August 20, 2014

To: Dean Van Galen, Chancellor
   116 North Hall
   University of Wisconsin-River Falls

From: David P. Rainville, Chair
      Faculty Senate
      University of Wisconsin-River Falls

Re: UWRF Faculty Senate Motion 2014-15/2

At the August 20, 2014 meeting of the University of Wisconsin-River Falls Faculty Senate, motion 2014-15/2 was passed and is effective immediately. The motion is forwarded to you for your action.

Program change proposal: Biochemistry Major – Pre-professional

Approved ✓

Disapproved

Dean Van Galen, Chancellor

Date 8/27/14
TRANSMITTAL for UNDERGRADUATE PROGRAMS:
Changes or Proposals

I. INFORMATION:

1. Program Title: Biochemistry-Preprofessional
2. Department(s): Chemistry
3. College(s): CAS
4. Proposal prepared by: Karl Peterson  Date: 4/15/2014
5. Check all that apply
   □ New program       ■ Existing program
   □ Change in course name   ■ Change in number of credits
   ■ Change in major  □ Change in minor
   □ Change in course content  □ Change in emphasis/option

6. Other Programs/Departments Consulted (Requires letters of comment from all Departments or Programs substantially affected):
   a.)  
   b.)  
   c.)  
   d.)  

7. Catalog year (and semester) of Implementation:
   Semester: 2014  Year: FA

8. Have all courses in this program been approved?  Yes □ No □
   If "No" which courses have not been approved? CHEM 380

9. Attach Request Narrative
   Include in narrative on attached pages a rationale for the requested changes or creation of program.
   Include clarification concerning any courses that have not yet been approved. If requesting a
   program change also include a listing of course array for both the current and proposed program.

10. UNIT APPROVALS: Requires signatures of all Department Chairs and Deans whose programs will
     be substantially affected by the changes or proposal. Signature lines for the affected Departments and
     Colleges (noted in "6" above), are on the addendum to this form. These signatures should be obtained
     prior to review by all other shared governance levels.

<table>
<thead>
<tr>
<th>Department Curriculum Committee Chair (optional)</th>
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<tbody>
<tr>
<td>Department/Program Chair:  Karl Peterson  4/15/14</td>
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<tr>
<td>College Curriculum Committee Chair:  7/1/14</td>
</tr>
<tr>
<td>Dean of College:  4/23/14</td>
</tr>
<tr>
<td>University Curriculum Cmtt. Chair:  Alex Tupa  4/25/14</td>
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Signature  Date

*NOTE: The master copy of this transmittal & accompanying documents must be filed in the Provost's office upon
final approval. The Provost's office will notify all appropriate administrative offices [Registrar, Dean(s), Department
Chair(s)] of approvals & necessary actions to implement changes.

Revised December 2012
Narrative for Program Change to the Chemistry-ACS, the Biochemistry-ACS, and the Biochemistry-Pre-Professional Programs

These proposed changes result from the creation of a new course, CHEM 380: Chemistry Junior Seminar (1 cr.). The results of this change increases the overall required credits in each of the majors by 1 credit. A comparison of the current Chemistry-ACS, Biochemistry-ACS, and Biochemistry-Pre-Professional programs and the corresponding proposed majors are attached to this document.

The addition of CHEM 380 will allow us to introduce the critical skills of literature searching (e.g., Reaxys, SciFinder, PubMed) and critical reading early in our curriculum, which addresses specific feedback that we obtained from our last accreditation evaluation by the American Chemical Society. Additionally, student will gain professional skills including resume and cover letter writing, searching for internships and jobs, and critical evaluation of seminars.

The Biotechnology Program and the Chemistry Department host student seminars at the same time and location. The Biotechnology Program requires a similar course (BIOT 380: Biotechnology Junior Seminar), and the Chemistry Department feels this course would benefit the chemistry students as well. The additional 1 credit will not significantly increase the total credits to graduate as these broad field majors do not require a minor. The following table summarizes the current and proposed credit requirements for the different programs:

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1 Note S and SL course will double count with the major. M course will double count with the required supporting courses.
2 Assumes that the University requirements double counted.

Proposed

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   Academic Policy & Program Cmtn. Chair _______________________________________ 5/6/14
   Faculty Senate Chair ____________________________________________________ 8/25/14
   Provost / Vice Chancellor __________________________________________________ 8/12/14
   Chancellor ____________________________________________________________ 8/27/14

   Signature Date

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\(^1\) Note S and SL course will double count with the major. M course will double count with the required supporting courses.

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Track A Requirements: 57-59 cr. hrs.
CHEM 121 General Chemistry I (5 cr) or
    CHEM 120 Introduction to General Chemistry (6 cr)
CHEM 122 General Chemistry II (5 cr)
CHEM 231 Organic Chemistry I (3 cr)
CHEM 232 Organic Chemistry II (3 cr)
CHEM 236 Organic Chemistry Lab I (1 cr)
CHEM 237 Organic Chemistry Lab II (1 cr)
CHEM 250 Foundations of Analytical Chemistry (4 cr)
CHEM 261 Laboratory Safety (2 cr)
CHEM 322 Inorganic Chemistry (includes a 1 cr. lab portion) (4 cr)
CHEM 340 Physical Chemistry of Biological Systems (3 cr)
CHEM 361 Biochemistry I (3 cr)
CHEM 362 Biochemistry II (3 cr)
CHEM 366 Biochemistry Laboratory (writing intensive) (1 cr)
CHEM 480 Chemical Communications and Research (writing intensive) (1 cr)
BIOL 150 Introduction to Biology (3 cr)
MATH elective (3-4 cr)
PHYS 121 and PHYS 121 General Physics I, II: Algebra-based (10 cr) OR
    PHYS 131 and PHYS 132 General Physics I, II: Calculus-based (10 cr)

