

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** University of Montana-Missoula

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**Program Years:** 2012-13

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**List of the programs reviewed:**

Environmental Studies, B.A.

Environmental Studies, M.A.

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**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

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**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The Environmental Studies (EVST) Program conducted a self-study in fall 2012. Dr. Michael Medler, Chair of Environmental Studies at Western Washington University, conducted an external review in March 2013. Dr. Medler's report states that he was impressed by the faculty's interaction with students. "What became very apparent to me was the very high level of commitment to teaching excellence." He found that undergraduates were "universally excited to be part of the program and considered themselves lucky to have access to this major." He also writes that the graduate program "continues to be nationally recognized and is able to recruit remarkable grad students, who come mostly at their own expense, to be part of this unique combination of academic rigor, nature writing, and environmental engagement and commitment."

The self-defined goal of the EVST program is "to create a healthier, more just and sustainable environment." Faculty in the program are dedicated to working towards this goal, leading to a supportive and cohesive unit despite widely varying backgrounds and interests. The curriculum includes practical experience through nationally recognized programs in sustainable farming (PEAS) and technology (UM FLAT).

Dr. Medler sees challenges for EVST as other disciplines address environmental and sustainability issues. Also, the program serves other majors, which creates difficulties related to limited faculty numbers and resources, including reduced access to courses required of majors.

EVST generated 1276 student credit hours in fall 2010. The number of student majors and graduates is given below.

<b>Department of Environmental Studies</b>		<b>Fall</b>						
<b>First and Second Majors</b>	<b>Degree Level</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Environmental Studies	Undergraduate	152	141	166	163	170	203	205
	Graduate	84	84	89	80	71	65	62
	<b>Total</b>	<b>236</b>	<b>225</b>	<b>255</b>	<b>243</b>	<b>241</b>	<b>268</b>	<b>267</b>
<b>Degree</b>	<b>Major</b>	<b>FY05</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>
Bachelor of Arts	Environmental Studies	24	34	39	35	37	33	33
minor	Environmental Studies	3	6	1	4	5	2	3
Master of Science	Environmental Studies	46	28	29	28	30	33	25

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** University of Montana

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**Program Years:** 2012-13

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**List of the programs reviewed:**

Geography, B.A. with options including  
Community & Environmental Planning

Geography, B.S. with options including  
Physical Geography

Geography minor  
Mountain studies minor

Geographic Information Systems, Post-Baccalaureate Certificate

Geography, M.A.

Geography, M.S. with options including  
Community and Environmental Planning  
Cartography and GIS

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**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

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**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The Department of Geography conducted a self-study in fall 2012. Dr. Ken Foote, of the University of Colorado, Boulder, completed a site visit and external review in March 2013. His review points out that “The obvious collegiality and dedication to the mission of the program and the university are among (the program’s) obvious strengths.” Dr. Foote notes the recent resurgence of geography as a program of study, with growing opportunities for geographers at all levels. Dr. Foote views this growing interest as an opportunity for Geography to develop a strategic plan that will guide growth and curriculum over the next five to ten years.

The curriculum in Geography continues to evolve. Dr. Foote notes that students are “offered a rigorous

sequence of high-quality courses” and that faculty are “invested in keeping up with the innovations in teaching and learning, such as active pedagogy, teaching with technology, etc.” The offerings in Geography cover a wide range of relevant subjects and, according to Dr. Foote, the “department’s minor in mountain studies is one of a kind in the U.S.”

Geography generated 1514 student credit hours in fall 2011. The number of student majors and graduates is given below. Due to the reorganization of the program, some programs in the below table are no longer offered. The Central and Southwest Asian Studies options in the BA and MA degrees have been eliminated. The Cartography and GIS option in the BA has been turned into a certificate. All options in the MA moved over to the MS degree after its creation.

