**Request for Approval with Assurances**  
**Montana Big Sky Pathways (Programs of Study)**

The Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) calls for states to offer "career and technical programs of study," known as Big Sky Pathways in Montana, as an option to students and their parents when planning for and completing future coursework. These programs, at a minimum, must:

- Incorporate and align secondary and postsecondary education elements,
- Include academic and CTE content in a coordinated, non-duplicative progression of courses,
- Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits, and
- Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

**Assurances:**

By my signature on this form, I assure that the proposed Big Sky Pathway submitted for approval by this high school/college satisfies the 10 stated requirements. For approval, all 10 requirements must be checked.

<table>
<thead>
<tr>
<th>Name of Big Sky Pathway (cluster level):</th>
<th>Arct. Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of High School:</td>
<td>Havre High School</td>
</tr>
<tr>
<td>Names of Secondary Lead Teacher and Counselor:</td>
<td>Chris Comp / Krista Bolken</td>
</tr>
<tr>
<td>Lead Teacher’s email address:</td>
<td>getahare.che. MT. us</td>
</tr>
<tr>
<td>Lead Teacher’s phone number:</td>
<td>406-265-6732 ext. 372/335</td>
</tr>
<tr>
<td>Name of College:</td>
<td>MSU - Northern</td>
</tr>
<tr>
<td>Name of College Program:</td>
<td>AAS in Design/Dratig Technology</td>
</tr>
<tr>
<td>Name of College Lead Faculty Member:</td>
<td>KRISTA MILLIGAN</td>
</tr>
</tbody>
</table>

**REQUIREMENTS FOR APPROVAL**

1. Includes all state and local graduation requirements
2. Identifies the appropriate secondary CTE, academic, and recommended elective courses offered by this high school which will prepare the student for college-level courses without remediation
3. Outlines a non-duplicative sequence of courses from grades 9-12 and from secondary to postsecondary education
4. Prepares students for entry into a postsecondary program or apprenticeship
5. Leads to an industry-recognized postsecondary credential, degree or employment
6. Includes appropriate state standards and/or industry skills standards. Identify standards used:
7. Aligns with an AAS program offered by a Montana college (college of technology, community college, tribal college, MSU-Northern)
8. Links with a web-based guidance delivery system such as MCIS if using something other than MCIS, please indicate:
9. When applicable, dual enrollment opportunities have been identified.
10. When applicable, Advanced Placement, IB courses and CTE START (statewide articulations) have been identified.

<table>
<thead>
<tr>
<th>High School Principal's Signature:</th>
<th>Date: 1/18/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>H.S. Advisory Committee Member’s Signature:</td>
<td>Date: 1/18/11</td>
</tr>
<tr>
<td>College Chief Academic Officer’s Signature:</td>
<td>Date: 2-8-11</td>
</tr>
<tr>
<td>College Lead Faculty Member’s Signature:</td>
<td>Date: 2-10-11</td>
</tr>
</tbody>
</table>

**Please submit this Request for Approval form and a copy of the Big Sky Pathway Proposal to:**

OPI, Career and Technical Education, P.O. Box 202161, Helena, Montana 59620-2011.

**OPI Specialist Approval:**

Date of Approval: 9-4-2011

**OHE Approval:**

Date of Approval: 10-17-11

Both the college and the high school will receive a signed copy when the BSP is approved.

January 2011
### High School: Havre High School

**College: MSU-Northern**

**College Degree Program: AAS in Design/Drafting Technology/**

<table>
<thead>
<tr>
<th>Cluster Overview: Careers in the Architecture and Construction cluster involve the designing, planning, managing, building, and maintaining the built environment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathway Options:</td>
</tr>
<tr>
<td>• Design/Pre-Construction</td>
</tr>
<tr>
<td>• Construction</td>
</tr>
<tr>
<td>• Maintenance/Operations</td>
</tr>
</tbody>
</table>

### Suggested High School Courses

#### 9th Grade

<table>
<thead>
<tr>
<th>Graduation Requirements Workforce/2-Year College Prep</th>
<th>English 9, Survey of Social History, American Indian History, Local History, Pre-Algebra, Algebra I, Biology, Unified Science Lab, Applied Technologies, Physical Education, Word Processing, Personal Finance &amp; Management,</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
<td>English, Algebra I, Earth (lab) Science, Health, World Language/Computer Science/Visual or Performing Arts/Career &amp; Tech Ed, Geometry, , Online Math</td>
</tr>
</tbody>
</table>

#### 10th Grade

<table>
<thead>
<tr>
<th>Graduation Requirements Workforce/2-Year College Prep</th>
<th>English 10, Biology, Adv. Biology, Applied Office Technology, Geometry Pre-Algebra, Algebra I &amp; II</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
<td>English-In addition to minimum core, a designated college prep or research writing course is recommended. Math-In addition to minimum core, a course beyond Algebra II such as Trig-Calculus All must have grades of &quot;C&quot; or better. Social Studies: World History and government, economics, Indian History, or other third year course. Laboratory Science: Full year of each: Unified Lab Science, biology, chemistry or Physics. 3 years of the following: 2 years of World Language, Computer Science, Visual and Preforming Arts (Including Speech/Debate), Vocational Educational units which meet OPI guidelines(such as Technology, Computer Science)</td>
</tr>
</tbody>
</table>

