



October 16, 2025



New Career Clusters Framework and Montana Career Pathways

*Presented by: Montana OPI
Career and Technical
Education Unit*

MONTANA CAREER AND TECHNICAL EDUCATION

Career Cluster Framework

Montana Career Pathways

Implementation Timeline

Regional Breakouts



MT CAREER PATHWAYS



MONTANA CAREER PATHWAYS Career and Technical Education



Area of Study: Industrial Technology Education

Career Pathway: Welding and Fabrication

Get the Facts

A welder is a skilled professional specializing in fusing materials to the Welding Procedure Specification (WPS) listed for the job at hand. Welders usually work with metals such as steel or aluminum; some work with thermoplastics or ceramics. To weld, cut, shape, braze, solder, or otherwise manipulate a workpiece, welders are well-versed at using an assortment of tools and equipment, including torches, gases, electrodes, hand tools, wire feeders, filler metals, and industrial chemicals.

Certifications are available through American Welding Society (AWS) and Certified Welding Technologies (CWT) among other organizations.

Workforce Trends

With the continuous need of skilled and knowledgeable employees in the welding industry, this pathway helps provide trained and work-ready employees. With a current annual growth rate of 16.5%, demand in Montana for individuals with welding and fabrication skills continues to increase.

CAREER AND TECHNICAL EDUCATION

Recommended Pathway Courses

Courses listed below provide a suggested sequence of courses for career and curriculum planning. Schools may offer additional courses beyond those listed within local Pathways.

CLASS AVAILABILITY MAY VARY AT YOUR SCHOOL.

Course #	Foundation Courses (required)	Credit
21102	Drafting—General	50/1.0
21107	CAD Design and Software	50/1.0
13003	Industrial Arts	50/1.0
13207	Welding	50/1.0
Elective Courses		
13055	Metal Processing/Production	50/1.0
13201	Metalwork Occupations	50/1.0
13202	Metalworking	50
13203	Machining	50
13205	Sheet Metal	50
13302	Equipment Maintenance and Repair	50
12053	Entrepreneurship	50
13248	Metalwork—Workplace Experience	50
13098	Processing/Production-Workplace Experience	50

1.0 credit

1.0 credit

2.0 credits for completion

Foundation courses taken beyond the required credits can be used as elective credit. Any High School CTE course(s) required for graduation may count towards Pathway completion.

Additional CTE Credits are recommended for Pathway completion.

Careers in Welding and Fabrication are:

- High Skill; High Wage; In-Demand

Career Examples

- Assembler
- Certified Welding Inspector
- Corrosion Technician
- Machinist
- Metal Artist
- Production Manager
- Quality Control Technician
- Structural Metal Worker
- Welder
- Welding Engineer

According to the Montana Department of Labor and Industry, the average median hourly wage for occupations within the Welding and Fabrication Career Pathway is \$18.29.

State Graduation Requirements		Suggested High School Plan of Study				College and Career
High School <i>Administrative Rules of Montana 10.55.905</i>		9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School
English/Language Arts	4.0	English 9 1.0	English 10 1.0	English 11 1.0	English 12 1.0	There are many options for education and training beyond high school, depending on your career goals.
Mathematics	2.0	Math 1.0	Math 1.0	Math 1.0	Math 1.0	• Certificate
Social Studies	2.0	Social Studies* .50/1.0	Social Studies* .50/1.0	U.S History 1.0	U.S. Government 1.0	• Associate degree
Science	2.0	Earth Science 1.0	Biology 1.0	Science Elective*		• Bachelor's degree
Health Enhancement	1.0	P.E./Health* .50	P.E./Health* .50	P.E./Health Electives*		• Professional degree
Arts	1.0	Arts Courses* 1.0				• On-the-job training
Career and Technical Education	1.0	Pathway Foundation Course .50/1.0	Pathway Foundation Course .50/1.0	Pathway Elective Course .50/1.0	Pathway Elective Course .50/1.0	• Apprenticeship
Work-Based Learning		Participation in a Pathway-related work-based learning experience				• Military training
Career and Technical Student Organization		SkillsUSA or TSA				For more information on salary projections, labor market demand, and training options, visit lmi.mt.gov .
• *Talk to your school counselor about requirements in the core curriculum. Core curriculum and elective requirements vary district to district.						
• Many CTE courses may qualify for dual enrollment credit, which in some cases may earn up to 1.0 credit toward Pathway completion. Talk to your school counselor about availability.						
		• Dual enrollment course offerings vary by school and district.				
		• Many Montana post-secondary programs accept high school courses toward a two- and four-year degree through dual enrollment. Check with post-secondary campuses for details.				

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- Dual enrollment course offerings vary by school and district.
- Many Montana post-secondary programs accept high school courses toward a two- and four-year degree through dual enrollment. Check with post-secondary campuses for details.

