

M O N T A N A B O A R D O F R E G E N T S
LEVEL II REQUEST FORM

Item No.:	140-1002-R0708	Date of Meeting:	July 10, 2008
Institution:	The University of Montana-Missoula		
Program Title:	Undergraduate Minor in Mountain Studies		

Level II proposals require approval by the Board of Regents.

Level II action requested (check all that apply): Level II proposals entail substantive additions to, alterations in, or termination of programs, structures, or administrative or academic entities typically characterized by the (a) addition, reassignment, or elimination of personnel, facilities, or courses of instruction; (b) rearrangement of budgets, cost centers, funding sources; and (c) changes which by implication could impact other campuses within the Montana University System and community colleges. Board policy 303.1 indicates the curricular proposals in this category:

- 1. Change names of degrees (e.g. from B.A. to B.F.A.)
- 2. Implement a new minor or certificate where there is no major or no option in a major;
- 3. Establish new degrees and add majors to existing degrees;
- 4. Expand/extend approved mission; and
- 5. Any other changes in governance and organization as described in Board of Regents' Policy 218, such as formation, elimination or consolidation of a college, division, school, department, institute, bureau, center, station, laboratory, or similar unit.

Specify Request:

The University of Montana-Missoula requests permission to create an undergraduate Minor in Mountain Studies that would be coordinated by the Department of Geography.

1. OVERVIEW

Provide a one paragraph description of the proposed program. Be specific about what degree, major, minor or option is sought.

We propose the creation of an undergraduate minor in Mountain Studies coordinated by the faculty of the Department of Geography. No such academic program currently exists in the State of Montana. Our proposal to create a minor in Mountain Studies emerges from the department's documented expertise in this area over the years; a stated commitment to create a Mountain Studies program in our January 2005 *Geography Program Review and Departmental Assessment*; and the explicit request of the Provost and the Dean of the College of Arts and Sciences. This minor would represent an expansion of The University of Montana's offerings in this area. The minor in Mountain Studies is designed to complement students' disciplinary focus with scientific, systematic and region-based knowledge and training. Furthermore, the proposed minor in Mountain Studies would offer undergraduates at The University of Montana an integrative perspective on mountain environments around the world.

2. NEED

a. To what specific need is the institution responding in developing the proposed program? b. How will students and any other affected constituencies be served by the proposed program? c. What is the anticipated demand for the program? How was this determined?

2a. The proposed program is responding to the national and international emergence of Mountain Studies as a compelling and dynamic scientific field. There is an increasing demand for people with knowledge of and training in the physical processes underway in mountainous regions and in the contemporary challenges facing mountain societies. Our proposal would create an undergraduate minor in Mountain Studies that would integrate basic and applied aspects of physical and social science in geography and allied disciplines. Through teaching and training in areas relevant to the study of mountain systems, the minor program would produce students capable of addressing questions facing these critical regions. It is noteworthy that extensive areas of mountain environments around the world (for example, the Andes of South America, the Pamir and Tien Shan of Central Asia) are in parts geographically similar to Montana, sharing both our problems and opportunities. As such, The University of Montana has a great deal to offer, and can benefit from the experience of mountain societies in other geographic contexts.

At the present time, the Department of Geography and allied sciences already offer UM students an opportunity to engage in various aspects of the interdisciplinary field of Mountain Studies. The creation of the minor in Mountain Studies reflects the strengths of the existing faculty in the Department of Geography. Faculty members in the Department of Geography link much of their teaching and research to the physical and/or human dimensions of mountainous regions. Several faculty members and their graduate students are actively engaged in research as participants in the department's Mountain Geography Research Group. The minor would also draw upon the strengths and expertise of faculty members outside of the department in the College of Arts and Sciences and the College of Forestry and Conservation.

2b. The minor would build upon existing strengths of The University of Montana and promote excellence in undergraduate teaching and research. Students pursuing this minor would be prepared for advanced research or for employment in fields such as government, non-governmental organizations, international humanitarian assistance, business, science and technology, industry, health, and education.

