## HIGH SCHOOL: Helena High School

**BIG SKY PATHWAY PROPOSAL**

### COLLEGE DEGREE PROGRAM: Computer Technology AAS Programming Option

#### Cluster Overview:
Information Technology careers encompass entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services.

#### Pathway Options:
- Network Systems
- Information Support and Services
- Web and Digital Communications
- Programming and Software Development

#### Occupation Examples:

For a complete listing, go to: [http://online.onetcenter.org/find/career?c=11&g=Go](http://online.onetcenter.org/find/career?c=11&g=Go)

## SUGGESTED HIGH SCHOOL COURSES

<table>
<thead>
<tr>
<th>Grade</th>
<th>Workforce/2-Year College Prep</th>
<th>English I; Algebra I; Earth Science; World Cultures; Physical Ed I</th>
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<th>English I; Algebra I; Earth Science; World Cultures; Physical Ed I</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th</td>
<td>Graduation Requirements</td>
<td>Recommended CTE Cluster Foundation Course(s):</td>
<td>CTE and/or Electives</td>
<td>Recommended CTE Pathway Courses:</td>
</tr>
<tr>
<td></td>
<td>4-Year MT College/Univ Prep</td>
<td>Basic Computer Skills; Tech Skills for Life; Computer Science (HHS and/or MTDA); Marketing</td>
<td>4-Year MT College/Univ Prep</td>
<td>Computer Science (HHS and/or MTDA); Oracle; Cisco 1</td>
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<td>(Rigorous Core)</td>
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</tbody>
</table>

#### 10th
- Graduation Requirements
- 4-Year MT College/Univ Prep
- CTE and/or Electives

#### 11th
- Graduation Requirements
- 4-Year MT College/Univ Prep
- CTE and/or Electives

#### 12th
- Graduation Requirements
- 4-Year MT College/Univ Prep
- CTE and/or Electives

### ADVANCED LEARNING OPPORTUNITIES

High School to College/Career Linkages

#### CTE START courses:
- Advanced Placement or IB courses: AP US History; AP European History; AP Government; AP Psychology; AP English III & IV; AP Calculus; AP Biology
- Dual Enrollment courses: M121 College Algebra; WRIT101 College Writing, WRIT121T Technical Writing; CSCI100 Intro to Programming; CSCI111 Programming with Java 1; NTS104 Intro to Networks; CSCI240 Databases & SQL (Oracle); DFT150 CAD 2D (Drafting)

#### Online courses:
- MTDA: CSCI 107 Joy and Beauty of Computing (as per district policy 2.5 credits count towards graduation requirements)
- Other: Helena Robotics Club, Business Co-op, Internships

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Information Technology, page 1 of 3

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## POSTSECONDARY PROGRAM OF STUDY

<table>
<thead>
<tr>
<th>Semester 1 (15 credits)</th>
<th>Math</th>
<th>English</th>
<th>Major</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td>M121 College Algebra I/or M115 Linear Mathematics 3CR</td>
<td>WRIT101 College Writing I/or WRIT121T Technical Writing 3CR</td>
<td>CSCI100 Intro to Programming 3CR OR CSCI107 Joy &amp; Beauty 3CR BMIS285 Fundamentals of Management Information Systems 3CR</td>
<td>ITS164 Networking Fundamentals 3CR OR NTS104 Intro to Networks 3CR Successful placement or CAPP 100</td>
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</tr>
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</table>

| Semester 2 (18 credits) | | | CSCI111 Programming with Java I 4CR CSCI240 Databases & SQL 3CR IT5280 Comp. Repair & Maintenance. 4CR MART145 Web Design 3CR |
|-------------------------|------|---------|-------|-------|

| Semester 4 (15 credits) | | | CSCI121 Program w/Java II 4CR CSCI238 Standard Mobile Apps 3CR CSCI206 .NET Applications 4CR CSCI 2xx Web Services 3CR CSCI298 Internship OR CSCI299 Thesis/Capstone 2CR… |