Department of Geography		Fall									
First & Second Majors	Degree Level	2005	2006	2007	2008	2009	2010	2011			
Geography	Undergraduate	80	100	84	72	73	78	73			
	Graduate	56	56	55	46	48	38	33			
	<b>Total</b>	<b>136</b>	<b>156</b>	<b>139</b>	<b>118</b>	<b>121</b>	<b>116</b>	<b>106</b>			
Degree	Major	Option			FY05	FY06	FY07	FY08	FY09	FY10	FY11
Bachelor of Arts	Geography				5	9	20	14	18	13	8
Bachelor of Arts	Geography	Community & Environmental Plng			1	4	4	6	2	4	6
Bachelor of Arts	Geography	Central & Southwest Asian Stds				1	2	3	2		
Bachelor of Arts	Geography	Cartography and GIS			5	5	8	8	9		1
Bachelor of Science	Geography										3
Bachelor of Science	Geography	Physical Geography								2	1
Post-Baccalaureate Certificate	Geographic Information Systems							13	26	18	25
minor	Geography				5	2	3	2	2	3	2
minor	Mountain Studies								2	6	5
Master of Arts	Geography				5	4	3	5	4	2	2
Master of Arts	Geography	Community & Environmental Plng				2	1	1	1		
Master of Arts	Geography	Central & Southwest Asian Stds						1	1		1
Master of Arts	Geography	Cartography and GIS			5	4	2	7	4		
Master of Science	Geography								1	5	5
Master of Science	Geography	Community & Environmental Plng								6	3
Master of Science	Geography	Cartography and GIS						1	1	2	4

Montana University System  
PROGRAM REVIEW

Institution: University of Montana

Program Years: 2012-13

List of the programs reviewed:

Human and Family Development minor

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

Retain all degrees and options.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

According to the self-study completed by the program in the summer of 2013, the minor in Human and Family Development draws from courses already in the curricula of existing departments to provide an interdisciplinary minor that is “concerned with the study of life-span human development and family relations, and the impact of biological, environmental, and socio-cultural factors on both.” Students are required to participate in service learning courses as part of the core requirements.

The minor has clear goals that fit the University of Montana Strategic Plan by providing students with practical experience (*Education for the Global Century*), engaging students in research as it applies to Montana’s families and human development (*Discovery and Creativity to Serve Montana and the World*), and through its interdisciplinary approach of combining course work from Education, Social Work, Psychology, Communication Studies, and Sociology (*Dynamic Learning Environment*).

The program is one of only a handful of such interdisciplinary minors available in the U.S. and offers students an excellent opportunity to pursue studies in human and family development while completing a major degree in a related field. The minor is highly successful despite relying entirely on a volunteer director who is a faculty member in Psychology. The number of student minors is given below.

Human and Family Development Program								
Degree	Major	FY05	FY06	FY07	FY08	FY09	FY10	FY11
minor	Human and Family Development	12	16	11	14	9	12	11

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** University of Montana

**Program Years:** 2012-13

**List of the programs reviewed:**

Latin American Studies minor

**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The Latin American Studies self-study, submitted in fall 2012, describes the minor as designed to complement a major area of study. It provides students with the opportunity to engage with a variety of programs on campus and explore their interests beyond the offerings of a single department.

The minor in Latin American Studies is interdisciplinary in nature and is overseen by a steering committee of faculty from multiple programs, mainly in the College of Arts and Sciences. The program is especially aligned with the strategic goal of Education for the Global Century, due to its interdisciplinary and international scope, and because students are strongly encouraged to participate in a Study Abroad Program in Latin America, if possible.

Interest in the minor is steady in response to several factors including multiculturalism, a recognition of the value of interdisciplinary studies to addressing complex global challenges and an increased awareness of borders, regions, and frontiers. The program receives modest funding from the Office of International Programs to support its activities, but the Program Director receives no compensation or course reduction for organizing the program.

The number of student minors is given below.

**Latin American Studies Program**

Degree	Minor	FY05	FY06	FY07	FY08	FY09	FY10	FY11
minor	Latin American Studies	7	6	6	9	5	3	5

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** University of Montana

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**Program Years:** 2012-13

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**List of the programs reviewed:**

Mathematics, B.A. with options including  
    Combinatorics and Optimization  
    Mathematics Education  
    Pure Mathematics  
    Statistics  
    Applied Mathematics

Minor, Mathematics

Mathematics, M.A. with options including  
    Mathematics Education

Mathematics, Ph.D.

