

LEVEL II BOARD OF REGENTS ITEMS

CURRICULUM PROPOSALS

Overview and description of proposed program

The Biology Department of The University of Montana Western (UMW) is proposing to restructure its degree offerings. UMW currently offer a Bachelor of Arts Major (B.A.) with a Biology Option and six associated Related Areas (Biological Mathematics, Cell/Molecular Biology, Health and Human Performance, Pre-professional Health Sciences, Veterinary Science and Wildlife Biology). The department is proposing to eliminate the B.A.: Biology Option and its six associated Related Areas (Sub-Options) and replace it with a Bachelor of Science Major (B.S.) in Biology with three Options: Molecular Bioscience, Wildlife Ecology and Integrative Biology. The new Bachelor of Science Major will allow the UMW Biology Department to more effectively meet the needs of its students as it will eliminate redundancy in the current biology program, it is a more appropriate degree for our students and it is easier to explain to prospective students.

Need

The current B.A. Biology Option at UMW was developed at a time when the biology program was much smaller in size and scope and the biology faculty were housed within the Department of Environmental Sciences. Over time, as the number of biology students increased, new faculty were added and new related areas were created to accommodate the growing spectrum of student interests. The tremendous growth in the number of biology students eventually led to the need for a Biology Department and, in September 2009, the BOR approved a proposal to split the Department of Environmental Sciences into the Department of Biology and the Department of Environmental Sciences. Shortly thereafter, the Biology faculty reviewed the existing degree structure, keeping in mind the needs of its current students who are primarily interested in wildlife biology, biomedical careers and veterinary sciences. The department found that its current programs could be significantly improved in several areas. First, the current structure contains far too much redundancy in the Related Areas that are offered. Second, the current BA/Option/Related Area program structure is confusing for both current and prospective students. Finally, the Bachelor of Arts Major does not accurately reflect the course work currently required for UMW biology students, as the Biology program require a very directed course of study that is more reflective of a Bachelor of Science degree than a B.A. degree.

Under the current degree structure, students interested in biology can pursue any of six different biological Related Areas and the level of redundancy among these Related Areas is both unnecessary and confusing. For example, five of the seven courses required for the Veterinary Science Related Area are identical to those required for the Cell/Molecular Biology Related Area, and many courses in both of these Related Areas are the same as those required for the Pre-Professional Health Sciences Related Area. There is also redundancy between departments in the Related Areas that are currently offered. For example, the Biological Mathematics Related Area offered through the Biology Department is extremely similar to the Mathematical Biology Related Area offered through the Math Department. Under the proposed degree structure students would not choose from six Related Areas would but would instead take one of three Options: Molecular Bioscience, Wildlife Ecology or Integrative Biology. This new structure will eliminate the redundancy in the Related Areas of our current program and will continue to serve the needs of all biology students. Those students interested in molecular biology, biomedical or veterinary sciences will be well served by the

Molecular Bioscience Option. The Wildlife Ecology Option will prepare students for careers or graduate programs in wildlife biology or ecology and the Integrative Biology Option will allow the students to work with their faculty advisors and customize their upper division course work to accommodate more specialized interests. For example, a student wishing to specialize in plant genetics could take a customized set of upper division classes from the Wildlife Ecology and Molecular Bioscience Options as well as suitable classes from outside the Biology Department.

The Bachelor of Arts degree we currently offer at UMW, with its various Options and numerous Related Areas is something that many prospective students and parents find confusing. For example, most college students identify themselves according to their major; therefore, most of our current students think that they are “biology majors”, and many prospective students want to be “biology majors”. The students are then confused when faculty or admissions staff explains that that is not technically correct and that they are actually getting a general Bachelor of Arts degree with a Biology Option. Our proposed Bachelor of Science degree will eliminate this confusion and students will actually receive a B.S. with a true Biology Major. The new Major will also simplify advising and will definitely help with recruiting. In addition, our proposed B.S. Major will more accurately reflect the education that students are actually receiving in the Biology Department at UMW. Generally, B.A. degrees are awarded in non-scientific fields and students are given a broad array of classes from which to choose, whereas a B.S. degree represents a more focused course of study that is intended to prepare a student for a career in a scientific discipline. Although our existing biology degree is a B.A., it does require coursework that is more typical of a Bachelor of Science degree. Thus, not only is our proposed B.S. degree a more appropriate degree for our biology students, it more accurately reflects the type of courses they are already taking.

