

**COMMITTEE FOR THE REVIEW OF UNDERGRADUATE MAJORS
STANFORD UNIVERSITY**

May 1, 2011

TO: Rosemary Knight, Chair
XLIV Senate of the Academic Council

FROM: Chris Edwards, C-RUM

RE: C-RUM Recommendation for Renewal of degree-nominating authority for the BS degree, undergraduate Minor and undergraduate Honors in the Interdisciplinary Program in Earth Systems for a period of eight years from September 1, 2012 through August 31, 2020.

The Committee for the Review of Undergraduate Majors held its first session on the IDP in Earth Systems on February 8, 2011; on February 22, C-RUM was joined by Rob Dunbar (Director, IDP in Earth Systems), Julie Kennedy (Co-Director, Earth Systems), and Pamela Matson (Dean, Earth Sciences) for the final discussion.

The School of Earth Sciences has asked for an eight-year renewal for this IDP (the maximum allowed), but with the departure of Julie Kennedy for the Haas Center, the IDP is entering a period of transition that may change the environment of “heavy personal contact” to “more website interaction.” The website is being redesigned, starting with the sustainable agriculture track -- all pertinent courses will be listed on the web, along with public service fellowships at Haas, grants, internships, alumni jobs, fellowships, etc.

The advising team of Julie Kennedy and Deana Fabbro-Johnston (Assistant Director) received very positive feedback, and the increased outreach to the rest of the University makes sense with their stated mission. The IDP is close to hiring a new lecturer, who (Kennedy hopes) follows her own deliberate career choice of teaching and mentoring instead of research. Over the years, Dunbar and Kennedy have been able to meet individually with all of the students in the senior seminar. The IDP also has a large cadre of paid student advisors who have office hours and give excellent advice to underclassmen. The demand for faculty advising in the environment and sustainability areas is growing, so the serving faculty are very busy. All of the Honors students, however, do have fully engaged faculty.

The comments from the current and former students were in the main positive. Caveats expressed included scheduling conflicts, classes not being offered in a coherent manner, and difficulty in completing all of the core requirements, and some frustration about a perceived lack of depth. However, it was noted that fields change so fast that “being able to speak the language of multiple disciplines may be better than specific depth in one area.”

C-RUM faculty have seen that the students in Earth System will have an impact on the world, technical or otherwise; they provide opportunities to link Engineering Departments with Earth Systems – combining science, economics, and the technology to build things. It was also appreciated that some background in the humanities and social sciences should be required for students in science and engineering majors so that they can apply their technology and science with knowledge of the culture involved.

The program thinks deeply about necessary foundational courses (e.g., students may need more physics in certain tracks). It tries to provide both structure and flexibility through the foundation courses, and then to help them think deeply as systems thinkers. The required senior seminar proves to them that they have acquired excellent analytical skills and depth by that time. Students do have time for electives, and there has been an explosion of interest in Communications courses, as well as other H&S departments.

The Committee for the Review of Undergraduate Majors therefore recommends approval of the degree-nominating authority for the BS degree, undergraduate Minor and Undergraduate Honors program in the Interdisciplinary Program of Earth Systems, for an eight-year renewal period from September 1, 2012 through August 31, 2020.

**COMMITTEE ON GRADUATE STUDIES
COMMITTEE FOR THE REVIEW OF UNDERGRADUATE MAJORS**

**RENEWAL OF INTERDISCIPLINARY PROGRAM IN
EARTH SYSTEMS**

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- II. C-RUM cover memo to the Senate of the Academic Council, dated May 1, 2011, SenD#6507.
- III. C-GS correspondence with IDP in Earth Systems.
- IV. Transmittal letter from Pamela Matson, Dean of Earth Sciences, to C-GS and C-RUM, dated January 28, 2011; from Robert Dunbar, Julie Kennedy, and Deana Fabbro-Johnston, IDP in Earth Systems, to Dean Matson, dated January 25, 2011; transmittal letter from Anthony R. Kavscek (ERE), Chair of Earth Sciences Review Committee for the IDP in Earth Systems.
- V. Self-study of the graduate and undergraduate programs in Earth Systems.