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**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

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**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The Department of Mathematical Sciences submitted a self-study in October 2012. Dr. Dieter Armbruster of Arizona State University conducted an external review in spring of 2013.

The Mathematical Sciences Department serves a substantial number of undergraduate and graduate students. Nevertheless, the reviewer found that “students feel welcome and get a lot of personal attention.” The department offers baccalaureate degrees with a variety of options in specific subfields, fulfilling a state, regional, and national need for more graduates in STEM fields. Additionally, the department offers numerous courses that fulfill general education requirements and support the specific needs of other departments. In addition to serving the needs of UM students, the department participates in many community outreach activities, including Math Days, which engages K-12 students through fun math activities.

The department continues to develop its research capabilities and has the opportunity with faculty openings to

expand in strategic areas. The department recently established a CORE facility to provide statistical and applied mathematical support to faculty in mathematics and other programs. This entrepreneurial program promotes collaborative grant applications among faculty in Mathematical Sciences and other departments. The reviewer notes that “The Statistics and Applied Mathematics CORE consulting program is a great idea that needs to be expanded.” Additionally, this program leads to opportunities for graduate students through CORE activities.

The Mathematical Sciences Department generated 10,271 student credit hours in fall 2011. The number of student majors and graduates is given below. The various options serve students by placing them in a more distinctive population when applying for jobs and graduate school. In addition to the below degrees, an MA in Teaching Middle School Mathematics was approved in 2011.

Department of Mathematical Sciences		Fall									
First and Second Majors	Degree Level	2005	2006	2007	2008	2009	2010	2011			
Mathematical Sciences	Undergraduate	66	76	79	81	88	98	90			
	Graduate	26	24	33	35	25	25	26			
	<b>Total</b>	<b>92</b>	<b>100</b>	<b>112</b>	<b>116</b>	<b>113</b>	<b>123</b>	<b>116</b>			
Degree	Major	Option			FY05	FY06	FY07	FY08	FY09	FY10	FY11
Bachelor of Arts	Mathematics				6	4	6	6	8	11	13
Bachelor of Arts	Mathematics	Combinatorics & Optimization						1	3		1
Bachelor of Arts	Mathematics	Mathematics Education			5	3	3	4	2	3	1
Bachelor of Arts	Mathematics	Pure Mathematics				1	2	1	1	1	3
Bachelor of Arts	Mathematics	Statistics			3	2	2		1	1	1
Bachelor of Arts	Mathematics	Applied Mathematics			1	2	2	1	3	4	2
Bachelor of Science	Math Sci-Computer Sci				1			2			1
minor	Mathematics				7	10	6	8	9	11	19
Master of Arts	Mathematics				6	6	3	7	10	4	
Master of Arts	Mathematics	Mathematics Education					1	1	1		
PhD	Mathematics				2	2	2	2	3	3	4



**Montana University System**  
**PROGRAM REVIEW**

**Institution:** University of Montana

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**Program Years:** 2012-13

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**List of the programs reviewed:**

Toxicology, M.S. and Ph.D.

Neuroscience, M.S. and Ph.D.

Pharmaceutical Sciences, M.S.

Pharmacy, Pharm.D.

Biomedical Sciences, Ph.D.

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**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

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**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The Skaggs School of Pharmacy comprises two departments: (i) Pharmacy Practice and (ii) Biomedical and Pharmaceutical Sciences. The graduate programs offered by these departments are unique to Montana. The Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education (ACPE) until June 2020 and the program continues to produce many pharmacists for the state of Montana. The Department of Biomedical and Pharmaceutical Sciences submitted a self-study in fall 2012. Dr. Terrence J. Monks of the University of Arizona prepared an external review based on the self-study and a site visit in March 2013.