17 Recognized Pathways

Connect K-12
programs to Post-
Secondary Programs

Foundational and
Elective Courses



AGRICULTURE EDUCATION

- Agriculture, Food & Natural Resources
- Agriculture, Mechanics & Construction

BUSINESS EDUCATION

- Arts, A/V Technology, Communication
- Business Management
- Finance
- Information Technology
- Marketing

FAMILY & CONSUMER SCIENCES

- Design & Construction (FCS)
- Education
- Hospitality & Tourism
- Human Services

HEALTH SCIENCE EDUCATION

- Health Professions

INDUSTRIAL TECHNOLOGY EDUCATION

- Advanced Manufacturing
- Architecture and Construction (formerly Design and Construction IT)
- Science, Technology, Engineering & Mathematics
- Transportation, Distribution & Logistics
- Welding & Fabrication

LOOKING FORWARD



A new National Career Clusters Framework has been introduced and will be adopted.

14 clusters with 72 sub-clusters reflecting a better connection to work





AGRICULTURE

Agricultural Education

Move from 2 to 7 Montana
Career Pathways

- Agribusiness
- Agriculture Technology & Automation
- Animal Science
- Food Science & Processing
- Plant Science



**NEW
ENERGY & NATURAL
RESOURCES**

**NEW Agricultural Education
& Industrial Technology
Education Pathways**

- Energy & Utilities
- Conservation & Land Management



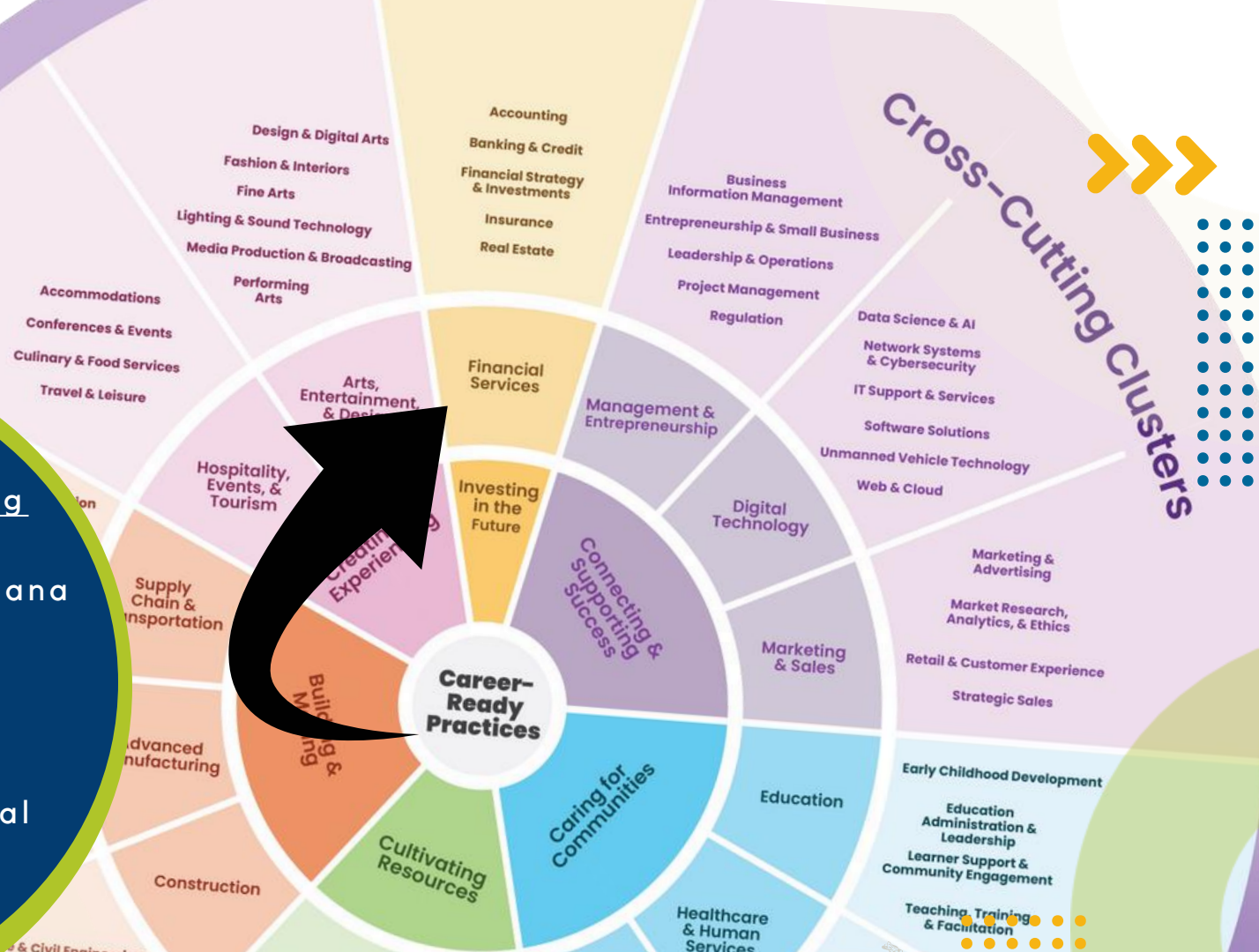
FINANCIAL SERVICES



Business & Marketing Education

Move from 5 to 8 Montana
Career Pathways

- Accounting
- Banking and Financial
Strategy



NEW CROSS CUTTING

Business & Marketing Education

- Data and Computer Science
- IT Support, Networking Systems & Cyber Security
- Business Management, Entrepreneurship and Leadership
- Marketing & Sales