The overarching **goals** of our proposed minor are four-fold:

- To produce top-quality undergraduates and graduates with knowledge and skills in Mountain Studies;
- To respond to the national and international demand for expertise to assist in addressing critical issues in mountainous regions;
- To support The University of Montana’s stated effort to internationalize the undergraduate curricula; and
- To support and strengthen the existing formal relationships between The University of Montana and academic institutions in mountainous regions. Some examples include: University of Calgary, Canada; Pontificia Universidad Catolica de Chile, Chile; Universidad de los Andes-Trujillo, Venezuela; Universität Bern, Switzerland; Nancy-Université, France; Tbilisi Institute of Asian and African Studies in the Southern Caucasus, Georgia; American University of Central Asia and Naryn State University, Kyrgyzstan; Massey University, New Zealand; University of Tromsø, Norway; and National Center of Excellence in Geology at the University of Peshawar, Pakistan.

2c. The attractiveness of The University of Montana as a place to engage in Mountain Studies is most clearly reflected in the large number of students who are attracted to our courses. Course enrollments have been growing, and overall interest in our proposed mountains program is increasing - as evidenced by the many students who have expressed their enthusiasm for this subject and our courses, both verbally and in writing. The following table provides data on enrollments in recently taught mountain courses:

Table 1. Recent Enrollment Data for Mountain-Related Geography Courses

Course Number	Course Title	Semester	Enrollment
GEOG 195	<i>Crown of the Continent/ Glacier Field Course</i>	Winter Session 2008	15 students – note: the max enrollment for this course was capped at 15
GEOG 338	<i>Mountains & Society</i>	Autumn 2006	59 students - note: 16 students were turned away owing to room size limitations
GEOG 338	<i>Mountains & Society</i>	Winter Session 2007	39 students
GEOG 338	<i>Mountains & Society</i>	Summer 2007	26 students
GEOG 338	<i>Mountains & Society</i>	Autumn 2007	63 students - note: 22 students were turned away owing to room size limitations
GEOG 338	<i>Mountains & Society</i>	Winter Session 2008	54 students
GEOG 395	<i>Crown of the Continent</i>	Winter Session 2008	51 students
GEOG 324	<i>Geomorphology</i>	Spring 2007	21 students

GEOG 324	<i>Geomorphology</i>	Spring 2008	32 students
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Based on the enrollment data, we have every reason to believe that the trend toward high enrollment in upcoming mountain-related courses will continue. During Winter Session 2008, both of the mountains courses offered by the Department of Geography had the highest number of students out of all of the Winter Session courses offered on campus. Feedback collected from current students suggests a great interest in our new High Asia course, as well as this minor that we would like to make available to present and future students.

Our current offerings provide students an opportunity to study and research the geology, geomorphology, environmental history, ecology, water resources, natural resource management practices, geography, and conservation of mountainous places. A focused and structured minor in Mountain Studies coordinated by the Department of Geography will add to our university's competitive edge.

Our proposed program has the potential ability to: (i) develop a national reputation; (ii) to be nationally competitive for large, interdisciplinary grants; (iii) provide exceptional undergraduate and graduate research opportunities; (iv) attract highly gifted teachers and researchers to fill faculty vacancies or new lines; (v) attract highly motivated students from Montana, the nation and the world; and (vi) grow into a larger academic program at both the undergraduate and graduate levels.

3. INSTITUTIONAL AND SYSTEM FIT

- a. What is the connection between the proposed program and existing programs at the institution?*
- b. Will approval of the proposed program require changes to any existing programs at the institution? If so, please describe.*
- c. Describe what differentiates this program from other, closely related programs at the institution (if appropriate).*
- d. How does the proposed program serve to advance the strategic goals of the institution?*
- e. Describe the relationship between the proposed program and any similar programs within the Montana University System. In cases of substantial duplication, explain the need for the proposed program at an additional institution. Describe any efforts that were made to collaborate with these similar programs; and if no efforts were made, explain why. If articulation or transfer agreements have been developed for the substantially duplicated programs, please include the agreement(s) as part of the documentation.*