According to Dr. Monks, these programs “offer research experiences in several strong research areas that provide excellent graduate training opportunities.” He goes on to say “The program has little problem in placing its graduates in a variety of fields...” He notes a clear faculty commitment to the graduate program and departmental strengths in obtaining external funding to support the graduate program and in monitoring student success by an Oversight Committee. “The department has made remarkable progress over the last decade in launching and establishing its graduate programs. The faculty is clearly competitive nationally, as evidenced by their ability to secure large programmatic style grants.”

The number of student majors and graduates is given below. The program has added an M.S. and Ph.D. in Medicinal Chemistry, which should soon produce its first graduates.

Department of Biomedical and Pharmaceutical Sciences								
(including Pharmacy Practice)		Fall						
First and Second Majors	Degree Level	2005	2006	2007	2008	2009	2010	2011
Biomedical and Pharmaceutical Sciences	Pre-Majors	216	200	175	185	206	219	224
	Undergraduate	250	253	256	264	264	277	275
	Graduate	35	45	50	27	26	28	36
	<b>Total</b>	<b>501</b>	<b>498</b>	<b>481</b>	<b>476</b>	<b>496</b>	<b>524</b>	<b>535</b>
Degree	Major	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Master of Science	Toxicology				1			
Master of Science	Neuroscience				1		1	
Master of Science	Pharmaceutical Sciences	3		3		1	2	
PharmD	Pharmacy	49	62	63	61	63	70	70
PhD	Biomedical Sciences		1	2	4	2		3
PhD	Toxicology			3	2	2	2	
PhD	Neuroscience			1		3	1	1

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** University of Montana

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**Program Years:** 2012-13

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**List of the programs reviewed:**

Physics, B.A., with options including  
    Astronomy  
    Computational Physics

Physics minor  
Astronomy minor

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**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

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**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The Department of Physics and Astronomy submitted a self-study in October 2012 and Dr. Matthew Stoneking of Lawrence University conducted an on-campus review in March 2013. Dr. Stoneking's report states that the program is quite healthy overall. The department "serves the needs of its current students and is making its mark as a distinctive undergraduate program with high caliber research."

The Physics and Astronomy Department serves a substantial number of undergraduate students, providing general education and required courses to many other majors and minors on campus, including education, chemistry, and geosciences. The faculty maintain an active research program that involves collaboration with researchers at other institutions and offers undergraduate students valuable hands-on research experience. The recent acquisition of NASA funding for the Minerva Program to study exoplanets is one such example. Dr. Stoneking stated that the department "is making a name for itself in the campus community and to some extent in the larger physics and astronomy communities as an undergraduate physics program with first-rate research programs in which students are important participants."

The department generated 3175 student credit hours in fall 2011. The number of student majors and graduates is given below. The external reviewer notes that these numbers place "the program among the more successful undergraduate physics programs in the country." Following the death of a primary astronomy faculty member, the astronomy program experienced a period of decline, but with exciting new developments such as the Minerva project award, is now revitalized.

Department of Physics and Astronomy		Fall									
First and Second Majors	Degree Level	2005	2006	2007	2008	2009	2010	2011			
Physics and Astronomy	Undergraduate	69	61	66	59	72	63	73			
	<b>Total</b>	<b>69</b>	<b>61</b>	<b>66</b>	<b>59</b>	<b>72</b>	<b>63</b>	<b>73</b>			
Degree	Major	Option			FY05	FY06	FY07	FY08	FY09	FY10	FY11
Bachelor of Arts	Physics				6	4	5	6	4	7	4
Bachelor of Arts	Physics	Astronomy			3	2	2	3	2	4	4
Bachelor of Arts	Physics	Computational Physics				1		1			
minor	Physics							1		4	
minor	Astronomy										1

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** University of Montana

**Program Years:** 2012-13

**List of the programs reviewed:**

Masters of Public Health (MPH)

Certificate of Public Health (CPH)

**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The School of Public and Community Health Sciences offers a Masters of Public Health, entirely online, and a Certificate of Public Health. The program admitted its first students in 2006, applied for accreditation in 2009, and was awarded accreditation by the Council on Education for Public Health (CEPH) in 2012. The accreditation team noted the importance of this program to our state. "The existence and on-line format of the MPH program is paramount to improving public health education and practice in the frontier state of Montana."

