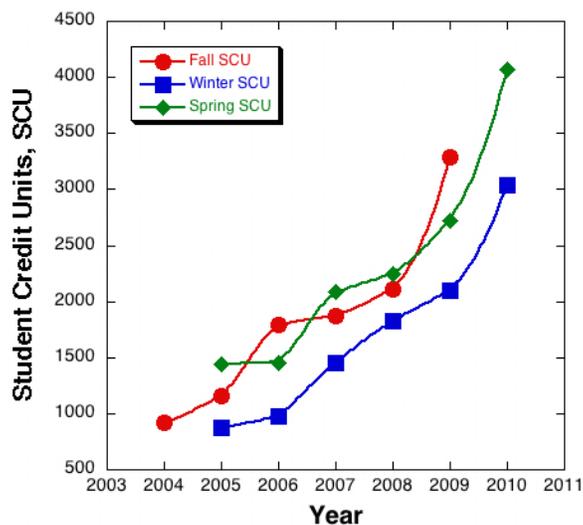


## Environmental Science BS Program Annual Report 2008-09 Department of Earth & Environmental Sciences

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 3 options in Environmental Systems & Resource Management, Life Science, and Physical Science).

### Enrollments

The figure shows total enrollments (as student credit units) for the Department of Earth and Environmental Sciences for each quarter since AY 2004-05 (Source: CSCI Dean). Student enrollments have continued to significantly increase each year; they have more than tripled since AY 2004-05. 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 2009-10. According to the IRA database, the SFR for the Environmental Science program was 89.22 during Fall 2008 and compares favorably with the University average of 19.45. The table provides enrollment and faculty data for the Geology Program.



### ENVIRONMENTAL SCIENCE PROGRAM DATA (Source: Planning and Institutional Research)

	Student Faculty Ratio (SFR)	Full Time Equivalent Students (FTES)	Total Majors	Tenure Track Faculty (FTEF)*	Lecturers (FTEF)*
Fall 2004	-	-	-	-	-
Fall 2005	-	-	21	4	2
Fall 2006	-	-	27	4	8
Fall 2007	98.50	21.9	28	3	9
Fall 2008	89.22	23.7	27	4	6
Fall 2009	-	-	38	4	6

\*FTEF data for Department of Earth and Environmental Sciences

The high SFR is the result of the fact that there are very few courses with the ENSC catalog prefix; the majority of ENSC enrollments consist of courses that are approved for lower division science General Education and generally have high enrollments. Most of the major courses are taught in other departments and programs (CHEM, BIOL, GEOG, GEOL). The ENSC program recently went through a curricular revision and established a number of core courses for majors with the ENSC catalog prefix. However, there are no faculty that are defined as primary ENSC faculty and we continue to rely on lecturers with expertise currently not available among our TT faculty.

### **Articulation, Outreach and Curricular Revisions**

The Department is continuing to evaluate all of its articulation agreements with Community Colleges and four-year institutions in California. The main purpose is to develop clear transfer pathways for Community College students into our programs. To facilitate transfer of Community College students into the programs of the Department, we have been meeting with local community colleges and have developed new lower-division coursework as part of our revision of the Environmental Science BS curriculum that becomes effective in Fall 2009. The new lower-division courses include Environmental Biology (ENSC 2400), Environmental Biology Lab (ENSC 2401), and Field Activity in Environmental Science (ENSC 2900). New upper-division courses in the major include Environmental Hydrology (ENSC 3500), Hazardous Waste Management (ENSC 4140), and Global Change (ENSC 4200). We are looking forward to improved articulation with Community Colleges and the encouragement of Community College students transferring into our program.

### **Assessment**

The Environmental Science program continues to assess student learning outcomes during the capstone experience, ENSC 4800 Environmental Science Seminar. In this seminar, senior ENSC majors choose, investigate and report to the class on two environmental issues according to the general subject areas chosen for that year. Faculty evaluate students on the quality of the research (depth and interdisciplinary comprehension of environmental issues), as well as on their oral and written presentations.

Environmental Science B.S. students have done very well in job placement upon graduation. Currently our graduates are employed with Cal EPA-Regional Water Quality Control Board, Alameda County Department of Agriculture, U.S. Geological Service, Stanford Linear Accelerator program, as well as in private environmental consulting firms. Employment opportunities in environmentally related jobs are currently increasing and are expected to increase significantly in the future. Employment data provided by the Tri-Valley Business Council on green and environmentally related jobs indicates the need for broadly trained Environmental Scientists particularly in the fields of environmental restoration, conservation management, and water quality/resources. In addition, a number of our majors are now in graduate programs in Chemistry, Biology, Environmental Management, and Geology. Lastly, the Department is still working to form an Environmental Science Program Advisory Committee composed of professional scientists from industry and local and statewide agencies to help evaluate and inform and curricular changes.