3a. A minor in Mountain Studies at the B.A./B.S. level would enable students who want to concentrate on this area to opt for a formal designation which would complement the major programs in Geography and departments across the campus. This proposal has received the approval from faculty members in the Department of Geosciences, Division of Biological Sciences, and the College of Forestry and Conservation who are involved in the teaching of the courses that would be contributing to the Mountain Studies curriculum (see below). Furthermore, Drs. Woessner (Geosciences), Janson (Division of Biological Sciences), and Brown (College of Forestry and Conservation) have provided their support of this proposal (see signature page and attached letter of support).

3b. The minor in Mountain Studies coordinated by the Department of Geography would not impose a burden upon the administrative structure of the institution, in part because it formalizes a program that is already in place. The strengths of The University of Montana in Mountain

Studies would bring additional students to the university, and ultimately increase research funding and productivity. Consequently, the overall work load on staff would increase, but the magnitude of the increase is unknown at this time.

We are currently engaged in pursuing external sources of funding, mainly through grants, to provide further support of this program. In the future, new faculty members, additional staffing, and other resources would be welcomed to enhance the program and better serve the students.

3c. No closely related programs currently exist at The University of Montana.

3d. The proposed minor in Mountain Studies directly serves to advance the strategic goals and the objectives expressed in the Role and Scope and Mission Statements of the Montana University System. First, the Mountain Studies curriculum shares with the Montana University System the explicit goal to “develop an informed, educated and culturally aware citizenry that is prepared to meet the challenges of the 21st century, engage in life-long learning, and lead productive lives in an increasingly diverse global society.”

Secondly, the proposed minor in Mountain Studies embodies the fundamental mission of The University of Montana to “encourage members of the University community to explore and develop international and interdisciplinary perspectives in their programs and activities and to understand the power and influence of globalization.”

The traditions of promoting global awareness and responsible global citizenship will be enhanced and expanded for students through an undergraduate minor program in Mountain Studies. We see this minor as providing a *net increase* in the number of undergraduate students with international training and preparation from The University of Montana.

3e. No undergraduate or graduate option, major, or minor programs in Mountain Studies currently exists in Montana. No states immediately adjoining Montana (for example, North Dakota, South Dakota, Wyoming, or Idaho) offer undergraduate or graduate degrees in Mountain Studies. The only coherent Mountain Studies programs within the United States are at the University of Utah and Fort Lewis College in Colorado. However, our program is fundamentally different in that we are expanding our interdisciplinary approach beyond the physical sciences to include the social sciences and an international perspective. Students majoring in Geography or the allied physical and social sciences will have the opportunity at The University of Montana to develop their own particular interests within the broad scope of our program and course offerings.

4. PROGRAM DETAILS

a. Provide a detailed description of the proposed curriculum. Where possible, present the information in the form intended to appear in the catalog or other publications. NOTE: In the case of two-year degree programs and certificates of applied science, the curriculum should include enough detail to determine if the characteristics set out in Regents' Policy 301.12 have been met.

b. Describe the planned implementation of the proposed program, including estimates of numbers of students at each stage.

4a. The undergraduate minor requires the completion of **18 total credits**. Students must complete the following requirements beyond the undergraduate major degree requirements:

Required Courses (18 credits total)

A. Core courses (9 credits)

- GEOG 138 *Montana's Mountains* (3 credits)
GEOG 222 *Global Mountain Environments* (3 credits)
GEOG 338 *Mountains and Society* (3 credits)

B. Advanced Mountain Studies (6 credits from the following courses)

- BIOL 350 *Rocky Mountain Flora* (3 credits)
BIOL 451 *Landscape Ecology of Mountain Ecosystems* (3 credits)
BIOL 459 *Alpine Ecology* (3 credits)
FOR 495 *Montana Wilderness Field Studies in Winter* (3 credit)
GEOG 310 *Crown of the Continent* (3 credits)
GEOG 401 *Regionalism and the Rocky Mountain West* (3 credits)
GEOG 410 *High Asia* (3 credits)
GEOG 438 *Mountains Field Study* (3 credits)
GEOG 538 *Seminar in Mountain Studies* (3 credits)
GEOS 425 *Geology of the Pacific Northwest* (3 credits)
GEOS 488 *Snow, Ice and Climate* (3 credits)

