



# MONTANA CAREER PATHWAYS

## Career and Technical Education



### Area of Study: Business and Marketing Education

## Career Pathway: Information Technology

### Get the Facts

The Information Technology industry is a dynamic and entrepreneurial field that continues to have a revolutionary impact on the Montana and global economy. IT careers involve the design, development, support and management of hardware, software, multimedia, and systems integration services.

### Workforce Trends

All industries in Montana rely on the careers and services provided by the Information Technology Career Pathway. The Information Technology Career Pathway is organized into four career paths: Information Support and Services, Network Systems, Programming and Software Development, and Web and Digital Communications.

Montana continues to experience employment growth and job openings throughout careers within the Information Technology Career Pathway with 305 total job openings per year from 2015-2025.

### 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
10003	Computing and Information Technology	.50/1.0
10004	Computer Applications	.50/1.0
10152	Computer Programming	.50/1.0
11151	Digital Media Technology	.50/1.0
<b>Elective Courses</b>		
05162	Visual Communications Design	.50
10020	Cybersecurity	.50
10053	Database Applications	.50
10101	Network Technology	.50
10201	Web Page Design	.50
10255	CISCO—The Panduit Network Infrastructure Essentials (PNIE)	.50
10998 or 12998	Workplace Experience (Computer and Information Science or Business and Marketing)	.50
12009	Business Communications	.50
12053	Entrepreneurship	.50
12104	Accounting	.50
21009	Robotics	.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 Information Technology are:

- High Skills; High Wage; In-Demand

### Career Examples

- Computer Engineer
- Database Administrator
- Game Developer
- Media Specialist
- Network Security Analyst
- Network Technician
- Software Design Engineer
- Systems Administrator
- Virtual Reality Specialist
- Web Architect/Designer

According to the Montana Department of Labor and Industry, the median hourly wage for occupations within Information Technology is \$30.60.

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	<p>There are many options for education and training beyond high school, depending on your career goals.</p> <ul style="list-style-type: none"> <li>• Certificate</li> <li>• Associate degree</li> <li>• Bachelor's degree</li> <li>• Professional degree</li> <li>• On-the-job training</li> <li>• Apprenticeship</li> <li>• Military training</li> </ul> <p>For more information on salary projections, labor market demand, and training options, visit <a href="http://lmi.mt.gov">lmi.mt.gov</a>.</p>
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"> <li>• *Talk to your school counselor about requirements in the core curriculum. Core curriculum and elective requirements vary district to district.</li> <li>• Many CTE courses may qualify for dual enrollment credit, which in some cases may earn up to a 1.0 credit toward Pathway completion. Talk to your school counselor about availability.</li> </ul>		<ul style="list-style-type: none"> <li>• Dual enrollment course offerings vary by school and district.</li> <li>• 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.</li> </ul>				