Responses to Request to Change an Undergraduate Degree Program

Marine Biology

1. Changes in Degree Requirements:
   A. Dropped the following required courses:
      - MATH 1620
      - CHEM 2070, 2071, 2080, 2081 (replaced with CHEM 2030 and BCHE 3200)
      - BIOL 4101
   B. Added the following required coursework:
      - BIOL 3030 Evolution and Systematics
      - BIOL 3040 Introduction to Marine Biology
      - BIOL 3200 General Microbiology
   C. Substitution of the following required coursework
      - STAT 2500 Stats for Biology and Health Sciences to replace STAT 3010 Stats for Engineers and Scientists
   D. Additional comments:
      Additionally, the elective courses have been grouped to ensure that students are exposed to an appropriate variety of subdisciplines in biology, including evolution, physiology and molecular biology.
      The required credits of marine summer courses (16 hours) has been moved to occur in the summer following the sophomore and junior year rather than junior and senior years. This will provide the students with more exposure to major courses earlier in their studies.
      Also note that students will be allowed to retain the more traditional organic chemistry series (CHEM 2070, 2071, 2080, 2081) through course substitution if desired. The reduction in the number of organic chemistry courses and addition of the biochemistry course (BCHE3200), reflects the fact that current biological disciplines are much more dependent on knowledge of biochemistry than organic chemistry.

2. Proposed Curriculum Model: See accompanying documents

3. SACS Requirements
   **Oral Communications**: Consistent with our other majors in Biological Sciences, Marine Biology will now require Undergraduate Seminar. This course is designed to provide students with experience with oral communications within the context of their field. Students read original research articles, meet to discuss these articles and prepare and give one or two oral presentations using PowerPoint.
   **Computer Skills requirements**: Students gain experience with common software used in writing, data acquisition and analysis and communications in many of the courses in the degree program. Excel is used in General Biology among other courses for data acquisition and analysis, and as mentioned above, PowerPoint and its use in effective communications, is taught as an integral part of the Undergraduate Seminar course. Experience with writing programs such as Word is gained in a number of classes that require essays, lab reports and term papers.
   **ROTC accommodation**: The major contains one free elective and for any students wishing to complete ROTC while in this degree program, accommodations will be made by adjusting the number of elective credit hours in the student’s chosen option.
4. Justification for modifications
Over the last several years the Department of Biological Sciences has added considerable faculty expertise in marine biology, including hiring a Director for the program, Dr. Ken Halanych. These faculty have met and updated the curriculum to include specific coursework in Marine Biology (BIOL 3040) and have reorganized the content to ensure that the students’ coursework covers the breadth of modern biological concepts. To add additional coursework in biology, the faculty chose to reduce the mathematics content by one course (deleting MATH 1620) and to substitute the 3-credithour Survey of Organic Chemistry course offered by the Department of Chemistry for the 8-credit hours of Organic Chemistry required in the earlier model.