Big Sky Pathway
Program of Study Team Worksheet

Assembling a Team Designing and implementing a Big Sky Pathway requires collaboration at every level of the process. Based on your local community and the specific Career Pathway for which you wish to implement a Program of Study, you should assemble a team that includes academic and CTE Teachers, District or School CTE Advisors, Business and Industry Representatives, Postsecondary Partners and Faculty, Education Administrators, and even relevant local community leaders or recent program of study graduates.

This team will have several responsibilities in the creation of the Program of Study (POS), which are explained in depth in the Big Sky Pathway Implementation Guide For Montana (p. 47).

After reviewing the Guide, it is a good practice to fill out the information below and identify the roles and responsibilities of the team members:

Date of Meeting: __11/12/2014______________________

Career Cluster: __AFNR______________________________

Career Pathway/Program of Study: __ATMS / Ag Mechanics Technology________________________

High school & College: __Kalispell Public High Schools & MSU Northern_ Flathead Glacier High Schools

Program of Study Team Members:

<table>
<thead>
<tr>
<th>Team Member</th>
<th>Name/Affiliation</th>
<th>Role/Responsibilities</th>
<th>Signature/Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Business &amp; Industry</td>
<td>Rod Howard, Machinists R Us</td>
<td>Ensure the curriculum teaches skills employers need in entry-level workers, Look for ways to incorporate industry recognized certificates into the POS, provide work-based learning experiences for students</td>
<td></td>
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<tr>
<td>College Pathway Coordinator</td>
<td>Holly Hans</td>
<td>Information, advice</td>
<td></td>
</tr>
<tr>
<td>DPI Specialist</td>
<td>Brad King</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Administration (Principal or Superintendent)</td>
<td>Peter Fusaro, Principal</td>
<td></td>
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</tbody>
</table>

Note: Signatures and dates are handwritten on the document.
### Postsecondary Administration (Academic Dean or Department Chair)

| Larry Strizich |

### Secondary Counselor

| Chelsea Cattelino, Counselor |

### Postsecondary Academic Advisor/Career Counselor

| Jeremy Hoffman |

### CTE Teacher

| Justin Heupel, Ag Education Dept. Chair |

### CTE Faculty

|  |

### CTE Advisor

|  |

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In developing a pathway/program of study, it is also important to determine that the pathway includes the following elements:

<table>
<thead>
<tr>
<th>Pathway Checklist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Element</strong></td>
</tr>
<tr>
<td>1. Pathway includes all state and local graduation requirements preparing students for entry into a postsecondary program</td>
</tr>
<tr>
<td>2. Pathway identifies the appropriate secondary CTE, academic, and recommended elective courses offered by the high school which will prepare the student for college-level courses without remediation</td>
</tr>
<tr>
<td>3. Pathway outlines a non-duplicative sequence of courses from grades 9-12 and from secondary to postsecondary education</td>
</tr>
<tr>
<td>4. Pathway leads to an industry-recognized postsecondary credential, degree or employment</td>
</tr>
<tr>
<td>5. Curriculum between secondary and postsecondary institutions has aligned curriculum, using industry recognized standards or with input of local/regional business and industry (May use Gap Analysis) List National Standards or Local/Regional Business Here: AFNR</td>
</tr>
<tr>
<td>6. Pathway includes dual enrollment, high school for college credit, and opportunities for industry-recognized credentials and work-based learning experiences when applicable</td>
</tr>
<tr>
<td>7. The pathway utilizes the guidance of a web-based career counseling system, or information regarding the pathway is available on the institution’s website.</td>
</tr>
</tbody>
</table>
### HIGH SCHOOL: Kalispell Public High Schools (Flathead & Glacier)

### COLLEGE: MSU Northern

### COLLEGE DEGREE PROGRAM: Ag Mechanics Technology

#### Cluster Overview:
Careers in the Agriculture, Food and Natural Resources cluster involve the planning, implementation, production, management, processing, and/or marketing of agricultural commodities and services.

