

Geology Program Annual Report 2008-09

Department of Earth & Environmental Sciences

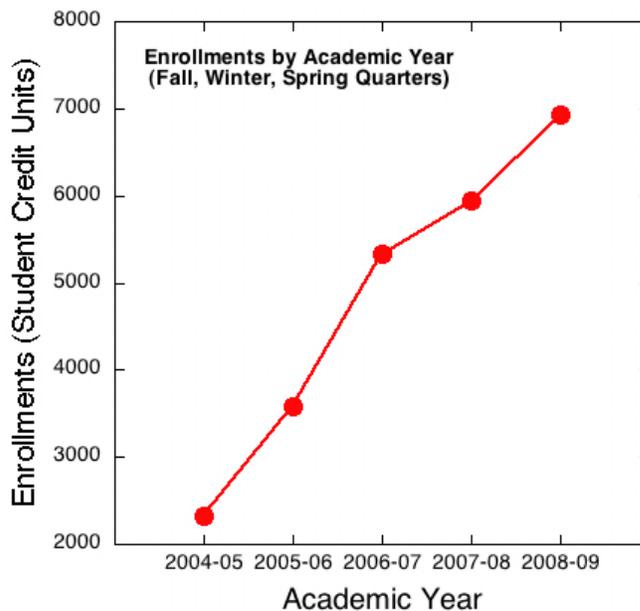
The Department of Earth and Environmental Sciences in the College of Science offers degrees in Geology (minor, B.A., B.S., M.S.) and Environmental Science (B.S. with 4 options).

Enrollments

The figure shows total enrollments (as student credit units) for each academic year (Fall + Winter + Spring quarters) since AY 2004-05.

Student enrollments have continued to significantly increase; they have nearly tripled in the last 5 years. The Department has primarily increased its enrollments through greater participation in the General Education Program. In addition, the Department has been successful in participating in the Freshmen cluster program; the Department is taught in 3

clusters during AY 2008-09. According to the IRA database, the SFR for the Geology program was 25.71 during Fall 2008 which compares favorable with the University average of ~20.



Articulation and Outreach

The Department is currently evaluating its articulation agreements with Community Colleges and four-year institutions in California. In addition, the Department is participating in organized articulation meetings with several Community Colleges. The main purpose is to develop clear transfer pathways for Community College students into our programs.

Program Recruitment

According to the IRA database, there were 20 Geology majors (Bachelor, Postbaccalaureate, and Masters) as of Fall 2008. We have begun to develop more assertive plans to recruit majors into the programs offered by the Department. These efforts include outreach to Community Colleges and the development of articulated degree pathways, increased participation in General

Education, and the development of more sophisticated marketing (brochures, websites, etc.). Preliminary data indicate that there may be a modest increase in the numbers of Geology and Environmental Science majors for 2009-10. We believe that the Graduate Program serves an important need by providing professional development opportunities for geologists working in industry, government and research; it is the only part-time, nighttime graduate program in Geology in the Bay area. We believe that its potential has not been achieved and we are continuing to increase our efforts to publicize the program to employers and professional societies. We have produced new color brochures and mailers for all of the Department's programs.

Development of Professional Science Masters Degree

Dr. Mitchell Craig is leading the effort in our department to develop a funding proposal to the National Science Foundation to develop a Professional Science Masters (PSM) degree in Geology (option in Environmental Systems). This proposal to the NSF is being developed in collaboration with the Departments of Statistics & Biostatistics and Engineering. The PSM degree is a relatively new graduate degree path with an emphasis on business and practical application and workforce training. If awarded, CSUEB would be the first PSM degree program in the Earth Sciences in the nation. The development of a PSM would dramatically increase the visibility and distinctiveness of our graduate programs.

Assessment

The Geology programs are rather small, producing 10 or fewer graduates annually. We are concerned about statistical reliability of any sort of "objective" testing to assess student learning. In addition, the field of geology is interdisciplinary and applied in nature - the best assessment would be based upon the completion of more complex tasks.

The current program assessment plan consists of several parts:

1. Completion of specific learning activities - the department has established specific learning activities/skills/content in core courses with embedded assessment.
2. Faculty review of Capstone Courses (GEOL 4820 and GEOL 4800) - GEOL 4820 (Field Camp) is a summative course and incorporates the application of content and skills from the core curriculum. GEOL 4800 (Senior Seminar) stresses advanced reading,

interpretation and communication skills. Due to instructional costs, the department may not be able to teach GEOL 4820. The Department is discussing other strategies to assess its majors' proficiency with completing complex, integrated tasks.

3. Survey of Professional Geological Community - the department conducted a survey of local and statewide geology employers, CSUEB alumni, and government agencies to identify specific skills and knowledge needed for success in the field of geology. The last survey was completed in 2000; the Department will develop another survey in the next year. The results will be used to guide program revisions.
4. Survey of graduates from our Geology program to assess the relevance of the program for career/employment preparation.