In conclusion, the new degree structure proposed would eliminate the redundancy in the Related Areas of our current program. It will eliminate student confusion regarding the degree they are pursuing and it will continue to provide students with all of the degree options and training that are needed to pursue careers in the field of biology. The proposed B.S. Major will also increase the efficiency of Montana Western faculty in terms of course offerings and advising. Due to UMW’s unique block scheduling, small class sizes, research opportunities and quality of education, enrollment in the biology program has increased every year for the last eight years and in the fall of 2010, over 100 students are pursuing biology degrees at UMW. If the proposal is approved, the biology program at UMW will be more aligned with current student needs and standards in the field of biology and it will help us in our continuing efforts to attract and retain students.

Institutional and System Fit

The Bachelor of Science degree we are proposing will replace our existing B.A.: Biology Option degree. We are simply proposing to restructure the type of degree (from B.A. to B.S.) and to eliminate the redundancy of our Related Areas by consolidating them into Options. These changes will not affect any other existing degrees at UMW.

The proposed changes to UMW Biology program offerings are aligned well with the strategic goals of the university. First, these changes will allow us to more efficiently use our limited resources; decreasing the number of degree tracks from six Related Areas to three Options will simplify advising and result in higher student enrollments in the courses that we offer. Secondly, these changes have the potential to increase our overall enrollments due to the fact that our Admissions Department will be better able to explain our degree structure and career options to potential students.

There are no other closely related programs at UMW. This proposal is simply to reduce the redundancy among related areas in our existing biology program, and is therefore NOT A NEW PROGRAM that would be viewed by other MUS institutions as potentially detrimental to enrollments in their biology degrees. Although all four-year institutions within the MUS offer a biology degree, UMW is the only institution in the MUS that offers a Biology degree on block scheduling. Based on our recent enrollment data, this unique learning system is proving to be an attractive option for an ever-increasing subset of the MUS student clientele. We feel that the Bachelor of Science Major being proposed is the most effective way for UMW to meet the needs of students that are interested in the block system and want to in pursue careers in Biology. The proposed degree will also make it easier for UMW to implement the MUS Transferability Initiative. All of the biology courses required in our proposed B.S. degree are listed in the transferability matrix, so students can easily transfer from UMW to other MUS institutions. In addition, the inherent flexibility of the Integrative Biology Option in our proposed degree would greatly benefit those students wishing to transfer to UMW from larger institutions where they may have taken more specialized biology courses.

Program Details

Please see the attached curriculum for the proposed B.S.: Biology degree and associated Options. Once approved, this degree would be listed in the UMW catalog and will replace the existing programs. Current students will be unaffected by this transition since UMW will be using the same courses that are currently being used. All incoming freshman will enroll in the new B.S. Major since this will replace the current B.A. Option.

Resources

No new resources, infrastructure or faculty will be required for the changes proposed here. The BS: Biology degree and associated Options will primarily make use of existing courses taught by existing faculty and any new courses will be worked into the regular course rotation of existing faculty.

Assessment

As with all programs at UMW, a seven year review process will be used to assess the effectiveness of the B.S.: Biology Major. In addition, exit surveys will be used to provide the Biology Department with useful feedback from students as they graduate with their Biology degree. The department will also monitor employment of its graduates and the frequency of admission and success of our former students in various graduate programs.

Process Leading to Submission

This proposal has gone through and been approved by the extensive UMW curriculum proposal review process. This process includes review by faculty, students and administrators in a number of committees including, Curriculum Committee and Faculty Senate. Students have representation at all levels of this process.