

UNIVERSITY OF MASSACHUSETTS AT AMHERST
OFFICE OF THE SECRETARY
THE FACULTY SENATE

PROGRAM REVISION APPROVAL FORM

50 COPIES REQUIRED

PROGRAM TITLE: BIOLOGY

PLEASE CHECK: GRADUATE UNDERGRADUATE

DEPARTMENT: BIOLOGY

HEAD/CHAIR: Dr. Thomas Zoeller

SCHOOL OR COLLEGE: NSM

DEAN: Dr. George Langford

Submission Date: 11/1/06

Proposed Starting Date: 9/1/2007

I. PROPOSAL DEVELOPMENT

A. Describe the Proposal.

Our proposal is to make three minor changes to the undergraduate major in Biology. The changes or additions are in quotes.

1. Change the Math Core requirement for our students so that a statistics course is a requirement rather than an elective.

"MATH CORE REQUIREMENT (6 credits)

Take 1 course from Group A and one course from Group B

Group A

Statistics 240 Intro to Statistics

Resource Economics 211 Intro to Statistics for Life Sciences

Group B

Math 127 Calculus I

Math 128 Calculus II

Statistics 501 Methods of Applied Statistics

Public Health 540 Intro Biostatistics

Computer Science 121 Intro to Problem Solving with Computers

Students planning to apply for post-graduate study should consider taking two or more courses from Group B."

2. Add the following conditions to the major requirements:

"No course taken more than two times may be applied toward a major requirement."

"All courses used to fulfill major requirements must be completed with a grade of C (2.0) or higher."

3. Add the following condition to the major requirements:

"The 25 additional credits to satisfy the Biological Science core must be chosen from courses offered by the Biology Department at UMass Amherst. With advance approval from his or her advisor, a student may substitute a 500-level course taken outside the UMass Amherst Biology Department toward the 25 additional credits."

B. Provide a brief overview of the process for developing the Proposal.

The Biology Department Teaching committee formulated the proposed modifications to the requirements for the biology major as part of a process of curriculum revision. The committee unanimously supported the changes and presented them to the department for discussion at a faculty meeting. After a thoughtful discussion, each of the changes was approved by the department.

II. PURPOSE AND GOALS

Describe the Proposal's purpose and the particular knowledge and skills to be acquired.

Each of the proposed modifications to our biology major requirements is aimed at enhancing the student's learning and scientific training. The specific rationale for and impact of each of the changes is listed below.

1. Change the Math Core requirement for our students so that a statistics course is a requirement rather than an elective.

Statistics is an important tool for the analysis of biological data. To address this need, the proposed modification to our requirements ensures that each of our majors takes one course in statistics to develop these analytical skills.

2. Add the following conditions to the major requirements: "No course taken more than two times may be applied toward a major requirement." and "All courses used to fulfill major requirements must be completed with a grade of C (2.0) or higher."

These modifications are aimed at ensuring that our majors have demonstrated sufficient understanding of the course material to advance in the major. This also reflects how important the chemistry, math, and physics requirements are for the well trained biology major.

3. Add the following condition to the major requirements: "The 25 additional credits to satisfy the Biological Science core must be chosen from courses offered by the Biology Department at UMass Amherst. With advance approval from his or her advisor, a student may substitute a 500-level course taken outside the UMass Amherst Biology Department toward the 25 additional credits."

The courses we teach in the biology major are designed to provide the content and skills our students need to be successful life scientists. The proposed change will increase the exposure of our majors to our faculty and courses to ensure that their training is in line with our expectations and goals for the major. The allowance for substitution of a course from other departments ensures that students have the opportunity to pursue a topic in biological science not fully covered by our course offerings.