

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY  
OFFICE OF THE ASSOCIATE CHAIRMAN

To George

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> For Your Information | <input type="checkbox"/> Please Note and Return   |
| <input checked="" type="checkbox"/> For Your Attention   | <input type="checkbox"/> Please Retain or Discard |
| <input type="checkbox"/> For Your Approval               | <input type="checkbox"/> Please See Me            |
| <input type="checkbox"/> Please Advise Me                | <input type="checkbox"/> _____                    |

Message:

*Please expedite!*

*Dong, if no  
objections, please  
give to Mary for movement  
to Cindy/Ed Affairs.*

*6/2/09*  
DATE

*[Signature]*  
SIGNED

# 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:** John L. Burmeister phone number 302-831-1130

**Department:** Chemistry & Biochemistry email address jlburm@udel.edu

**Action:** Revise BS/BIOC major requirements  
(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** Immediately  
(use format 04F, 05W)

**Current degree** BS  
(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

**Proposed change leads to the degree of:** BS  
(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

**Proposed name:** B.S. in Biochemistry  
Proposed new name for revised or new major / minor / concentration / academic unit (if applicable)

### Revising:

**Undergraduate major:** B.S. in Biochemistry  
(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)?** None  
(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")

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

Not needed – existing degree program.

**Identify other units affected by the proposed changes:** None  
(Attach permission from the affected units. If no other unit is affected, enter "None")

**Describe the rationale for the proposed program change(s):**  
(Explain your reasons for creating, revising, or deleting the curriculum or program.)

As our graduate program has grown dramatically (currently ca. 150 full-time graduate students), it has become increasingly difficult for our BS/BIOC majors to secure positions in our research laboratories for their CHEM-468 Undergraduate Research projects. Accordingly, we have decided to reduce the CHEM-468 requirement from 6 to 3 credits, and the alternative from 2 approved BISC lab courses to 1 approved BISC lab course.

**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.)

**ROUTING AND AUTHORIZATION:** (Please do not remove supporting documentation.)

Department Chairperson William H. Stuppell Date 6/2/09

Dean of College George Watson Date 3 June 2009

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 Affairs & International Programs \_\_\_\_\_ Date \_\_\_\_\_

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

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

2009-2010 UD Catalog →  
 2009-2010 Undergraduate Programs →  
 College of Arts and Sciences →  
 Chemistry and Biochemistry →  
 BACHELOR OF SCIENCE - BIOCHEMISTRY

Academic Year: 2009-2010

**DEGREE: BACHELOR OF SCIENCE**  
**MAJOR: BIOCHEMISTRY**

CURRICULUM CREDITS

**UNIVERSITY REQUIREMENTS**

ENGL 110 Critical Reading and Writing 3  
 (minimum grade C-)

First Year Experience (FYE) 0-4

Discovery Learning Experience (DLE) 3

Multi-cultural Courses 3

**COLLEGE REQUIREMENTS**

Writing: (minimum grade C-) 3

A second writing course involving significant writing experience including two papers with a combined minimum of 3,000 words to be submitted for extended faculty critique of both composition and content. This course must be taken after completion of 60 credit hours. Appropriate writing courses are normally designated in the semester's Registration Booklet. (See list of courses approved for **Second Writing Requirement**)

ENGL 410 highly recommended.

Foreign Language <sup>0-1</sup> 2

Completion of the intermediate-level course (107 or 112) in a modern foreign language. Number of credits needed and initial placement depends on number of years of high school study of foreign language. Students with four or more years of high school work in a single modern foreign language may attempt to fulfill the requirement in that language by taking an exemption examination.

**BREADTH REQUIREMENTS**

A total of twenty-one credits from Groups A, B and C is required with a minimum of six credits in each 21 group

The six credits from each group could be from the same area.

Group A: Understanding and appreciation of the creative arts and humanities.

Group B: The study of culture and institutions over time.

Group C: Empirically based study of human beings and their environment.

**MAJOR REQUIREMENTS**

Minimum 47 credits total in CHEM

CHEM 111/CHEM 112 General Chemistry 6

CHEM 115 Introduction to Chemical Sciences 3

CHEM 120 Quantitative Chemistry 3

CHEM 331/CHEM 332 Organic Chemistry 6

CHEM 333/CHEM 334 Organic Chemistry Majors Laboratory I and II 4

CHEM 342 Introduction to Biochemistry 3

CHEM 418 Introductory Physical Chemistry I 3

or

CHEM 443 Physical Chemistry 4

CHEM 437/CHEM 438 Instrumental Methods and Laboratory 4

CHEM 641 Biochemistry 3

CHEM 419 Introductory Physical Chemistry II 3

or

CHEM 444 Physical Chemistry 4

CHEM 445 Physical Chemistry Laboratory 1

CHEM 642 Biochemistry 3

CHEM 643 Intermediary Metabolism 3

Two Advanced Chemistry courses at 600-level 6-8

or

Two Biology courses selected from the following:

BISC 300 Introduction to Microbiology 4

BISC 306 General Physiology 3

BISC 401 Molecular Biology of the Cell 3

BISC 403 Genetic and Evolutionary Biology 3

BISC 601 Immunochemistry 4

BISC 654 Biochemical Genetics 3

BISC 679 Virology 3

CHEM 465 Seminar (two semesters, fall and spring) 2

CHEM 468 Undergraduate Research ~~3~~ 3

or

**A** Two Biology laboratory courses selected from the following: ~~4-8~~ 2-4

BISC 300 Introduction to Microbiology 4

BISC 315 Experimental Cell Biology 2

BISC 316 Experimental Physiology 2

BISC 411 Experimental Molecular Biology 2

BISC 413 Advanced Genetics Laboratory 2

BISC 601 Immunochemistry 4

Related Work