Cross-Cutting Clusters

Accounting
Banking & Credit
Financial Strategy
& Investments
Insurance
Real Estate

Business
Information Management
Entrepreneurship & Small Business
Leadership & Operations
Project Management
Regulation

Data Science & AI
Network Systems
& Cybersecurity
IT Support & Services
Software Solutions
Unmanned Vehicle Technology
Web & Cloud

Marketing &
Advertising
Market Research,
Analytics, & Ethics
Retail & Customer Experience
Strategic Sales

Early Childhood Development
Education
Administration &
Leadership
Learner Support &
Community Engagement
Teaching, Training,
& Facilitation

Behavioral &
Mental Health
Biotechnology Research
& Development
Community & Social Services
Health Data & Administration
Social Care Services

Healthcare
& Human
Services

Education

Marketing
& Sales

Digital
Technology

Management &
Entrepreneurship

Financial
Services

Investing
in the
Future

Connecting &
Supporting
Success

Career-
Ready
Practices

Cultivating
Resources

Building &
Moving

NEW Arts, Entertainment & Design

- ## Multidisciplinary
- Design & Digital Arts
 - Business & Marketing
 - Fine & Performing Arts
 - Art, Business & Marketing, Family and Consumer Sciences, Industrial Technology, or Theater
 - Fashion, Textiles & Interiors
 - Family and Consumer Sciences



EDUCATION

Family and Consumer Sciences Move from 4 to 7 Montana Career Pathways

- Early Childhood Care and Education
- Teaching and Training



HOSPITALITY, EVENTS AND TOURISM

Family and Consumer Sciences

- Culinary and Food Services
- Travel and Event Management





**NEW
PUBLIC SERVICE
AND SAFETY**

Health Science &
Public Safety

- Emergency Response
-Health Science, EMT, Fire & Disaster
- Military & National Security
-JROTC, Business, Cybersecurity
- Montana Tribal Leadership & Government*
-Business, and Family & Consumer Sciences

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- Health Science &
Public Safety
- Emergency Response
-Health Science, EMT, Fire & Disaster
 - Military & National Security
-JROTC, Business, Cybersecurity
 - Montana Tribal Leadership & Government*
-Business, and Family & Consumer Sciences



**ADVANCED
MANUFACTURING**



Industrial Technology
Education

Move from 5 to 9
Montana Career
Pathways

- Engineering and
Advanced
Manufacturing



CONSTRUCTION

Industrial Technology Education

- Skilled Trades- Construction and Heavy Equipment
- Skilled Trades- Welding and Fabrication
- Skilled Trades- HVAC and Electrical



SUPPLY CHAIN AND TRANSPORTATION



Industrial Technology Education

- Air, Space, Ground, and Marine Transportation
- Automotive Maintenance and Repair





Current Montana Career Pathway	New Montana Career Pathways
Agriculture, Foods, and Natural Resources	Agribusiness
Agriculture, Foods, and Natural Resources	Animal Science
Agriculture, Foods, and Natural Resources	Food Science and Processing
Agriculture, Foods, and Natural Resources	Plant Science
Agricultural Mechanics and Construction	Agriculture Technology & Automation
NEW for Agriculture and Industrial Technology	Energy & Utilities
NEW for Agriculture and Industrial Technology	Conservation & Land Management



Current Montana Career Pathway



New Montana Career Pathway



Arts, A/V, Technology, and Communication

Design & Digital Arts

Arts, A/V, Technology, and Communication

Fine & Performing Arts

Business Management

Management & Entrepreneurship

Finance

Accounting

Finance

Banking & Financial Strategy

Information Technology

IT Supports, Network Systems & Cyber Security

Information Technology

Data and Computer Science

Marketing

Marketing and Sales





Current Montana Career Pathway	New Montana Career Pathway
Design FCS	Fashion, Textiles and Interiors
Education	Early Childhood Care and Education
Education	Teaching and Training
Hospitality and Tourism	Culinary and Food Services
Hospitality and Tourism	Travel & Event Management
Human Services	Human and Community Services
NEW	Fine and Performing Arts