#### Pathway Options:
- Food Products and Processing Systems
- Plant Systems
- Animal Systems
- Power, Structural & Technical Systems
- Natural Resources Systems
- Environmental Service Systems
- Agribusiness Systems

### BIG SKY PATHWAY PROPOSAL

**Occupation Examples:**
- Agricultural Chemical Dealer
- Aquaculturalist
- Environmental Compliance-Assurance Manager
- Farm Manager
- Health and Safety Sanitarian
- Meat Cutter-Meat Grader
- Park Manager
- Produce Buyer
- Recycling Technician
- Wildlife Manager
- Botanist
- Agricultural Educator
- Ecologist
- Environmental Engineer
- Fish and Game Officer
- Bank Loan Officer
- Plant Pathologist
- Veterinarian

*For a complete listing, go to: [http://online.onetcenter.org/find/career?c=1&g=Go](http://online.onetcenter.org/find/career?c=1&g=Go)*

### SUGGESTED HIGH SCHOOL COURSES

<table>
<thead>
<tr>
<th>Grade</th>
<th>Graduation Requirements</th>
<th>Workforce/2-Year College Prep</th>
<th>4-Year MT College/Univ Prep (Rigorous Core)</th>
<th>CTE and/or Electives</th>
<th>9th</th>
<th>10th</th>
<th>11th</th>
<th>12th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>English 9, Math, Physical Science, PE 9, Career Class, Keyboarding I,II or CTE pathways specific</td>
<td>English 9, Math, Physical Science, PE 9, Career Class, Keyboarding 1,2</td>
<td></td>
<td>English 10, Math, Biology (lab science), Recommend World History</td>
<td>English 10, Geometry, Biology, World History, PE 10</td>
<td>English 11, American History, Recommend Advanced Algebra &amp; Statistics, Recommend Advanced Biology, Recommend any CTE Courses</td>
<td>English 12, Government, Choose from the following, Physics, Chemistry, Advanced Biology, Recommend any of the CTE Courses</td>
</tr>
</tbody>
</table>

#### CTE Student Organization(s):
- FFA

#### OTHER RECOMMENDED CTE COURSES:
- AGED I
- AGED II, AGED III, AGED IV, Natural Resources of Montana

### ADVANCED LEARNING OPPORTUNITIES

**High School to College/Career Linkages**

**CTE START courses:**

**Advanced Placement or IB courses:**

**Dual Enrollment courses:**

**Online courses:**

**Other:** Supervised Agricultural Experience (SAE) and participation in appropriate FFA activities support and reinforce classroom and laboratory learning and should be a requirement for all students

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### POSTSECONDARY PROGRAM OF STUDY

<table>
<thead>
<tr>
<th>13—Semester 1</th>
<th>Math</th>
<th>SPCH 141 Fund. Of Speechn (RI-HumRel) or SPCH 142 Interp. Comm (RI-HumRel)</th>
<th>Major</th>
<th>AGMT 130 Intro. To Agricultural Tractors or AGMT 210 Tillage, Planting &amp; Spraying Imps. * DIES 104 Intro. To Diesel Engines DIES 114 Intro. To Diesel Engines Lab</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>13—Semester 2</td>
<td>M 111 Technical Math (RI-comp) OR M 121 College Algebra (RI-comp) OR M 145 Math For Liberal Arts (RI-comp)</td>
<td>AGMT 110 Intro to Ag machines &amp; equip. AGMT 120 Forage implements OR AGMT 205 Grain harvesting equip ATDI 134 Electrical/electronic systems I DIES 115 Intro to Diesel fuel systems</td>
<td>Other</td>
<td>OR AGMT 205 Grain or Harvesting Equip ATDI 264 Ad Elec/electronics Sys II ATDI 265 Heating &amp; Air conditioning DIES 204 Intro/Hydraulics &amp; Pneumatics</td>
<td></td>
</tr>
<tr>
<td>14—Semester 1</td>
<td>WRIT 108 Elem. Tech Writing</td>
<td>AGMT 210 Tillage planting &amp; spraying imps* OR AGMT 130 Intro to agricultural tractors** DIES 218 Heavy Duty Power Trains DIES 262 Diesel engine diagnosis &amp; repair DIES 272 Diesel Engine diag * repair Lab WLDG 260 Repair &amp; Maint. Welding</td>
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<tr>
<td>14—Semester 2</td>
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### MONTANA POSTSECONDARY OPPORTUNITIES