The accreditation team also noted that the Masters of Public Health program's "online format, multidisciplinary faculty, experienced public health students and community engagement are evidence of the program's aims to promote multidisciplinary collaboration and foster professional public health values."

The School of Public and Community Health Sciences generated 141 student credit hours in fall 2011. The numbers of students and graduates are reported below.

Department of Public and Community Health Sciences		Fall						
First and Second Majors	Degree Level	2005	2006	2007	2008	2009	2010	2011
Public and Comm Health	Graduate			20	29	38	37	36
	<b>Total</b>			<b>20</b>	<b>29</b>	<b>38</b>	<b>37</b>	<b>36</b>
Degree	Major	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Public and Comm Health	Post-Baccalaureate Certificate					3		8
Public and Comm Health	Masters of Public Health					5	6	3

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** Missoula College-UM

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**Program Years:** 2012-13

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**List of the programs reviewed:**

Associate of Arts

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**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

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**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The Associate of Arts degree is designed as a transfer degree, allowing students to complete their general education requirements prior to continuing for a baccalaureate degree at the University of Montana–Missoula or another institution. Pathways through pre-professional degrees in addiction studies, social work and psychology are available.

The AA degree program conducted a self-study in spring 2013. A strength of the program is the opportunities it affords students who choose to attend a smaller, student-focused campus. Specifically, the small class size allows inquiry focused on the students' needs and interests. Discussion and small-group work can be emphasized, and some class sections focus on specific disciplines, such as pre-nursing. This contributes to the College!Now mission.

The self-study report also identifies a need for more of the courses in the AA degree to be offered on the Missoula College campus; currently students are required to take a few courses on the UM-Missoula campus to complete their general education requirements. Missoula College is taking steps to offer all courses required for the AA degree on their campus and to develop more articulation agreements for 2 + 2 transfer options.

The enrollment figures (below) suggest many students leave the program without completing their AA degree. Although students are encouraged to complete their AA degree prior to transferring to a four-year program, many transfer without fully completing the degree. With a new advisor in place to address such issues, graduation rates are expected to grow. However, it is difficult to count the number of students in the Applied Arts and Sciences Department, which offers only one degree but serves the entire Missoula College population and may include pre-majors for other degrees. Therefore, the actual graduate count is more representative of the overall productivity of the program; it rose from 28 in 2008 to 50 in 2010.

Department of Applied Arts and Sciences		Fall						
First and Second Majors	Degree Level	2005	2006	2007	2008	2009	2010	2011
Associate of Arts	Undergraduate	587	709	713	833	1038	1325	1510
	<b>Total</b>	<b>587</b>	<b>709</b>	<b>713</b>	<b>833</b>	<b>1038</b>	<b>1325</b>	<b>1510</b>
Degree	Major	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Associate of Arts	General AA	22	8	26	38	28	37	50

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** Missoula College-UM

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**Program Years:** 2012-13

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**List of the programs reviewed:**

Bachelor of Applied Science

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**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

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**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The BAS degree is designed as an “inverted” degree in which students first complete their AAS degree and then fulfill general education and additional major requirements in a focus area. With the establishment of the AA degree and the emphasis on transfer to four-year campuses, the BAS degree is going through a period of redefinition and refinement. Students at Missoula College are taking more general education courses earlier in their curriculum, working towards the AA degree or transferring into a professional or traditional degree program at a four-year campus. But students matriculating in the AAS program focus mainly on skills and technical courses and need the opportunity afforded by the BAS degree to continue beyond an associate’s degree.

The BAS program conducted a self-study in spring 2013. The program’s main strength is the flexibility it offers to students interested in continuing their education past an AAS degree. The challenges the program faces are a lack of visibility, a lack of consistent promotion across AAS disciplines, the number of degree requirements beyond an AAS degree, and the need for a professional advisor for students interested in the program. The latter would solve many of the other challenges.

