Biology 488: Seminar in Biomedical Sciences  
Fall/Spring 2005-06

This course is designed to help students prepare for a career in biomedical science and for acceptance to graduate school.

Course Objectives

- Develop analytical and critical thinking skills
- Develop written and oral communication expertise
- Sharpen academic survival skills
- Explore the social implications of biomedical research (e.g., ethical behavior)
- Prepare for graduate study and the Graduate Record Exam (GRE)
- Explore the interdisciplinary nature of biomedical research
- Prepare research seminar for public presentation
- Prepare for pre-doctoral fellowship applications

How will we pursue these objectives?

The course will involve completing various tasks during class time and working outside of class with Dr. Rocha, or some other facilitator, on an individual basis or in small group sessions. The course will stress the formulation of research questions and their development; an appreciation for responsible and ethical behavior by scientists; the development of the ability to arrive at meaningful conclusions from research results; and the ability to effectively communicate results and conclusions from research.

Course tasks include:

- All students will prepare and present a seminar of approximate 15 minutes in length based on the research they have conducted with their faculty mentor. They will then lead a discussion of the topic for an additional 10 minutes. The research presented in these seminars will be developed for submission to the CSUSM Undergraduate Research Competition, and then hopefully to the CSU Statewide Research Conference in spring 2006.

- Critical thinking exercises including the history of science and the place of science in contemporary society
• All students will participate in a small number of group sessions intended to help prepare for the Graduate Record Examination (GRE). These sessions will describe the new analytical component of the GRE. Exercises will involve, among other activities, practicing critical analysis of sample essays provided by the Educational Testing Service (ETS).

• Students will make contact with a researcher(s) in their field as part of a networking exercise.

• Students will present a research paper of their choice as participants in a mock journal club session.

• Students will work on the preparation of pre-doctoral fellowships. This work will take place outside of class as individual sessions with Dr. Rocha, or some other facilitator. Student should expect to complete this project before graduating and hopefully submit the application for possible funding.

• Each student will develop a plan that leads to graduation and a seamless transition to a graduate program. This written plan will include various deadlines for the completion of different tasks connected with transitioning from undergraduate to graduate study (e.g., completion of undergraduate courses, completion of lab research project, dates to take GRE, travel to some graduate schools to confer with potential sponsors, exploration of graduate school funding plans, deadline for application to various graduates schools, etc…). This plan will conclude with the development of a first-class graduate school application in the late fall of the academic year prior to the student’s graduation the following summer.