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 to the best of my ability 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. NOTE: only the OPI Specialist has the authority to approve.

<table>
<thead>
<tr>
<th>Name of High School:</th>
<th>Agriculture, Food &amp; Natural Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Names of Secondary Lead Teacher and Counselor:</td>
<td>Kris Dniekozen, Jens Nielsen</td>
</tr>
<tr>
<td>The Lead Secondary Teacher will be contacted if OPI has questions about this request</td>
<td></td>
</tr>
<tr>
<td>Name of College:</td>
<td>Dawson Community College</td>
</tr>
<tr>
<td>Name of College Lead Faculty Member:</td>
<td>Leanne Hoagland</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.

High School Principal's Signature: Jerry Crawford, Date: 1/31/2011
H.S. Advisory Committee Member's Signature: Date: 1/31/11
College Chief Academic Officer's Signature: Date: 3/1/11
College Lead Faculty Member's Signature: Date: 3/1/11

OPI Specialist Approval: Date of Approval: 3/1/11
OCHE Approval: Date of Approval: 3/1/11

Both the college and the high school will receive a signed copy when the BSP is approved
### HIGH SCHOOL: Culbertson High School

### COLLEGE: Dawson Community College

### COLLEGE DEGREE PROGRAM: Agribusiness Technology

<table>
<thead>
<tr>
<th>Cluster Overview:</th>
<th>Pathway Options:</th>
</tr>
</thead>
</table>
| Careers in the Agriculture, Food and Natural Resources cluster involve the planning, implementation, production, management, processing, and/or marketing of agricultural commodities and services. | - 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

<table>
<thead>
<tr>
<th>Occupation Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
</tr>
</tbody>
</table>

*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>9th</th>
<th>Graduation Requirements</th>
<th>Algebra I, English I, Earth Science, Health/PE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Workforce/2-Year College Prep</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
<td></td>
</tr>
<tr>
<td>CTE and/or Electives</td>
<td>Animal Science, Computer Applications, Electives</td>
<td></td>
</tr>
<tr>
<td>10th</td>
<td>Graduation Requirements</td>
<td>Geometry, English II, Biology, Health/PE, World History</td>
</tr>
<tr>
<td></td>
<td>Workforce/2-Year College Prep</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
<td></td>
</tr>
<tr>
<td>CTE and/or Electives</td>
<td>Agronomy, Ag Resource Management, Electives</td>
<td></td>
</tr>
<tr>
<td>11th</td>
<td>Graduation Requirements</td>
<td>Algebra II, ACT/MT Writing, American Literature, U.S. History, Environmental Science</td>
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<tr>
<td></td>
<td>Workforce/2-Year College Prep</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
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</tr>
<tr>
<td>CTE and/or Electives</td>
<td>Chemistry, Anatomy/Physiology,</td>
<td></td>
</tr>
<tr>
<td>12th</td>
<td>Graduation Requirements</td>
<td>Government, British Literature, Research Writing</td>
</tr>
<tr>
<td></td>
<td>Workforce/2-Year College Prep</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
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</tr>
<tr>
<td>CTE and/or Electives</td>
<td>Physics, Advanced Math (Calculus/Trigonometry),</td>
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</table>

**Recommended CTE Cluster Foundation Courses:**
- Oxy-Acetylene Welding
- Arc/Mig Welding
- Ag Construction I
- Ag Construction II

**Other Recommended CTE Courses:**
- Electrical/Plumbing
- Wildlife Management
- Woodworking

**CTE Student Organization(s):**
- National FFA Organization

### ADVANCED LEARNING OPPORTUNITIES

**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

### POSTSECONDARY PROGRAM OF STUDY

<table>
<thead>
<tr>
<th>13—Semester 1</th>
<th>Math</th>
<th>English</th>
<th>Major</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Writing 101</td>
<td>Agribusiness Technology</td>
<td>AG104, AG114, AG110, AG140, AG232</td>
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<tr>
<td>13—Semester 2</td>
<td>M108</td>
<td>CM110</td>
<td>Agribusiness Technology</td>
<td>AG111, AG220, CAPP131</td>
</tr>
<tr>
<td>College Program</td>
<td>Course Code(s)</td>
<td>Campus Name(s)</td>
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<td></td>
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<tr>
<td>ACTG101, ACTG201</td>
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<td>Agribusiness Technology</td>
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<tr>
<td>PSYX100</td>
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<td>AG230, AG278, BIOB160, BIOB161</td>
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<td></td>
<td>BIOO265, BIOO266, AG225, SC209</td>
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### MONTANA POSTSECONDARY OPPORTUNITIES

*Montana University System Degree and Program Inventory: [http://www homepage.montana.edu/~mus/dirinv/](http://www homepage.montana.edu/~mus/dirinv/)
Your Guide to Montana’s Certificate and Associate Degree Programs: [http://mus.edu/twoyear/YourGuide.html](http://mus.edu/twoyear/YourGuide.html)*

<table>
<thead>
<tr>
<th>Colleges of Technology:</th>
<th>Community Colleges:</th>
<th>Tribal Colleges:</th>
<th>Four Year Colleges/Universities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLCOT—Billings; GFCOT—Great Falls; HCOT—Helena; TECHCOT—Butte; UMCOT—Missoula; GCP—Bozeman</td>
<td>DCC—Glendive; FVCC—Kalispell; MCC—Miles City</td>
<td>BFCC—Browning; CKC—I—Lame Deer; FBCC—Hardin; FPCC—Poplar, LBHC—Crow Agency; SCC—Box Elder, SKC—Pablo</td>
<td>MSU—Bozeman; MSUB—Billings; MSUN— Havre; TECH—Butte; UM—Missoula; UMW—Dillon</td>
</tr>
</tbody>
</table>

### 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

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://wds.dli.mt.gov/apprenticeship/default.asp](http://wds.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 — 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)*

Agri-Business Technology — DCC
Agri-Business Technology—Equitation — DCC
Agricultural Science/Technology — MSUN
Agri-Mechanics Machinery/Technology — MSUN, DCC
Equine Studies — UMW, MCC
Natural Horsemanship — UMW
Natural Resource Management — FVCC, BFCC

### BACCALAUREATE DEGREE
- Requires 4-year college prep for admission
- 128 credits (approximately)
- Complete in four years

Agriculture Business — MSU
Agriculture Education — MSU
Animal Science — MSU
Biototechnology — MSU
Environmental Horticulture — MSU
Environmental Sciences — MSU
Land Rehabilitation — MSU
Land Resource Sciences — MSU
Natural Resources & Rangeland Technology — MSU
Plant Science — MSU
Sustainable Food & Bio-energy Systems — MSU
Earth Sciences — MSU
Biological Sciences — MSU
Biology — UM
Environmental Studies — UM
Forestry — UM
Resource Conservation — UM
Wildland Restoration — UM
Wildlife Biology — UM
Environmental Engineering — TECH
Mining Engineering — TECH
Geological Engineering — TECH
Environmental Science — UMW, SKC
Earth Science — UMW
Environmental Science & Forestry — SKC

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