C. Electives (3 credits)

One additional advanced Mountain Studies course (from B above) or one course from:

- BIOL 201 *Montana Wildlife* (3 credits)
FOR 330 *Forest Ecology* (3 credits)
FOR 385 *Watershed Hydrology* (3 credits)
GEOG 295 *Mountain Cultures & Economies* (3 credits)
GEOG 324 *Geomorphology* (3 credits)
GEOG 426 *Biogeography* (3 credits)
GEOS 103N *Earthquakes, Volcanoes, and Other Natural Hazards* (3 credits)
GEOS 230 *Field Methods and Maps* (3 credits)
GEOS 395 *Appropriate Topics* (3 credits)
GEOS 430 *Global Tectonics* (3 credits)
RECM 482 *Wilderness and Protected Area Management* (3 credits)

Proposed catalogue copy:

Mountain Studies is an interdisciplinary field of study focusing on the physical and human dimensions of mountain environments. Coursework in the minor emphasizes physical geography and mountain-society interactions, including a critical analysis of the processes of change and influence shaping local and regional mountain environments today. The minor in Mountain Studies takes advantage of existing faculty expertise and an array of courses to provide students with a science-based curriculum and global perspective. Students pursuing the minor in Mountain Studies will develop knowledge and skills appropriate for graduate study and for working with government and non-government agencies and groups.

Requirements for a Minor

In addition to completing the requirements for a major in any discipline, students electing the minor in Mountain Studies must complete a minimum of 18 additional credits as follows:

1. Nine credits must be core courses:

- GEOG 138 *Montana's Mountains* (3 credits)
- GEOG 222 *Global Mountain Environments* (3 credits)
- GEOG 338 *Mountains and Society* (3 credits)

2. Six credits must be selected from the following list of upper-division advanced Mountain Studies courses:

- BIOL 350 *Rocky Mountain Flora* (3 credits)
- BIOL 451 *Landscape Ecology of Mountain Ecosystems* (3 credits)
- BIOL 459 *Alpine Ecology* (3 credits)
- FOR 495 *Montana Wilderness Field Studies in Winter* (3 credit)
- GEOG 310 *Crown of the Continent* (3 credits)
- GEOG 401 *Regionalism and the Rocky Mountain West* (3 credits)
- GEOG 410 *High Asia* (3 credits)
- GEOG 438 *Mountains Field Study* (3 credits)
- GEOG 538 *Seminar in Mountain Studies* (3 credits)
- GEOS 425 *Geology of the Pacific Northwest* (3 credits)
- GEOS 488 *Snow, Ice and Climate* (3 credits)

3. Three credits must be chosen from the following list of electives, or alternatively, from the advanced Mountain Studies course listing above (see B):

- BIOL 201 *Montana Wildlife* (3 credits)
- FOR 330 *Forest Ecology* (3 credits)
- FOR 385 *Watershed Hydrology* (3 credits)
- GEOG 295 *Mountain Cultures & Economies* (3 credits)
- GEOG 324 *Geomorphology* (3 credits)
- GEOG 426 *Biogeography* (3 credits)
- GEOS 103 *Volcanoes, Earthquakes and Other Natural Hazards* (3 credits)
- GEOS 230 *Field Methods and Maps* (3 credits)
- GEOS 395 *Appropriate Topics* (3 credits)
- GEOS 430 *Global Tectonics* (3 credits)
- RECM 482 *Wilderness and Protected Area Management* (3 credits)

4b. The interdisciplinary undergraduate minor in Mountain Studies will be coordinated by faculty members in the Department of Geography. Students would declare their intention to pursue the minor in Mountain Studies at the B.A./B.S. level to the program advisor in the Department of Geography (Dr. Ulrich Kamp) who would review their course of study and advise students on planning their course sequence. Based on the course enrollment data and indications we have received from students, we anticipate around 40-60 students in our courses, with 20-30 students enrolling in the minor in Mountain Studies during the first year of the program.