Though enrollment and graduation figures have declined from the beginning of the review period, continuation is recommended because the degree serves a specific population of students who possess an AAS degree and wish to pursue a baccalaureate degree.



<b>Bachelor of Applied Science</b>		<b>Fall</b>						
<b>First and Second Majors</b>	<b>Degree Level</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Bachelor of Applied Science	Undergraduate	15	6	5	12	12	16	16
	<b>Total</b>	<b>15</b>	<b>6</b>	<b>5</b>	<b>12</b>	<b>12</b>	<b>16</b>	<b>16</b>
<b>Degree</b>	<b>Major</b>	<b>FY05</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>
Bachelor of Applied Science	Applied Science	12	7	5	5	3		2

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** Missoula College-UM

**Program Years:** 2012-13

**List of the programs reviewed:**

Computer-Aided Design, Certificate of Applied Science

**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The Computer-Aided Design program offers a Certificate of Applied Science. The program has grown since its creation in 2009.

The Certificate of Applied Science in Computer-Aided Design contributes to the mission of the University of Montana by providing students with 21<sup>st</sup> century skills and knowledge through hands-on experiences and developmental coursework. Students completing the certificate are qualified to go into architectural, engineering, and civil drafting careers. Students are also qualified for careers in geographic information systems, mapping, surveying, and technical design.

The program’s faculty includes professionals working in the Missoula community who bring a wealth of practical knowledge to their classrooms. These adjunct faculty members are professional engineers, architects and planners, and students benefit from these professional contacts.

The program aspires to expand to a full two-year degree, to work with local high schools to offer dual credit courses, to become accredited, and to prepare students for external certification.

Dept. of Applied Computing and Electronics Technology		Fall						
First and Second Majors	Degree Level	2005	2006	2007	2008	2009	2010	2011
Computer Aided Design	Undergraduate					4	9	10
	<b>Total</b>					<b>4</b>	<b>9</b>	<b>10</b>
Degree	Major	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Certificate	Computer Aided Design						1	2

**Montana University System**  
**PROGRAM REVIEW**

**Institution:** Missoula College-UM

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**Program Years:** 2012-13

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**List of the programs reviewed:**

Energy Technology, A.A.S.

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**Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:**

Retain all degrees and options.

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**Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.**

The Energy Technology program conducted a self-study in fall 2012. The program has numerous strengths, including a curriculum offered almost entirely online, successful collaborations with programs at UM-Missoula, strong interactions with local and regional businesses, and a curriculum with built-in flexibility.

Students are introduced to traditional and renewable energy systems and technologies through hands-on, practical coursework combined with fundamental education in business, math, science, computing, and communication. The program is considering accreditation by internationally recognized societies and just added a Certificate of Applied Science this past spring. The program has a 16-member Project Advisory Board, and consults often with faculty and staff at UM-Missoula. Most faculty in the program are adjunct faculty who are also practitioners in energy technology fields.

Students in the program have competed in national competitions, including the 2011 and 2012 American Society of Mechanical Engineering Human-Powered Vehicle Challenge and the 2012 Shell EcoMarathon. Teams won the "Best Recycled Ride" (2011) and "Gutsy Gals" (2012) awards. These competitions serve as excellent motivators for students in the program.

Challenges facing the program are the space and funding required for practical, hands-on learning. The program currently uses donated space at various shops for laboratories and workshops. Some external funding for projects is available, but does not support all of the students' activities.

Established in 2007, the program is relatively young, but has shown considerable growth. It benefits from strong leadership, defined goals, and a clear vision that will contribute to the continued growth of the program and expanded opportunities for students in the field of energy technology. Out of 19 students who responded to a graduate survey, 13 were employed in private business, one was employed by a government agency, and four entered the BAS program at Missoula College.

Dept. of Applied Computing and Electronics		Fall						
First and Second Majors	Degree Level	2005	2006	2007	2008	2009	2010	2011
Energy Technology	Undergraduate			17	38	80	94	87
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>38</b>	<b>80</b>	<b>94</b>	<b>87</b>
Degree	Major	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Associate of Applied Arts	Energy Technology					2	2	13