Current Montana Career Pathway



New Montana Career Pathway



Advanced Manufacturing

Engineering & Advance Manufacturing

Design and Construction

Skilled Trades-Construction & Heavy Equipment

Design and Construction

Skilled Trades- Welding & Fabrication

Design and Construction

Skilled Trades- HVAC & Electrical

Transportation, Distribution, & Logistics

Air, Space, Ground & Marine Transportation

Transportation, Distribution, & Logistics

Automotive Maintenance & Repair

Welding & Fabrication

Skilled Trades- Welding & Fabrication

NEW for Agriculture and Industrial Technology

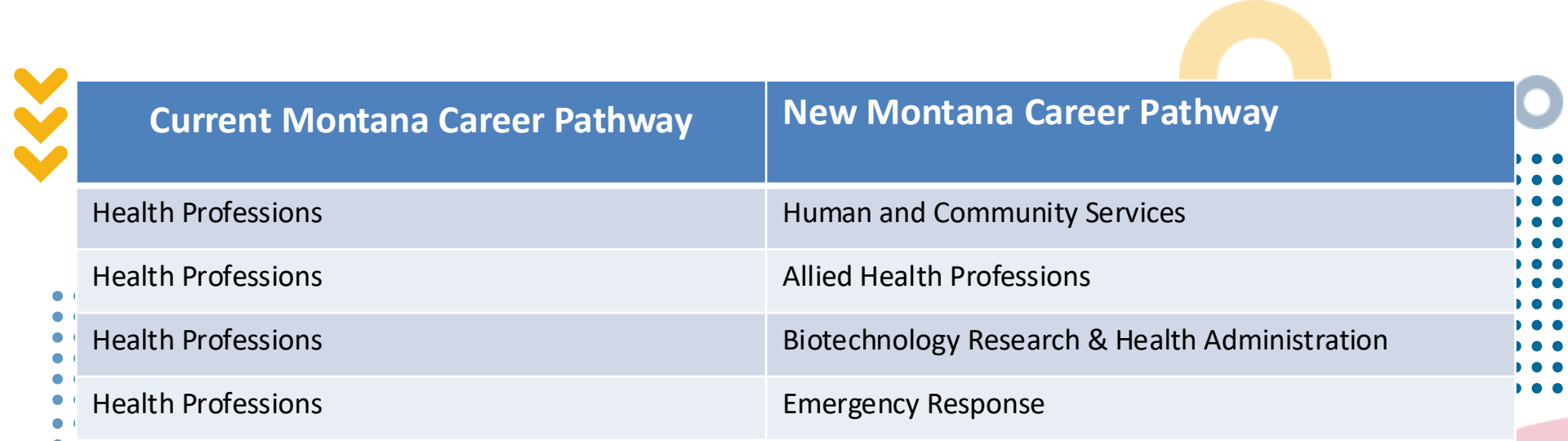
Energy & Utilities

NEW for Agriculture and Industrial Technology

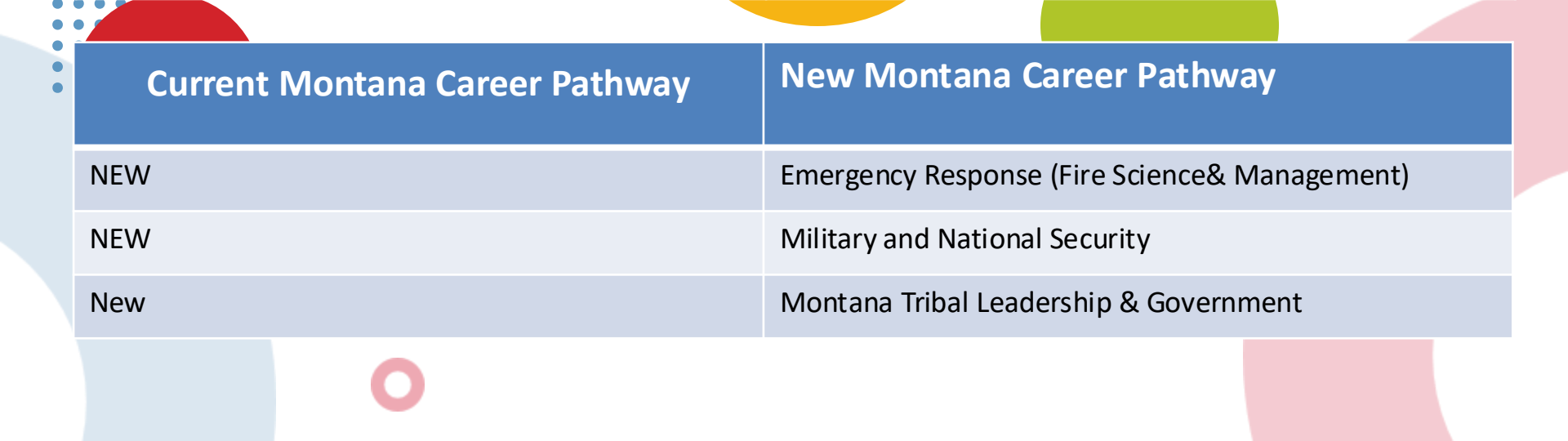
Conservation & Land Management

Science, Technology, Engineering & Mathematics

Engineering & Advance Manufacturing
(STEM is incorporated within all CTE)