In Depth Electives: 8 credits minimum including least 3 lab credits. Choose from:
CHEM 311 Polymer Chemistry (3 cr)
CHEM 316 Polymer Laboratory (1 cr)
CHEM 333 Organic Synthesis (2 cr)
CHEM 334 Organic Synthesis Laboratory (2 cr)
CHEM 341 Chemical Thermodynamics and Kinetics (3 cr) OR
    CHEM 342 Molecular Structure and Spectroscopy (3 cr)
CHEM 355 Separation Science Laboratory (1 cr)
CHEM 356 Chemical Instrumentation Lab (writing intensive) (1 cr)
CHEM 378 Semester Abroad (1-4 cr)
CHEM 379 Internship (1-4 cr)
CHEM 401 Advanced Chemistry Lab I (writing intensive) (1 cr)
CHEM 402 Advanced Chemistry Lab II (writing intensive) (1 cr)
CHEM 422 Advanced Inorganic Chemistry (writing intensive) (3 cr)
CHEM 461 Pharmacology (3 cr)
CHEM 489 Special Topics in Chemistry (1-4 cr)
CHEM 495 Undergraduate Research (1-3 cr)
BIOL 350 Genetics and Evolution (writing intensive) (3 cr)
BIOL 451 Molecular Biology (4 cr)

Required Supporting Courses: 4 cr. hrs.
MATH 166 Calculus I (4 cr)
Track B Requirements: 51-52 cr. hrs.
CHEM 130 Introduction to Organic Chemistry (5 cr)
CHEM 233 Foundations of Organic Chemistry (5 cr)
CHEM 240 Principles of General Chemistry (4 cr)
CHEM 250 Foundations of Analytical Chemistry (4 cr)
CHEM 261 Laboratory Safety (2 cr)
CHEM 322 Inorganic Chemistry (includes a 1 cr. lab portion) (4 cr)
CHEM 340 Physical Chemistry of Biological Systems (3 cr)
CHEM 361 Biochemistry I (3 cr)
CHEM 362 Biochemistry II (3 cr)
CHEM 366 Biochemistry Laboratory (writing intensive) (1 cr)
CHEM 480 Chemical Communications and Research (writing intensive) (1 cr)
BIOL 150 Introduction to Biology (3 cr)
MATH elective (3-4 cr)
PHYS 121 and PHYS 121 General Physics I, II: Algebra-based (10 cr) OR
   PHYS 131 and PHYS 132 General Physics I, II: Calculus-based (10 cr)

In Depth Electives: 13 credits minimum with at least 2 lab credits. Choose from:
CHEM 311 Polymer Chemistry (3 cr)
CHEM 316 Polymer Laboratory (1 cr)
CHEM 333 Organic Synthesis (2 cr)
CHEM 334 Organic Synthesis Laboratory (2 cr)
CHEM 341 Chemical Thermodynamics and Kinetics (3 cr) OR
   CHEM 342 Molecular Structure and Spectroscopy (3 cr)
CHEM 355 Separation Science Laboratory (1 cr)
CHEM 356 Chemical Instrumentation Lab (writing intensive) (1 cr)
CHEM 378 Semester Abroad (1-4 cr)
CHEM 379 Internship (1-4 cr)
CHEM 401 Advanced Chemistry Lab I (writing intensive) (1 cr)
CHEM 402 Advanced Chemistry Lab II (writing intensive) (1 cr)
CHEM 422 Advanced Inorganic Chemistry (writing intensive) (3 cr)
CHEM 461 Pharmacology (3 cr)
CHEM 489 Special Topics in Chemistry (1-4 cr)
CHEM 495 Undergraduate Research (1-3 cr)
BIOL 350 Genetics and Evolution (writing intensive) (3 cr)
BIOL 451 Molecular Biology (4 cr)

Required Supporting Courses: 4 cr. hrs.
MATH 166 Calculus I (4 cr)
PROPOSED
Biochemistry Pre-Professional Major (65-68)
(69-72 cr. hrs. including required supporting courses)

Track A Requirements: 58-60 cr. hrs.
CHEM 121 General Chemistry I (5 cr) or
   CHEM 120 Introduction to General Chemistry (6 cr)
CHEM 122 General Chemistry II (5 cr)
CHEM 231 Organic Chemistry I (3 cr)
CHEM 232 Organic Chemistry II (3 cr)
CHEM 236 Organic Chemistry Lab I (1 cr)
CHEM 237 Organic Chemistry Lab II (1 cr)
CHEM 250 Foundations of Analytical Chemistry (4 cr)
CHEM 261 Laboratory Safety (2 cr)
CHEM 322 Inorganic Chemistry (includes a 1 cr. lab portion) (4 cr)
CHEM 340 Physical Chemistry of Biological Systems (3 cr)
CHEM 361 Biochemistry I (3 cr)
CHEM 362 Biochemistry II (3 cr)
CHEM 366 Biochemistry Laboratory (writing intensive) (1 cr)
CHEM 380 Junior Chemistry Seminar (1 cr)
CHEM 480 Chemical Communications and Research (writing intensive) (1 cr)
Biol. 150 Introduction to Biology (3 cr)
MATH elective (3-4 cr)
PHYS 121 and PHYS 121 General Physics I, II: Algebra-based (10 cr) OR
   PHYS 131 and PHYS 132 General Physics I, II: Calculus-based (10 cr)

In Depth Electives: 8 credits minimum including least 3 lab credits. Choose from:
CHEM 311 Polymer Chemistry (3 cr)
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