Montana University System

PROGRAM REVIEW

Institution: Helena College University of Montana

Program Years: 2011-12

List of the programs reviewed:

- Water Quantity Associate of Applied Science
- Water Quality Associate of Applied Science

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

Based on the recommendations of the Water Resources Advisory Council and the results of the Annual Program Review, Helena College University of Montana recommends the continuation of the Water Resources Program as the program continues its retooling in order to facilitate greater program enrollment, retention, and graduation while seeking wider employment opportunities for graduates.

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.

Associate of Applied Science: Water Quantity and Water Quality

The Water Resources Program is a relatively recent addition to the science offerings at Helena College. Graduates of the program are fully prepared to enter the water resources industry and contend with a variety of water issues including: 1) the basics of water resources, 2) use of GIS and map interpretation, 3) water collection and analysis, 4) knowledge of surface and ground water, 5) interpretation of water policies, 6) technical report writing, and 7) field methods. These two programs were originally developed to serve as a flexible continuing education option for technicians already employed by regulatory agencies, the Water Resources Program has suffered from low full-time student enrollment as a result and continues to display low graduation rates. Additionally, the online nature of the program places more pressure on students to learn and develop real job skills including field methodology and the use sophisticated computer software via distance learning. Program enrollment has grown since its inception in the Spring of 2010 of seven (7) to a high of thirteen (13) in the Fall of 2011. Currently, only eleven (11) degree-seeking students are enrolled in the program (see Table 1).

Overall, the Water Resources Program Review indicates that the program is struggling. However, the program is now receiving the attention of a full-time faculty member who has seen to the reinstatement of the Water Resources Advisory Council and has begun implementing their recommended changes. Reestablished communication to industry, governmental, and non-profit agencies around the local and regional area has given the Water Resources Program renewed attention and has garnered internship opportunities for current students. Additional efforts aimed at increasing student enrollment and retention include the development of a sister Geoscience program to offer a Professional Certificate in Geoscience Technology (beginning Fall 2012), reintroducing the program to currently employed water resource technicians through directed promotion, and development of an on-campus student-led water resources organization.

Improving the 3P1 Perkins Indicator for Water Quantity and Water Quality AAS Degree Programs

Helena College has hired a Water Resources Instructor/Program Coordinator as specified in the 3P1 Student Retention or Transfer Indicator of Carl D. Perkins Grant 71. However, due to personnel turnover in this position, student enrollment, retention, transfer, and persistence in the program are yet to improve. However, intense efforts to address the very low number of program students and negative enrollment trend have begun anew and include close collaboration with existing marketing and outreach. Current efforts to increase enrollment/retention and improve existing curriculum in the program include:

- Increasing program resources by enlarging the physical collection of materials and samples available by Water Resources and Geoscience Technology Program students
- Creating four new courses aimed at increasing the marketable skills developed in the program by students
- Creating a Geoscience Technician Certificate as an additional educational opportunity for Water Resources students to develop additional technical skills such as pedagogy, geological field methods, spatial science technology, and remote sensing
- Renewing and creating connections between local, state and federal agencies directly involved with water management including the DNRC, DEQ, EPA, NPS, BLM, USFS, USGS agencies
- Increase program awareness and exposure to organizations involved in water resources including governmental agencies, tribal alliances, water and sewer districts, conservation groups, watershed organizations, and non-profit science and monitoring groups
- Active recruitment of potential program enrollees with three local high schools in Helena, Montana
- Creation of a Water Resources Advisory Council composed of industry and government leaders in the field of water resources
- Clarifying program goals and objectives to Helena College staff who participate in student recruitment and advising
- Critical review of Water Resources Program curricula with input from Advisory Council
- Creating internship opportunities for students with the USFS, USGS, Montana FWP, and two local private environmental science/engineering firms
- Seeking program input from private consulting organizations around the state

Additionally, the Water Resources Instructor/Program Coordinator will be responsible in developing and maintaining industry connections with major environmental science and water resources organizations beyond state boarders.

Program Goals FY 2013

Provide Access and Support

Goal: Hire a full-time Water Resources/Geoscience Faculty member that will remain during summer semesters beginning July 2012.

Comments: As a full-time position, the Water Resources/Geoscience Faculty will provide extended access and support to water resources students by acting as principal advisor and point-of-contact for those seeking employment and internships. Additionally, this full-time position will allow the Water Resources/Geoscience Faculty to direct the outreach, development, and review of Water Resources

Program while actively assisting Helena College staff in the targeted recruiting of future students into program.

Goal: Establish and approve an "Association of Future Geoscientists" through ASUMH by December 2012.

Comments: Development and approval from the Associated Students of Helena College of an on-campus, student-led, and instructor guided Geoscience/Water Resources association will increase support for program students by providing a centralized organization to foster a sense of school spirit and investment in academic program. Formal recognition of program monies would then be available through ASUMH for community service and student development projects.

Demonstrate Excellence

Goal: Develop, and present for approval, an allied Geoscience Technology Program to the Montana Board of Regents by September 2013.

Comments: The allied Geoscience Technology Program will parallel the Water Resources Program and concentrate more significantly on exploration geoscience. Both programs will remain closely allied due to the overlapping nature of curriculum and industry opportunities and provide greater latitude to course offerings for water resources students.

Goal: Present Water Resources Program to water related organizations around the state beginning June 2012.

Comments: Presentations given by Water Resources Faculty will increase current program exposure around the state by describing program offerings, student outcomes, and continuing educational opportunities to geoscience and water resources related organizations. These presentations will be targeted and seek to correct a dearth of program awareness in the community for Helena College's Water Resource Program.

Strengthen Community

Goal: Develop a community participation activity during the Annual Lake Helena Watershed Festival in partnership with the Lake Helena Watershed Group, DNRC, and the Lewis and Clark Conservation District in August 2013.

Comments: Development of a community participation segment to the existing Annual Lake Helena Watershed Festival will allow community members the opportunity to tag-along with water professionals and Helena College Water Resource students taking water samples and stream-flow measurements while learning about local water issues and watershed health. In addition to learning about Helena's water issues, community members develop a greater appreciation for Helena College and the Water Resources Program.

Goal: Foster greater participation of Water Resources Program students through volunteering and community participation beginning September 2012.

Comments: Develop faculty-led participation in Lewis and Clark County volunteer water monitoring service, litter pick-up, and RMDC's Spirit of Service. In association with "Association of Future Geoscientists," water resources students and faculty will participate in community improvement projects such as Lewis and Clark County's Volunteer Water Monitoring Service and Rocky Mountain Development Council's Spirit of Service project to help low-income homeowners with yard work and maintenance.

Table 1: Student Information

Indicators (over 3-year span)

Headcount (unduplicated):

	Spring 2010	Fall 2010	Spring 2011	Fall 2011	Spring 2012
Total Students	**7**	**11**	**12**	**13**	**11**

Number of Students in program: Eleven students are currently in the Water Resources Program.

Outcomes

Program major enrollment/trend data (over past three years):

Total Water Resources Students	**Spring 2010**	**Fall 2010**	**Spring 2011**	**Fall 2011**	**Spring 2012**	**2 YR +/-**
Freshman	5	7	6	6	6	20%
Sophomore	2	3	5	6	4	100%
Postbac		1	1	1	1	0%
Total	**7**	**11**	**12**	**13**	**11**	**57%**
New WR Students	**5**	**5**	**2**	**0**	**0**	**-100%**
Student Inquires	6	7	0	3	1	-83%
Applications	4	6	3	10	N/A	150%