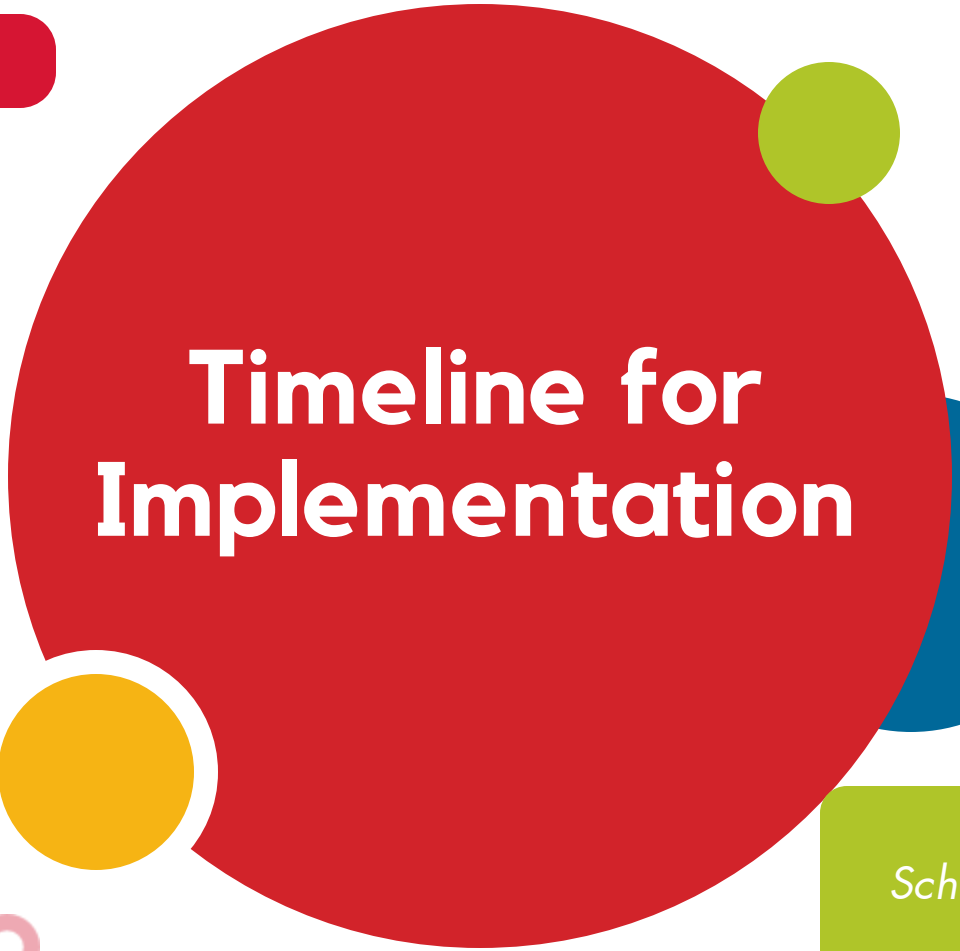
Current Montana Career Pathway	New Montana Career Pathway
Health Professions	Human and Community Services
Health Professions	Allied Health Professions
Health Professions	Biotechnology Research & Health Administration
Health Professions	Emergency Response



Current Montana Career Pathway	New Montana Career Pathway
NEW	Emergency Response (Fire Science& Management)
NEW	Military and National Security
New	Montana Tribal Leadership & Government



2025



Timeline for Implementation



School year 2026-2027



Fall 2025

Roll out of
New Career
Cluster Model
and Montana
Career
Pathways



Local programs
work with Advisory
Committee, CTE
Specialists, and
Industry Partners
to evaluate & align
programs

Winter/ Spring
2025-2026

School year 2026-2027

CTE Course offerings
align with Montana
Career Pathways to
offer students
opportunities to earn
credentials, Dual
Credits, and Work-
based Learning



*Data collections
will reflect new
pathways.*



Health Care and
Human Services

[Health Care and Human Services Document](http://www.kennesaw.edu)

Public Service and Safety





[Business and Marketing Education Document](#)

Arts, Entertainment & Design

Financial Services

Management &
Entrepreneurship

Digital Technology

Marketing & Sales

Arts, Entertainment & Design

Education

Hospitality, Events, and Tourism

Health Care and Human Services

[Family & Consumer Sciences Education Document](#)





Advance Manufacturing

Construction

Supply Chain &
Transportation

[Industrial Technology Education Document](#)