5. RESOURCES

No additional personnel are required. The University of Montana currently has enough faculty resources to launch an interdisciplinary minor in Mountain Studies at the undergraduate level. The minor program can be institutionalized successfully with the present resources. The faculty listed below are already involved in teaching the courses listed and advising students, hence no provisions need to be made to relieve them from their present duties.

The faculty members and university affiliates who would be involved with the program proposed herein are:

The University of Montana Faculty

Keith Bosak, Assistant Professor, Department of Society and Conservation, College of Forestry and Conservation

Udo Fluck, Adjunct Assistant Professor, Department of Geography

Rick Graetz, Senior Lecturer, Department of Geography

Jeffrey Gritzner, Professor, Department of Geography

Kari Gunderson, Adjunct Professor, College of Forestry and Conservation

Sarah Halvorson, Associate Professor, Department of Geography

Joel Harper, Assistant Professor, Department of Geosciences

Ulrich Kamp, Assistant Professor, Department of Geography

Jack Stanford, Director, Flathead Lake Biological Station

The University of Montana Affiliates

Heather Almquist, Faculty Affiliate, Department of Geography

Dan Fagre, Research Ecologist, Northern Rocky Mountain Science Center, U.S.G.S.

6. ASSESSMENT PLAN

The academic advisor for the proposed minor will be Professor Kamp. The program would be administered by the Mountain Studies Advisory Committee that would be made up of four faculty members and coordinated by the Department of Geography. All faculty members teaching courses will be eligible to vote and to serve on the committee.

The Mountain Studies Advisory Committee will be responsible for dealing with student advising and curriculum issues (e.g., approving courses, scheduling, reviewing and adjudicating requests for credit exceptions) and for program assessment. Members of the committee will prepare an annual report on activities, needs, and outcomes (number of students participating in the minor, course enrollments, scheduling, internship and job placements, etc.). This report will be submitted to the Dean of the College of Arts & Sciences.

7. PROCESS LEADING TO SUBMISSION OF PROPOSAL

The proposal has been prepared by members of the faculty of the Department of Geography and has received the approval of all affected departments/programs. No specific accrediting agency reviews and approves Mountain Studies programs. Given the broad interdisciplinary nature of Mountain Studies, there are several learned societies that are concerned with this particular program, including:

Academic Society for the Studies of International Affairs
American Geographical Society (AGS)
American Geophysical Union (AGU)
Association of American Geographers (AAG)
 Mountain Geography Specialty Group of the AAG
High Mountain Remote Sensing Cartography Society (HMRSC)
International Mountain Society (IMS)
Mountain Research Initiative (MRI)
The Mountain Forum

These learned societies and associations provide lists of other Mountain Studies centers and institutes in the U.S. and abroad, which have helped us compare the present proposal standards and requirements to other similar minors and program offerings in the areas of regional studies and mountain geography. Areas considered and compared included the core credit requirements, substantive content of courses, and the number of faculty with a concentration in Mountain Studies. The faculty involved in this initiative are members or past members of most of these associations/learned societies and stay abreast of current thinking and new developments through these networks.

(You do not need signatures just names of departments and date of approval for this template below.)

This proposal was reviewed and approved by the affected departments as follows:

Department Name: Geosciences – Dr. William Woessner

Date: February 27, 2008

Department Name: Division of Biological Sciences – Dr. Charles Janson, Associate Dean

Date: February 29, 2008

In addition the deans of the following Schools/Colleges reviewed and approved the proposal:

Dean of: College of Arts and Sciences – Dean Gerald Fetz

Date: March 3, 2008

Dean of: College of Forestry and Conservation – Dean Perry Brown

Date: February 29, 2008

The proposal was reviewed and approved by the Faculty Senate at the University of Montana

Date: May 1, 2008

[No outside consultants were employed for the development of this proposal.]