## MONTANA POSTSECONDARY OPPORTUNITIES

### Montana University System Degree and Program Inventory: [http://www.homepage.montana.edu/~mus/drginv/](http://www.homepage.montana.edu/~mus/drginv/)

### Your Guide to Montana's Certificate and Associate Degree Programs: [http://mus.edu/twoyear/YourGuide.html](http://mus.edu/twoyear/YourGuide.html)

### MSU Two Year Colleges and Programs:
- City College MSUB—Billings (CC); Great Falls College MSU—Great Falls (GFC); Helena College UM—Helena (HC) Highlands College MT Tech—Butte (HC-Tech); Missoula College UM—Missoula (MC); Gallatin College MSU—Bozeman (GC)

### Community Colleges:
- Dawson Community College (DCC)
- Flathead Valley Community College (FVCC)
- Miles Community College (MCC)

### Tribal Colleges:
- Aaniih Nakoda College (ANC); Blackfeet Community College (BCC); Chief Dull Knife College (CDKC); Fort Peck Community College (FPC); Little Big Horn College (LBH); Stone Child College (SCC); Salish Kootenai College (SKC)

### Four Year Colleges/Universities:
- MSU—Bozeman; MSUB—Billings; MSUN—Havre; MT Tech—Butte; UM—Missoula; UMW—Dillon

### MILITARY
- Requires diploma or GED
- 17 with parental consent; 18 without
- Air Force, Air Guard, Army, Coast Guard, Marines, and Navy
- For more information: [http://todaysmilitary.com](http://todaysmilitary.com)

### PROFESSIONAL CERTIFICATE
- Requires diploma or GED
- Less than 30 credits; little/no general ed credits
- Complete in one year or less
- See the MT Dept of Labor website for more information: [http://wsd.dli.mt.gov/apprenticeship/default.asp](http://wsd.dli.mt.gov/apprenticeship/default.asp)

### APPRENTICESHIP
- Requires diploma or GED
- Must be at least 18
- Minimum 2,000 hours of supervised experience

### CERTIFICATE OF APPLIED SCIENCE
- Requires diploma or GED
- 30-45 credits; limited general education credits
- Complete in one year or less
- Computer Assistant — HC, HC Tech, GFC
- Computer Desktop/Network Support — FPCC
- Computer Networking — CC, HC Tech, GFC, UMW
- Computer Science/Technology — BCC
- Computer Skills Specialist — HC
- Computer Support — MC
- Programming Technology — FPCC
- Web Technology/Development/Design — DCC

### ASSOCIATE’S OF APPLIED SCIENCE DEGREE
- Requires diploma or GED
- 60-72 credits; includes 15-25 general ed credits
- Complete in two years *(if prepared academically in math and English)*
- Computer Desktop/Network Support — CC, SKC
- Computer Graphics — MCC
- Computer Information Systems — MC, MSUN
- Computer Networking — HC, MC, HC Tech, GFC, MCC, FPCC
- Computer Science/Technology — FPCC, BCC
- Computer Systems Tech — CC
- Computer Technical Support Specialist — DCC
- Information Technology/Systems — FVCC
- Microcomputer Specialist/Technology — GFC
- Programming Technology — HC, CC
- Web Technology/Dev/Design — HC Tech, GFC, FVCC

*January 2015*
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<tr>
<th><strong>BACCALAUREATE DEGREE</strong></th>
<th><strong>Computer Engineering — MSU, SKC</strong></th>
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<tr>
<td>- Requires 4-year college prep for admission</td>
<td>- Network Technology — TECH</td>
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<tr>
<td>- 128 credits (approximately)</td>
<td>- Computer Science — MSU, UM</td>
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<tr>
<td>- Complete in four years</td>
<td>- Computer Info Systems — MSUN</td>
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<td></td>
<td>- Information Systems — UM</td>
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<tr>
<td></td>
<td>- Information Technology — SKC</td>
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*Degree and Program Inventory above may not be all inclusive*