Agriculture

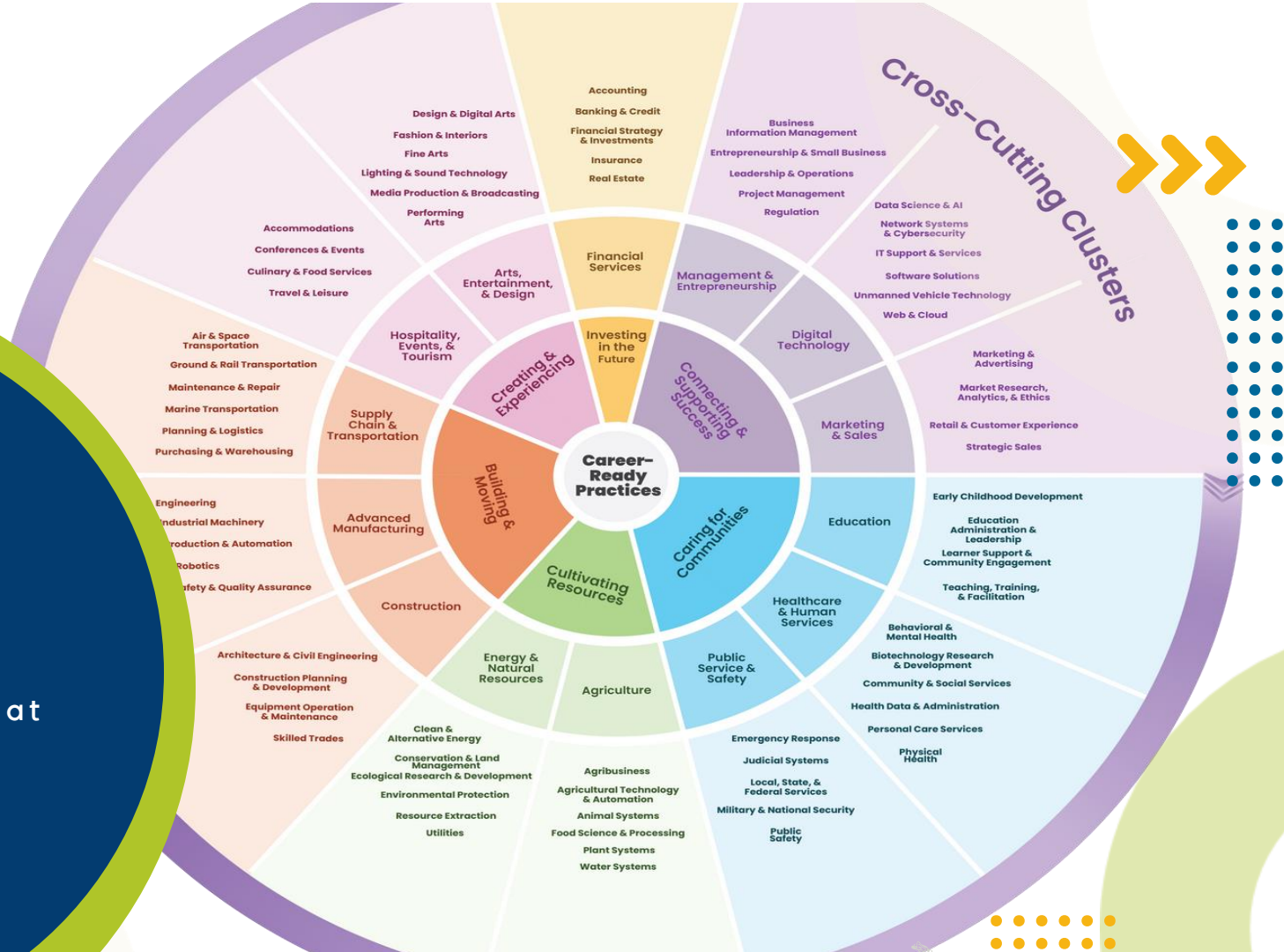
Energy & Natural Resources

[Agricultural Education Document](#)

