

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 courses required for BS/CHEM degree

(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:09F

(use format 04F, 05W)

Current degree: B.S. in Chemistry

(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:

Undergraduate major / Concentration: B.S. in Chemistry

(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")

Replace: CHEM-165 Freshman Majors Seminar (0 credits, FYE requirement) and
CHEM-119 Quantitative Chemistry I (3 credits) with the new course
CHEM-115 Introduction to Chemical Sciences (3 credits, DLE requirement) –
see rationale below.

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

It addresses all of the Goals of Undergraduate Education, except for #8 and #9.

Identify other units affected by the proposed changes:

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

None

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

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

For decades, freshman BS/CHEM, BS/BIOC, and BS/CHEG majors were in lockstep, as far as their required freshman CHEM courses (CHEM-111/112/119/120) were concerned. That changed in 94S, when CHEM-120 Quantitative Chemistry was dropped from the BS/CHEG curriculum. The other shoe will drop during the 2008-2009 academic year, with the removal of CHEM-119 Quantitative Chemistry from BS/CHEG curriculum. (Beginning with the Class of 2012, BS/CHEG majors will take CHEM-220/221 Quantitative Analysis during their sophomore year.)

These major changes have caused our Department to reevaluate the first-year program for our CHEM, BIOC, and XCE majors. We have concluded that they will be better served by CHEM-115, which incorporates and enlarges upon the content of CHEM-165, our Freshman Majors Seminar (for all of our majors – BA/CHEM, BA/XCE, BS/CHEM, and BS/BIOC), and replaces the set of relatively sophisticated CHEM-119 laboratory experiments with a more basic set which is better suited for the needs and background of our freshman BS/CHEM and BS/BIOC majors.

CHEM-115 will therefore satisfy the FYE requirement of all of our CHEM/BIOC/XCE majors, as was the case for CHEM-165.

CHEM-115 Introduction to Chemical Sciences:

Lecture & discussion, 2 credits; lecture & discussion & lab, 3 credits. Introduction to the CHEM/BIOC Department and the chemical professions: curricula, sub-disciplines, related areas, research, and career opportunities. Social events and mentoring. Group calculator and computer sessions, discussions, and presentations. Experimental techniques and procedures.

The course addresses two main objectives, as outlined above:

It will fulfill the FYE requirement for all of our BA/CHEM, BA/XCE, BS/CHEM, and BS/BIOC majors. It will also lay the experimental groundwork for our BS/CHEM and BS/BIOC majors.

(Extended discussions with Prof. Raul Lobo, of the CHEG Department contributed significantly to the changes outlined above.)

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.)



DEPARTMENT OF CHEMISTRY
AND BIOCHEMISTRY
OFFICE OF THE ASSOCIATE CHAIRMAN

102 Brown Laboratory
University of Delaware
Newark, Delaware 19716-2522
Ph: 302/831-1130
Fax: 302/831-6335
E-mail: jlburn@chem.udel.edu

DEGREE: BACHELOR OF SCIENCE
MAJOR: CHEMISTRY

CURRICULUM CREDITS

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing
(minimum grade C-) 3
First Year Experience (see page 68) 0-4

Discovery Learning Experience (see page 68) 3

Three credits in an approved course or courses stressing multi-cultural, ethnic,
and/or gender-related course content (see pages 69-71) 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, pages 93-95.) ENGL 410 highly recommended.

Foreign Language: 0-12

Completion of the intermediate-level course (107 or 112) in a modern foreign
language. Number of credits needed and initial placement will depend 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 (See pages 95-99)

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

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 45 credits total in CHEM

~~CHEM 165 Freshman-Majors Seminar (delete)~~ 0
CHEM 111/112 General Chemistry 6
CHEM ~~119/120~~ Quantitative Chemistry I and II ~~(delete CHEM-114)~~ 3
CHEM 331/332 Organic Chemistry 6
CHEM 333/334 Organic Chemistry Majors Laboratory I and II 4
CHEM 443/445 Physical Chemistry and Laboratory 4
CHEM 437/438 Instrumental Methods and Laboratory 4
CHEM 527 Introductory Biochemistry 3
or
CHEM 641 Biochemistry 3
CHEM 444/446 Physical Chemistry and Laboratory 4
CHEM 457/458 Inorganic Chemistry and Laboratory 4
CHEM 465 Seminar (two semesters, fall and spring) 2
Advanced Chemistry course at 600-level or higher 3
CHEM 468 Undergraduate Research (optional) 3
MATH 241/242/243 Analytic Geometry and Calculus A, B and C 12
PHYS 201/202 Introductory Physics I and II 8
or
PHYS 207/208 Fundamentals of Physics I and II 8

Add: CHEM-115 Introduction to Chemical Sciences 3

Strongly Recommended:
MATH 302 Ordinary Differential Equations I 3

ELECTIVES

After required courses are completed sufficient elective credits must be taken to
meet the minimum credit requirement for the degree.

CREDITS TO TOTAL A MINIMUM OF 124

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

Department Chairperson William H. Steppold Date 8/15/08
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 Affairs & International Programs _____ Date _____
Provost _____ Date _____
Board of Trustee Notification _____ Date _____

Revised 10/23/2007 /khs