04	15	4.12	21(
			02	Introduction to Engineering Design	Engineering Design cou s offer	is require	200	172300	172302	F	14.0101	04	15	4.12	21(
			03	Principles of Engineering	Principles of Engineeri rses			172306		F	14.0101	04	15	4.12	21(
			04	Digital Electronics	Electronics cou					F	14.0101	04	15	4.12	21(
			05	Computer Integrated Manufacturing	grate					F	14.0101	04	15	4.12	21(
			06	Engineering Design & Development	Engi					F	14.0101	04	15	4.12	21(
			07	Environmental Sustainability	Environ					F	14.0101	04	15	4.12	21(
			08	Civil Engineering & Architecture						F	14.0101	04	15	4.12	21(
361	Industrial Technology	171710	10	Introduction to Industrial Technology						F	15.0000	04	13	4.13	21(
			11	Emerging Technologies						F	15.0000	04	13	4.13	21(
			12	Technology Innovation & Assessment	Tec					F	15.0000	04	13	4.13	21(
361	Manufacturing --Basic	171710	20	Product Development							15.0612	04	13	4.14	13
			21	Production Systems	Production S						15.0612	04	13	4.14	13
			22	Drafting	Drafting—						15.1307	04	13	4.14	21
			23	CAD	Frequentl ed as e						15.1307	04	13	4.14	21
			24	Mechanical Drafting	Drafting Technical/M al						15.1307	04	13	4.14	21
			25	Career Investigation	Exploration of Manufac Occ						15.0612	04	13	4.14	13(
361	Manufacturing --Welding	171710	30	Basic Welding	Welding courses enable dents					F	48.0508	04	13	4.15	13
			31	Intermediate Welding	Intermediate welding co rses ena					F	48.0508	04	13	4.15	13

Don't just copy description – adapt to your course!

Program Approval Database

1	Consortium	District#	Type	District Name	Course Title	Program	Course	Next Review
5082	South Central	0077	01	Mankato	Wheels & Walls	170302	21	2024-25
5083	South Central	0077	01	Mankato	Automotive Technology	170302	30	2024-25
5084	South Central	0077	01	Mankato	Power Mechanics	170302	50	2024-25
5085	South Central	0077	01	Mankato	Power, Energy, & Transportation	170302	51	2024-25
5086	South Central	0077	01	Mankato	PLTW: Civil Engineering & Architecture	171000	08	2024-25
5087	South Central	0077	01	Mankato	Construction	171000	30	2024-25
5088	South Central	0077	01	Mankato	Woodworking	171000	50	2024-25
5089	South Central	0077	01	Mankato	Cabinetmaking	171000	53	2024-25
5090	South Central	0077	01	Mankato	PLTW: Intro to Engineering & Design	171502	02	2024-25
5091	South Central	0077	01	Mankato	PLTW: Principles of Engineering	171502	03	2024-25
5092	South Central	0077	01	Mankato	PLTW: Computer Integrated Manufacturing	171502	05	2024-25
5093	South Central	0077	01	Mankato	PLTW: Engineering Design & Development	171502	06	2024-25
5094	South Central	0077	01	Mankato	PLTW: Civil Engineering & Architecture	171502	08	2024-25
5095	South Central	0077	01	Mankato	Mechatronics	171502	85	2024-25
5096	South Central	0077	01	Mankato	Robotics	171502	87	2024-25
5097	South Central	0077	01	Mankato	PLTW: Computer Science	171512	23	2024-25
5098	South Central	0077	01	Mankato	Game-IT	171512	30	2024-25
5099	South Central	0077	01	Mankato	PLTW: Intro to Engineering & Design	171710	02	2024-25
5100	South Central	0077	01	Mankato	PLTW: Principles of Engineering	171710	03	2024-25
5101	South Central	0077	01	Mankato	PLTW: Computer Integrated Manufacturing	171710	05	2024-25
5102	South Central	0077	01	Mankato	PLTW: Engineering Design & Development	171710	06	2024-25
5103	South Central	0077	01	Mankato	Welding & Fabrication 1	171710	30	2024-25
5104	South Central	0077	01	Mankato	Welding & Fabrication 2	171710	31	2024-25
5105	South Central	0077	01	Mankato	Mechatronics	171710	62	2024-25

FY23_PA database | FY23_Summary | FY23 Consortium Summary

Thank You

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