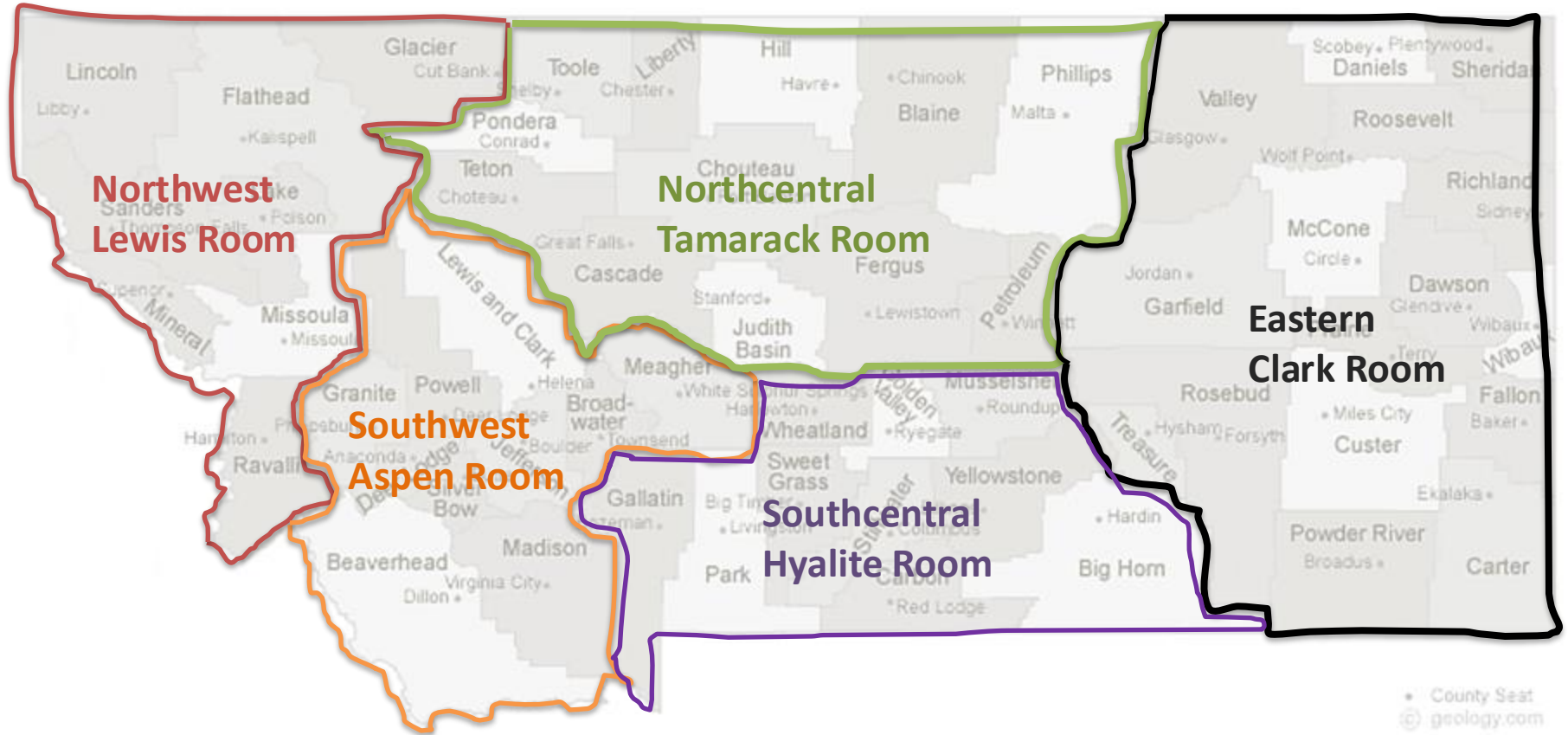


Next Steps

- Regional Breakout Rooms
- Review current pathways and look at new pathways



Montana County Map with County Seat Cities



<i>Northwest Region</i>
<i>Lewis Room</i>
<i>Alberton K-12 Schools</i>
<i>Arlee High School District</i>
<i>Bigfork High School District</i>
<i>Browning High School District</i>
<i>Charlo High School District</i>
<i>Columbia Falls High School</i>
<i>Corvallis K-12 Schools</i>
<i>Cut Bank High School District</i>
<i>Darby K-12 Schools</i>
<i>Flathead High School District</i>
<i>Florence-Carlton K-12 Schools</i>
<i>Frenchtown K-12 Schools</i>
<i>Hamilton K-12 Schools</i>
<i>Heart Butte K-12 Schools</i>
<i>Hot Springs K-12</i>
<i>Libby K-12 Schools</i>

<i>Northwest Region</i>
<i>Lewis Room</i>
<i>Lincoln County High School</i>
<i>Missoula High School District</i>
<i>Noxon High School District</i>
<i>Plains K-12 Schools</i>
<i>Polson High School District</i>
<i>Ronan High School District</i>
<i>St. Ignatius K-12 Schools</i>
<i>St. Regis K-12 Schools</i>
<i>Stevensville High School District</i>
<i>Superior K-12 Schools</i>
<i>Thompson Falls High School District</i>
<i>Troy High School District</i>
<i>Victor K-12 Schools</i>
<i>Whitefish High School District</i>

<i>Southwest Region</i>
<i>Aspen Room</i>
<i>Anaconda High School District</i>
<i>Augusta High School District</i>
<i>Beaverhead County HS District</i>
<i>Belgrade High School District</i>
<i>Big Sky School K-12</i>
<i>Bozeman High School District</i>
<i>Butte High School District</i>
<i>Drummond High School District</i>
<i>East Helena K-12</i>
<i>Ennis K-12 Schools</i>
<i>Harrison K-12 Schools</i>
<i>Helena High School District</i>
<i>Jefferson High School District</i>

<i>Southwest Region</i>
<i>Aspen Room</i>
<i>Lima K-12 Schools</i>
<i>Lincoln K-12 Schools</i>
<i>Manhattan High School District</i>
<i>Philipsburg K-12 Schools</i>
<i>Powell County High School District</i>
<i>Sheridan High School District</i>
<i>Three Forks High School District</i>
<i>Townsend K-12 Schools</i>
<i>Twin Bridges K-12 Schools</i>
<i>West Yellowstone K-12</i>
<i>White Sulphur Springs K-12</i>
<i>Whitehall High School District</i>
<i>Willow Creek High School District</i>

