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 and Biochemistry email address: jlburm@udel.edu

Action: Revise courses required for BA/XCE 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.A. in Chemistry Education
(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.A. in Chemistry Education
(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) with the new course CHEM-115 Introduction to Chemical Sciences (2 credits, FYE 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.)

UNIVERSITY OF DELAWARE

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: jlburm@chem.udel.edu

DEGREE: BACHELOR OF ARTS
MAJOR: CHEMISTRY EDUCATION

CURRICULUM CREDITS

See page 90 for University and College requirements.

MAJOR REQUIREMENTS

CHEM courses to total 30 credits minimum.
~~CHEM 163 Freshman Majors Seminar~~ (delete) ..... ~~0~~
CHEM 111/112 General Chemistry 6
CHEM ~~119~~ 115/120 Quantitative Chemistry ~~I and II~~ 6
or
CHEM 103/104 General Chemistry 8
CHEM 220/221 Quantitative Analysis and Laboratory 4
One of the following: 4-8
CHEM 213 Elementary Organic Chemistry
CHEM 321/322 Organic Chemistry
CHEM 331/332/333 Organic Chemistry and Laboratory
CHEM 437/438 Instrumental Methods and Laboratory 4
CHEM 418/445 Introductory Physical Chemistry and Laboratory 4
or
CHEM 443/445 Physical Chemistry and Laboratory 4
CHEM 214/216 Elementary Biochemistry and Laboratory 4
Chemistry courses selected with consent of advisor 0-3
BISC 207 Introductory Biology I 4
GEOL 107 General Geology 4
MATH 241/242 Analytic Geometry and Calculus A and B 8
PHYS 201/202 Introductory Physics I and II 8
or
PHYS 207/208 Fundamentals of Physics I and II 8
EDUC 413 Adolescent Development and Educational Psychology 4
EDUC 414 Teaching Exceptional Adolescents 3
EDUC 419 Diversity in Secondary Education 3
EDUC 420 Reading in the Content Areas 1
EDUC 400 Student Teaching 9
SCEN 491 Teaching Science in Secondary Schools 4
Grade of C- or better required in all required CHEM and EDUC courses and SCEN 491.

Add: CHEM-115 Introduction to Chemical Sciences 2

To be eligible to student teach, Chemistry Education students must have a GPA of 2.75 in their chemistry major and an overall GPA of 2.5. They must also pass a teacher competency test as established by the University Council on Teacher Education. Students must consult with the teacher education program coordinator (see page 215) to obtain the student application and other information concerning student teacher policies.

CREDITS TO TOTAL A MINIMUM OF 124

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

Department Chairperson _____ Date 8/15/05

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