



MONTANA CAREER PATHWAYS

Career and Technical Education

Area of Study: Technology & Engineering

Career Pathway: STEM

Get the Facts
STEM careers include planning, managing, and providing scientific research and professional and technical services in a wide range of areas such as physical science, social science, engineering, laboratory and testing services, and research and development.

Workforce Trends
Employment in science, technology, engineering and math (STEM) occupations has grown 79% since 1990, from 9.7 million to 17.3 million, outpacing overall U.S. job growth.

STEM workers enjoy a pay advantage compared with non-STEM workers with similar levels of education. Among those with some college education, the typical full-time, year-round STEM worker earns \$54,745 while a similarly educated non-STEM worker earns \$40,505, or 26% less.

CAREER AND TECHNICAL EDUCATION		
Recommended Pathway Courses		
Students may select individual courses for exploration or a complete Pathway for an in-depth focus		
CLASS AVAILABILITY MAY VARY AT YOUR SCHOOL		
Course #	Foundation Courses (required)	Credit
21007a	Introduction to Engineering Design (Project Lead the Way)	1.0
21054	Technology Innovation & Assessment	.50
21107	CADD Design & Software	.50
Elective Courses		
21007b	Principles of Engineering (Project Lead the Way)	1.0
21007c	Engineering Design & Development (Project Lead the Way)	1.0
21008	Digital Electronics (Project Lead the Way)	1.0
21012	Civil Engineering & Architecture (Project Lead the Way)	1.0
21102	Engineering Drafting	.50
21103	Architectural Drafting	.50
21009	Robotics	.50
		.50
		.50
		.50
21098	Workplace Experience (Engineering)	.50

1.0 credit

1.0 credit

2.0 credits for completion

Careers in STEM Fields are:

- High demand/High skill/High wage

Career Examples

- Electrical Engineer
- Electronic Engineer
- Environmental Scientist (including health)
- Mechanical Engineer
- Mining and Geological Engineer
- Civil Engineer
- Drafter
- Survey Technician

According to the Montana Department of Labor and Industry, the median hourly wage for occupations within Engineering Operations is \$60,000/yr.

Foundation courses taken beyond the required credits can be used as elective credit.
Additional CTE Credits are recommended for Pathway completion

State Graduation Requirements		Suggested High School Plan of Study				College and Career
High School Administrative Rules of Montana 10.55.905		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. <ul style="list-style-type: none"> • Certificate • Associate degree • Bachelor's degree • Professional degree • On-the-job training • Apprenticeship • Military training For more information on salary projections, labor
Mathematics	2.0	Math* 1.0	Math* 1.0	Math* 1.0	Math* 1.0	
Social Studies	2.0	Social Studies* .50/1.0	Social Studies* .50/1.0	U.S History 1.0	U.S. Government 1.0	
Science	2.0	Earth Science 1.0	Biology 1.0	Science Elective*		
Health Enhancement	1.0	P.E./Health* .50	P.E./Health* .50	P.E./Health Electives*		
Arts	1.0	Arts Courses* 1.0				
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	
Work-Based Learning		Participation in a Pathway-related work-based learning experience				
Career and Technical Student Organization		Business Professionals of America/DECA				

<ul style="list-style-type: none">• *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.	<ul style="list-style-type: none">• 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.	market demand, and training options, visit lmi.mt.gov .
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