Southcentral Region
Hyalite Room
<i>Absarokee High School District</i>
<i>Belfry K-12 Schools</i>
<i>Billings High School District</i>
<i>Bridger K-12 Schools</i>
<i>Broadview High School District</i>
<i>Columbus High School District</i>
<i>Custer K-12 Schools</i>
<i>Fromberg K-12</i>
<i>Gardiner High School District</i>
<i>Hardin High School District</i>
<i>Harlowton K-12 Schools</i>
<i>Huntley Project K-12 Schools</i>
<i>Joliet High School District</i>
<i>Judith Gap High School District</i>
<i>Laurel High School District</i>
<i>Lavina K-12 Schools</i>

Southcentral Region
Hyalite Room
<i>Lockwood K-12</i>
<i>Lodge Grass High School District</i>
<i>Melstone High School District</i>
<i>Park City High School District</i>
<i>Park High School District</i>
<i>Plenty Coups High School District</i>
<i>Rapelje High School District</i>
<i>Red Lodge High School District</i>
<i>Reed Point High School District</i>
<i>Roberts K-12 Schools</i>
<i>Roundup High School District</i>
<i>Ryegate K-12 Schools</i>
<i>Shepherd High School District</i>
<i>Shields Valley High School District</i>
<i>Sweet Grass County High School District</i>

Northcentral Region
Tamarack Room
<i>Belt High School District</i>
<i>Big Sandy K-12 Schools</i>
<i>Box Elder High School District</i>
<i>Cascade High School District</i>
<i>Centerville High School District</i>
<i>Chester-Joplin-Inverness HS</i>
<i>Chinook High School District</i>
<i>Choteau High School District</i>
<i>Conrad High School District</i>
<i>Denton High School District</i>
<i>Dodson K-12</i>
<i>Dutton/Brady K-12 Schools</i>
<i>Fairfield High School District</i>
<i>Fergus High School District</i>

Northcentral Region
Tamarack Room
<i>Fort Benton High School District</i>
<i>Geraldine K-12</i>
<i>Geyser K-12 Schools</i>
<i>Grass Range High School District</i>
<i>Great Falls High School District</i>
<i>Harlem High School District</i>
<i>Havre High School District</i>
<i>Hays-Lodge Pole K-12 Schools</i>
<i>Highwood K-12</i>
<i>Hobson K-12 Schools</i>
<i>Malta K-12 Schools</i>
<i>Moore High School District</i>
<i>North Star High School District</i>

Northcentral Region
Tamarack Room
<i>Power High School District</i>
<i>Rocky Boy High School District</i>
<i>Roy K-12 Schools</i>
<i>Saco High School District</i>
<i>Shelby High School District</i>
<i>Simms High School District</i>
<i>Stanford K-12 Schools</i>
<i>Sunburst K-12 Schools</i>
<i>Turner High School District</i>
<i>Valier High School District</i>
<i>Whitewater K-12 Schools</i>
<i>Winifred K-12 Schools</i>
<i>Winnett K-12 Schools</i>

<i>Eastern Region</i>
Clark Room
<i>Bainville K-12 Schools</i>
<i>Baker K-12 Schools</i>
<i>Brockton High School District</i>
<i>Carter County High School</i>
<i>Circle High School District</i>
<i>Colstrip High School District</i>
<i>Culbertson High School District</i>
<i>Custer County High School</i>
<i>Dawson Community College</i>
<i>Dawson High School District</i>
<i>Fairview High School District</i>
<i>Forsyth High School District</i>

<i>Eastern Region</i>
Clark Room
<i>Frazer High School District</i>
<i>Froid High School District</i>
<i>Garfield County High School</i>
<i>Glasgow K-12 Schools</i>
<i>Hinsdale High School District</i>
<i>Hysham K-12 Schools</i>
<i>Lambert High School District</i>
<i>Lame Deer High School District</i>
<i>Medicine Lake K-12 Schools</i>
<i>Miles City Community College</i>
<i>Nashua K-12 Schools</i>
<i>Opheim K-12 Schools</i>

<i>Eastern Region</i>
Clark Room
<i>Plentywood K-12 Schools</i>
<i>Plevna K-12 Schools</i>
<i>Poplar High School District</i>
<i>Powder River County High School</i>
<i>Richey High School District</i>
<i>Rosebud K-12</i>
<i>Savage High School District</i>
<i>Scobey K-12 Schools</i>
<i>Sidney High School District</i>
<i>Terry K-12 Schools</i>
<i>Westby K-12 Schools</i>
<i>Wibaux K-12 Schools</i>
<i>Wolf Point High School District</i>
<i>Fort Peck Community College</i>

QUESTIONS CONTACT OUR CTAE UNIT



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opi.mt.gov/Educators/Teaching-Learning/Career-Technical-Education