

# UNIVERSITY FACULTY SENATE FORMS

## Academic Program Approval

This form is a routing document for the approval of new and revised academic programs. Proposing department should complete this form. For more information, call the Faculty Senate Office at 831-2921.

**Submitted by:** Steven D. Skopik **phone number:** 831-2609  
Chair, Undergraduate Programs Committee

**Department:** Biological Sciences **e-mail address:** skopik@udel.edu

**Action:** Change in the mathematics requirement for students in the BA degree program in biological sciences

(Example: add major/minor/concentration, delete major/minor/concentration, revise major/minor/concentration, academic unit name change, request for permanent status, policy change, etc.)

**Effective term:** 07f

(use format 04F, 05W)

**Current degree** \_\_\_\_\_

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

**Proposed change leads to the degree of:** \_\_\_\_\_

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

**Proposed name:** \_\_\_\_\_

Proposed new name for revised or new major / minor / concentration / academic unit (if applicable)

**Revising or Deleting:**

**Undergraduate major / Concentration:** \_\_\_\_\_ Biological Sciences – BA degree

(Example: Applied Music – Instrumental degree

BMAS)

**Undergraduate minor:** \_\_\_\_\_

(Example: African Studies, Business Administration, English, Leadership, etc.)

**Graduate Program Policy statement change:** \_\_\_\_\_

(**Must attach** your Graduate Program Policy Statement)

**Graduate Program of Study:** \_\_\_\_\_

(Example: Animal Science: MS Animal Science: PHD Economics: MA Economics: PHD)

**Graduate minor / concentration:** \_\_\_\_\_

**Note: all graduate studies proposals must include an electronic copy of the Graduate Program Policy Document, highlighting the changes made to the original policy document.**

**List new courses required for the new or revised curriculum. How do they support the overall program objectives of the major/minor/concentrations)?**

(Be aware that approval of the curriculum is dependent upon these courses successfully passing through the Course Challenge list. If there are no new courses enter "None")

No new courses are proposed. However, sections of MATH241 will be developed by faculty in the Department of Mathematics in consultation with faculty in the Department of Biological Sciences. The new sections will have problem sets that have relevance to examples drawn from the life sciences.

**Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education: <http://www.ugs.udel.edu/gened/>**

See below.

**Identify other units affected by the proposed changes:**

(Attach permission from the affected units. If no other unit is affected, enter "None")

The Chair of the Department of Mathematics is supportive of this change.

**Describe the rationale for the proposed program change(s):**

(Explain your reasons for creating, revising, or deleting the curriculum or program.)

Students currently pursuing a BA degree in Biological Sciences are given the option of taking MATH221 Calculus I or MATH241 Analytic Geometry and Calculus A to complete the math requirement. A number of national studies have indicated that in the future students in the life sciences will need a stronger background in mathematics. After discussing this issue during the spring semester and summer of 2006, the Undergraduate Programs Committee, at a meeting on September 11, 2006, approved a change in the math requirement **from** MATH221 or MATH241 **to** MATH241 **only**, starting with the incoming class of 2007. The full faculty voted unanimously to endorse this change at a faculty meeting on October 9, 2006.

Discussions between representatives of the Departments of Mathematics and Biological Sciences have taken place over the last year. Faculty in Mathematics, with the support of the Chair, are developing sections of MATH241 that will be taken by students majoring in biological sciences, and one will be piloted in the spring of 2007. The rationale for requesting this change in the math requirement in biological sciences is to better equip our majors for careers in the life sciences.

**Program Requirements:**

(Show the new or revised curriculum as it should appear in the Course Catalog. If this is a revision, be sure to indicate the changes being made to the current curriculum and **include a side-by-side comparison** of the credit distribution before and after the proposed change.)

**Old:** Either MATH221 (3 credit hours) or MATH241 (4 credit hours) **NEW:** MATH241 (4 credit hours)

**ROUTING AND AUTHORIZATION:** (Please do not remove supporting documentation.)  
Department Chairperson  Daniel Casner  Date  10/17/06   
Dean of College \_\_\_\_\_ Date \_\_\_\_\_

Chairperson, College Curriculum Committee \_\_\_\_\_ Date \_\_\_\_\_

Chairperson, Senate Com. on UG or GR Studies \_\_\_\_\_ Date \_\_\_\_\_

Chairperson, Senate Coordinating Com. \_\_\_\_\_ Date \_\_\_\_\_

Secretary, Faculty Senate \_\_\_\_\_ Date \_\_\_\_\_

Date of Senate Resolution \_\_\_\_\_ Date to be Effective \_\_\_\_\_

Registrar \_\_\_\_\_ Program Code \_\_\_\_\_ Date \_\_\_\_\_

Vice Provost for Academic Programs & Planning \_\_\_\_\_ Date \_\_\_\_\_

Provost \_\_\_\_\_ Date \_\_\_\_\_

Board of Trustee Notification \_\_\_\_\_ Date \_\_\_\_\_

Revised 5/02/06 /khs



DEPARTMENT OF  
MATHEMATICAL SCIENCES

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Thursday, October 12, 2006

**To:** Professor D. Carson  
Chair, Department of Biological Sciences

**From:** Professor P. Monk  
Interim Chair, Department of Mathematical Sciences

A handwritten signature in black ink, appearing to read "Peter Monk".

**Re:** Change of mathematics requirements

The Department of Mathematical Sciences is pleased to support your proposal to change the calculus requirement for your majors from MATH221 to MATH241. Since students in your degree program will just enroll in a different Mathematical Sciences course, no new resources are required by Mathematical Sciences to support this change.

The Department of Mathematical Sciences looks forward to increased cooperation between our departments to offer a richer mathematics experience for your students. One section of MATH241 will be offered that emphasizes biological applications (the mathematical topics covered will be the same as other MATH241 sections).