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

**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; GFCOT—Great Falls; HCOT—Helen; TECHCOT—Butte; UMCOT—Missoula; GCP—Bozeman

**Community Colleges:**
- DCC—Glendive; PVCC—Kalispell; MCC—Miles City

**Tribal Colleges:**
- SFCC—Browning; CDKC—Lame Deer; FBCC—Harlem; FPCC—Poplar; LBHC—Crow Agency; SCC—Box Elder; SKC—Peabo

**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
- 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
- Agri-Mechanics Machinery/Technology — MSUN

**APPRENTICESHIP**
- Requires diploma or GED
- Must be at least 18
- Minimum 2,000 hours of supervised experience
- Farm Equipment Mechanics
- 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)

**CERTIFICATE OF APPLIED SCIENCE**
- Requires diploma or GED
- 30-45 credits; limited general education credits
- Complete in one year or less
- Agri-Business Technology — MCC
- Agri-Mechanics Machinery/Technology — DCC
- Livestock Technology — DCC
- Natural Resource Management — PVCC

**November 2010**

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<table>
<thead>
<tr>
<th>ASSOCIATE'S OF APPLIED SCIENCE DEGREE</th>
<th>Requirements</th>
<th>Programs Offered</th>
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<tbody>
<tr>
<td></td>
<td>Requires diploma or GED</td>
<td>Agri-Business Technology — DCC</td>
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<tr>
<td></td>
<td>Requires diploma or GED</td>
<td>Agri-Business Technology—Equitation — DCC</td>
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<td></td>
<td>Requires 60-72 credits; includes 15-25 general ed credits</td>
<td>Agricultural Science/Technology — MSUN</td>
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<td>Complete in two years (if prepared academically in math and English)</td>
<td>Agri-Mechanics Machinery/Technology — MSUN, DCC</td>
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<td>Equine Studies — UMW, MCC</td>
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<td>Natural Horsemanship — UMW</td>
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<td>Natural Resource Management — FVCC, BFCC</td>
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</tbody>
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<tr>
<th>BACCALAUREATE DEGREE</th>
<th>Requires 4-year college prep for admission</th>
<th>Agriculture Business — MSU</th>
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<tr>
<td></td>
<td>Requires 128 credits (approximately)</td>
<td>Agriculture Education — MSU</td>
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<td>Complete in four years</td>
<td>Animal Science — MSU</td>
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<td>Biotechnology — MSU</td>
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<td>Environmental Horticulture — MSU</td>
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<td>Environmental Sciences — MSU</td>
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<td>Land Rehabilitation — MSU</td>
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<td>Land Resource Sciences — MSU</td>
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<td>Natural Resources &amp; Rangeland Technology — MSU</td>
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<td>Plant Science — MSU</td>
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<td>Sustainable Food &amp; Bio-energy Systems — MSU</td>
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<td>Earth Sciences — MSU</td>
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<td>Biological Sciences — MSU</td>
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<td>Biology — UM</td>
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<td>Environmental Studies — UM</td>
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<td>Wildland Restoration — UM</td>
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<td>Wildlife Biology — UM</td>
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<td>Environmental Engineering — TECH</td>
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<td>Mining Engineering — TECH</td>
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<td>Geological Engineering — TECH</td>
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<td>Environmental Science — UMW, SKC</td>
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<td>Earth Science — UMW</td>
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<td></td>
<td></td>
<td>Environmental Science &amp; Forestry — SKC</td>
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</tbody>
</table>

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