To be adopted:

Proposal for an Applied Mathematics, Biology option for the Bachelor of Science Degree in Mathematics

Present:               Proposed:

MAJOR REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE

1. Lower-division requirements (40 units)
   a) MATH 009A-MATH 009B-MATH 009C, MATH 010A-MATH 010B, MATH 046
   b) BIOL 005A-BIOL 005B-BIOL 005C
   c) CS 010; CS 012 is recommended

2. Upper-division mathematics requirement (36 units)
   a) MATH 131, MATH 132, MATH 146A-MATH 146B-MATH 146C, MATH 149A
   b) Three courses from MATH 120, MATH 121, MATH 135A-MATH 135B, MATH 149B-MATH 149C

3. Upper-division biology requirement (20 units)
   a) BIOL 102, BIOL 105, BIOL 108, BIOL 117
   b) Four (4) additional upper-division units

Justification:

This proposed track within the Bachelor of Science degree program is along the lines of the existing options. It is intended to provide a formalized framework for those students seeking to find applications for mathematics in biology. The biology courses selected for this option are those with a high concentration of mathematics.

Approved by the Mathematics Faculty on January 13, 1999
Approved by CNAS Executive Committee April 14, 1999
Approved by Committee on Educational Policy April 20, 1999

March 19, 1999
I discussed the proposed BS degree in Applied Mathematics option in Biology with Clay Sassaman, Chair of Biology. Because of the small number of students who would be likely to enroll in the proposed program and the concern about the development of loopholes in the Biology program requirements, Chair Sassaman suggested that requests to waive part of the pre-requisite package for one or several of the courses in the program be handled on an individual basis. When a student wishes to enter the program, consultation would take place between Mathematics and Biology to determine whether the student's background in Mathematics will be sufficient to compensate for not having met all of the core requirements. If no agreement is reached, then the student would be required to meet the core requirements before taking the upper-division Biology courses required in the program.

One expects that suitable arrangements can be made with Biology so long as the number of students in our program is relatively small. Should enrollments grow significantly, then a much more formal arrangement would need to be made.