

**Department/Program:** GEOLOGY

**Chair:** Bosiljka Glumac

**Retreat Date:** May 21, 2008

**Departmental/program faculty in attendance:**

John Brady, Mark Brandriss, H. Robert Burger, Steven Gaurin, Bosiljka Glumac, Larry Meinert, Robert Newton, Sara Pruss, Amy Rhodes

**Outside guest(s)/speaker(s) in attendance:**

none

**Goals for the retreat:**

Discussion of the departmental curriculum within the context of several college-wide initiatives and in anticipation of H. Robert Burger's retirement.

**Outcomes:**

The plan to propose two new majors, change the department name, and deepen the collaborations with related departments and programs.

**Plans to achieve outcomes:**

A proposal to be submitted to CAP in the Summer of 2008 for the new majors and the department name change. Deepening our relationships with the Environmental Science and Policy Program and the Education Department through establishing geoscience liaison positions. Exploring the option for faculty position mortgaging.

**How do your plans advance departmental goals as outlined in mid-term or decennial reports?**

Our Midterm Report from the Fall of 2004 specifically states our desire to propose several concentrations within the geology major. To realize this goal and after discussing this topic with CAP in the Spring of 2008, we decided at the retreat to propose two new geoscience majors. The Midterm Report also emphasizes strong synergies and collaborations between the Geology Department and several other departments and programs. Our proposal for the new majors in Environmental Geoscience and Educational Geoscience further deepens and formalizes these relationships.

**How does the departmental/program plan to integrate the list of intellectual capacities into the major? For instance, are specific capacities such as writing, speaking or quantitative skills developed in particular courses, or a series of courses?**

The Department is pleased with how the essential intellectual capacities are integrated throughout the major. Development of writing skills is implemented in the majority of geology courses. Speaking is similarly integrated in many courses, and specifically emphasized in the seminar course required for geology majors – GEO 361 Tectonics and Earth History. We would also like to ensure that the development of quantitative skills is included throughout the geology curriculum. We plan to inquire about specific requirements for courses with quantitative content and then to include such content in

most of our courses. Many fields and disciplines within geosciences are highly quantitative, and this initiative is welcome and will not be difficult to implement.

**Of the specific curricular goals identified by the faculty which would be furthered within the major? (see page 8 of the Smith catalog for further examples)**

Geology curriculum provides the opportunities to further all of these goals.

- **Develop the ability to think critically and analytically and to convey knowledge and understanding**

In geology courses students solve problems by making observations in the field and laboratory, by running experiments, collecting data, and by critically analyzing information published in the literature and posted on the Internet. Students also learn how to effectively communicate their findings in both written and verbal forms.

- **Develop historical and comparative perspectives**

The uniqueness of geology, among all natural sciences, is its historical perspective. By studying and trying to understand the Earth's past, the students develop an appreciation for the present and can start making reasonable predictions about the future.

- **Become an informed global citizen**

As stated above, the knowledge of the Earth's past provides geology students with a unique perspective and understanding of the fragile present-day ecosystems. Powered by this perspective, the students become informed global citizens who are able to make educated decisions about current practices and their impact on the future.

**Has the department integrated the development of student research abilities in the structure of the major? For instance, is there an information literacy program in place for students who major in the department? Is there a research methods course recommended for your majors (either in your department or another one)? If so, when in the student's career does she take this course?**

The theory and practice of scientific research methods penetrate the geology curriculum. In 100-level courses, geology students engage in inquiry-based lab and classroom exercises. All required 200-level geology lab courses have projects and exercises with a problem-solving, discovery-based, research-like component. All 300-level geology elective courses also have labs where students engage in original research as a team. The results of these class research projects are commonly presented at Celebrating Collaborations, professional geological conferences, or to the public as reports or forums. All Geology faculty advise STRIDE, AEMES, SURF, Keck Geology Consortium, special studies and senior thesis students. There are plenty of opportunities within the department for all interested and motivated students to engage in purposeful inquiry.

**Are the pathways through the major clear for prospective majors? Is the department satisfied with the level of advanced work accomplished by its majors? (It may be useful to review the transcripts of graduating majors, or to examine the course taken patterns of several recent groups of senior majors.)**

Overall, the department is satisfied with the work accomplished by geology majors, but we can do more to clarify the pathways through the majors. To accomplish this goal, and to acknowledge the broad spectrum of geoscience disciplines and the diverse interests of our students we are proposing to change the name of the department and to establish two new majors.

**What are the culminating or capstone experiences for students in your major?**

All geology majors are required to take the capstone seminar course GEO 361 – Tectonics and Earth History. We also offer several elective 300-level laboratory courses (including the new course in Economic Geology) that also provide students with culminating experience through engaging in in-depth exploration of selected topics.

**Please attach a summary of any proposed changes to be considered by the department and any associated timeline for changes to be submitted to CAP.**

This summer we will be submitting to CAP a proposal to change the name of the department from the Department of Geology to the Department of Geosciences. In addition, we will be proposing to establish two new majors (besides the existing B.A. in Geology): B.A. in Environmental Geoscience and B.A. in Educational Geoscience.