#### 11th Grade

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
<td>English-In addition to minimum core, a designated college prep or research writing course is recommended. Math-In addition to minimum core, a course beyond Algebra II such as Trig-Calculus All must have grades of &quot;C&quot; or better. Social Studies: World History and government, economics, Indian History, or other third year course. Laboratory Science: Full year of each: Unified Lab Science, biology, chemistry or Physics. 3 years of the following: 2 years of World Language, Computer Science, Visual and Preforming Arts (Including Speech/Debate), Vocational Educational units which meet OPI guidelines(such as Technology, Computer Science)</td>
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</table>

#### 12th Grade

<table>
<thead>
<tr>
<th>Graduation Requirements</th>
<th>Pathway Courses</th>
</tr>
</thead>
</table>

### Occupation Examples:
- Architect; Carpenter; Civil Engineer; Construction Foreman/Manager; Contractor; Demolition Engineer; Draftee; Drywall Installer; Electrician; Electronic Systems Technician; Equipment/Material Manager; General Contractor/Builder; Heating, Ventilation, Air Conditioning and Refrigeration Mechanic; Interior Designer; Painter; Paperhanger; Plumber; Project Estimator; Project Inspector; Roofer; Safety Director; Sheet Metal Worker; Tile and Marble Setter

For a complete listing, go to: http://online.onetcenter.org/find/career?c=2&q=Go

### Cluster Foundation Courses:
- Information Technology Intro to the Built Environment Safety in the Workplace Technology Education

### Pathway Courses:

### Student Organization(s):
- SkillsUSA

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Architecture & Construction, page 1 of 3

November 2010
## ADVANCED LEARNING OPPORTUNITIES

**High School to College/Career Linkages**

### CTE START courses:

### Advanced Placement or IB courses:

### Dual Enrollment courses:

### Online courses:

### Other:

## POSTSECONDARY PROGRAM OF STUDY

<table>
<thead>
<tr>
<th>Math</th>
<th>English</th>
<th>Major</th>
<th>Other</th>
</tr>
</thead>
</table>
| **13—Semester 1**     |                    | Fund. Of Phys. Sci.
Arch. Cnst. & Matt's
Technical Graphics
Machining Processes
Intro to CAD          |
| College Algebra       | College Writing    |                                                                      | Student Organization(s):
SkillsUSA
Student Organization(s):
SkillsUSA
Student Organization(s):
SkillsUSA             |
| **13—Semester 2**     |                    | Descriptive Geometry
3D CAD
Intro to Comp/MS Office |
| Trigonometry          |                    |                                                                      | Speech                       |
| **14—Semester 1**     |                    | Mfgt Processes & Matt's
Residential Drafting
Engineering Mechanics
College Physics I      |
|                        |                    |                                                                      | Elective                     |
| **14—Semester 2**     |                    | Machine Drafting
Topographic Drafting/GIS
MS ACCESS
Surveying             |

## MONTANA POSTSECONDARY OPPORTUNITIES

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

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

### Colleges of Technology:
- BLCOT—Billings
- GFCC—Great Falls
- HCOT—Helena
- TECHCOT—Butte
- UMCOT—Missoula
- GCP—Bozeman

### Community Colleges:
- DCC—Glendive
- FVCC—Kellogg
- MCC—Miles City

### Tribal Colleges:
- BFCC—Browning
- CDKC—Lame Deer
- FBCC—Harlem
- FPCC—Poplar
- LBHC—Crow Agency
- SCC—Box Elder
- SKC—Pablo

### Four Year Colleges/Universities:
- MSU—Bozeman
- MSUB—Billings
- MSUN—Havre
- 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
- Cabinet & Furniture Technology — FVCC
  Line Professional/Utility Line Worker — TECHCOT

### APPRENTICESHIP
- Requires diploma or GED
- Must be at least 18
- Minimum 2,000 hours of supervised experience
- Bricklayers, Building Maintenance Workers, Carpenters, Cement Masons, Electricians, Glaziers, Plumbers, Pipefitters, Roofers, Sheet Metal Workers, Tile Setters
  See the MT Dept of Labor website for more information:
| **CERTIFICATE OF APPLIED SCIENCE** | Requires diploma or GED  
30-45 credits; limited general education credits  
Complete in one year or less | Building Maintenance — UMCOT  
Building Technology & Trades — FVCC, MCC, FPCC, BFCC  
Carpentry — HCOT, UMCOT, TECH COT, GFCOT, MSUN, FBCOL  
Construction Technology — SCC  
Heating, Ventilation, Air Conditioning — FVCC  
Line Professional/Utility Line Worker — FPCC  
Plumbing Technology — FVCC |
| **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)* | Building Technology & Trades — FVCC, MCC, FPCC  
Carpentry — UMCOT, BLCOT, TECH COT, MSUN, FPCC  
Construction Technology — HCOT, BFCC  
Plumbing Technology — MSUN |
| **BACCALAUREATE DEGREE** | Requires 4-year college prep for admission  
128 credits (approximately)  
Complete in four years | Civil Engineering — TECH  
Construction Engineering Technology — MSU  
Environmental Design/Architecture — MSU |

*Degree and Program Inventory above may not be all inclusive*