

**University Core Development Committee**

November 27, 2001

Gasson 105, 1:30 p.m.

**Minutes**

In attendance were Chair Richard Cobb-Stevens, Patrick Byrne, Clare Dunsford, Paul Gray, Rob Gross, Maggie Kearney, Ourida Mostefai, and Sandra Waddock.

The science departments were invited to attend, and representatives from Biology, Physics, and Geology & Geophysics attended the meeting; Chemistry was not represented due to a scheduling problem.

Chair Richard Cobb-Stevens asked the departments some general questions: what do you think of your core program, what ideas do you have for interdisciplinary core courses in the sciences, and what is your experience of students' attitudes toward your core courses?

Physics (Jan Engelbrecht, David Broido)

All core is taught by fulltime faculty. Introduction to Physics (PH211-212) has two sections of 100 each, with lab and recitation section. Each section has three T.A.'s, each of whom teaches a recitation section. The course is a co-requisite for many science majors and is required for premeds, who tend to take it in their junior year. Physics used to offer many more core courses, especially for non-science majors, but the department no longer can devote the time to these as it has become increasingly more research-oriented. At the present, the only course for non-science majors is Structure of the Universe (PH115-116).

Geology and Geophysics (Christopher Hepburn, Alan Kafka, Kevin Harrison)

All faculty but one teach in the core; core courses include both overviews of the field and surveys of some sub-fields. Chris Hepburn spoke first, describing his Cosmos course (GE177) as attempting to give students the ability to interpret scientific developments throughout their lives. The course has 100-200 students. Another broad course is Introduction to Geology and Geophysics (GE132-134), taught by Hepburn and Kevin Harrison; it also serves as the introductory course for majors.

Kevin Harrison said he has 50-60 students in GE132 and no T.A. He lamented students' ability to think quantitatively, as seen in their ability to memorize formulas but not to apply them. He noted that students seem to resist active participation in learning, which he tries to overcome by calling on students without warning.

Alan Kafka teaches the second half of the majors course and also Geoscience and Public Policy (GE187), a course he created himself. When asked by Rob Gross if the geology core would benefit from the addition of a lab to all courses, most agreed that they would, though they felt the courses were strong enough on their own.

Biology (William Petri, Arlene Wyman, Eric Strauss)

Biology offers two core courses, one for non-majors and one for majors. Arlene Wyman described Introductory Biology (BI200-202) as mostly freshmen--potential Bio majors and premeds--with a broad spectrum of ability and possibility of success in the course. The course, heavily driven in its content by the premed curriculum, is seen by most students as a "hurdle" to be jumped. There are two sections of about 170 students, taught at varying times by three part-time and two non-tenure-track fulltime faculty. There is one T.A. for the course, who holds office hours and a review session before the exam.

Wyman pointed out that she had not seen the core criteria before, prompting the Committee to wonder if we should redistribute them to the departments. Wyman noted that Introductory Biology indeed does not meet the core criteria, nor could it: there is simply not enough time to teach the history of the discipline or its methodology, and too many students to assign any writing.

The Biology Department does not have enough graduate students to fill their need for T.A.'s, forcing them to use students from other departments and schools. Most importantly, the department does not have the resources for more T.A.'s, which would mean the opportunity to run recitation sections as Physics does, and thus to improve the experience of students in the courses.

Eric Strauss teaches the year-long non-majors course, Survey of Biology (BI100-102), of which there are three sections per semester, two taught by Strauss and one taught by Prof. Krauss, with about 300 students in each section. Strauss noted that because he does not have to cover specific topics like Intro. Bio does, he can go more deeply into selected topics and achieve the aims of the core more readily than the majors course. He can be flexible in addressing topics of current interest.

Strauss thinks large sections are not an impediment to learning; on the contrary, he builds on the energy created in the larger group, and also relies heavily on multi-media. He has 1-2 T.A.'s to help him run the course. Ideally, however, he would like to hold 8-9 discussion sessions per week rather than the 1-2 that are run now. He would also ideally like to include a lab with the course. He advocates keeping the "economy of scale" that this large, lecture course allows by providing the resources for supporting discussion and review sections.

Concluding comments by visiting science faculty included Strauss's hope that departments might work together to create interdisciplinary core courses in the sciences, and Engelbrecht's hope that there would be more science in the core, perhaps on the model of the Perspectives program.

The Biology Department requested the Committee's help in recommending more resources for their core courses.

Submitted by Clare Dunsford