July 24, 2017

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

From: Mialis Moline, Chair
       Faculty Senate
       University of Wisconsin – River Falls

Re: UWRF Faculty Senate Motion 2017-18/10

The following motion was approved with amendments in red, with 18 in favor, 0 opposed, and 0 abstention by the Faculty Senate on June 7, 2017:

A motion from the Academic Programs and Policy Committee (Ian Williams, 2016-17, Chair) to approve the attached program change proposal for the Biology – Field Biology Option.

[Signature]
Approved

[Signature]
Disapproved

Dean Van Galen, Chancellor

Date 7/31/17
# UWRF - Program Change Transmittal Form

Instructions. In a separate document: a) include a rationale for the requested changes or new program, b) clarify which courses have not been approved, c) include a listing of course array for the current as well as the proposed program, d) include minutes from the department meeting where the requested changes were approved. On the addendum to this form: a) include signatures from all department chairs and deans whose programs will be affected by the proposal, b) secure all signatures prior to review by all other shared governance levels.

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<th>Undergraduate Program Change</th>
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<tr>
<td>Preparer(s)</td>
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<td>J. Alfred Bonilla</td>
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<tr>
<th>Program Title</th>
<th>Implementation Term</th>
<th>Nature of Proposal</th>
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<tr>
<td>Biology Major - Field Biology Option</td>
<td>Fall 2017</td>
<td>An existing program</td>
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Have all courses been approved? No

Requested changes (select all that apply): ☑ Name change ☑ Credits change ☑ Curriculum change
☑ Change in major ☐ Change in minor ☑ Change in option/emphasis ☐ Other

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### Reviewed and approved by

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<th>Approval date</th>
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<td>Biology</td>
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<td>Provost/Vice Chancellor</td>
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<td>Chancellor</td>
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Proposed Program Changes to the Biology Options

Rationale for proposed program change:

The Department of Biology offers 4 Options in the major, Biomedical Sciences, Field Biology, General Biology and Broad Field Science Education (Biology). Currently the Biomedical Sciences Option, Field Biology Option and General Biology Option consist of a freshman colloquium course, and 5-6 required core courses. Additional electives must be taken to reach 34 credits (see attachments). For proper advising in each of these Options, it was noted that certain elective courses should be included in the required core courses of the curriculum. It would provide Biology majors with the courses necessary for many of the post-baccalaureate opportunities they are working toward, including professional schools (medical, dental, optometry, pharmacy, etc.), graduate programs and general employment in various industries. Traditionally, we have relied on advising to assure students take all the courses they require, however, students often modify their schedule and course selections after advising resulting in deficiencies in their program curriculum. A formal modification to the program would minimize this issue.

The department proposes the following modifications to the 3 Options mentioned above, Biomedical Sciences, Field Biology, and General Biology (see attachments).

1. We propose a 2-semester introductory biology sequence consisting of BIOL 150 and BIOL 103 to provide adequate content and better prepare students for upper-division courses in Biology. BIOL 103 will be a required core course in the 3 Options. Most Biology programs in the region, as well as nationally, consist of a 2-semester Introductory Biology sequence. Both BIOL 150 and BIOL 103 are SI courses and will continue to satisfy this requirement across campus.

2. We propose BIOL 324 become a required core course in all 3 Options (Biomedical Sciences, Field Biology, General Biology).

3. We propose the total credits for all 3 Options, (Biomedical Sciences, Field Biology, General Biology) be 44 cr. The number of credits required remains below average for comparable programs in Animal Sciences, Neurosciences, Chemistry, Physics, and Psychology.

Only one new course will be proposed for the new program curriculum in the Field Biology Option (Advanced Ecological Methods). Supporting courses in the 3 Biology Options proposed will remain the same; a minimum of 2 semesters of Chemistry, a semester of Physics, Math 147 (or 149) and a Biostatistics course. It is important to note that the supporting Science and Math courses satisfying General Education – Goal Three requirements.

The Department of Biology voted unanimously in favor of the proposed changes (see attachments).
Ian Williams, Ph.D.
Plant and Earth Science
316 Ag Science Building
715-425-3139

May 3, 2017

Dear Dr. Williams,

Per the recommendations of the AP&P committee, please find attached the revisions to the Biology – Field Biology program changes the department put forward. I have removed the course, which is yet to be approved, from the proposed courses of study. Thank you for your time and recommendations and if there are any other questions I can address, please let me know.

Sincerely,
Fred Bonilla
(Proposed 5/3/17) FIELD BIOLOGY OPTION
Modified 05/03/2017 per AP&P committee meeting

BIOL Core and Elective Courses = 44 cr.

Required core courses (22-23 cr.)
- 8 courses -

BIOL 110 Freshman Colloquium, 1 cr.
BIOL 103 Biological Evolution 3 cr.
or BIOL 150 Gen. Biology (3) cr.
BIOL 210 Botany, 3 cr.
BIOL 230 General Zoology, 3 cr.
BIOL 296 Field Research Experience, 2 cr.
BIOL 324 Microbiology 4 cr.
BIOL 360 Ecology, 3 cr.

Additional supporting courses (11-12 cr.):

PHYS 121 Algebra-based Physics 5 cr.
or 131 calculus-based Physics 5 cr.
MATH 147 Algebra & Trigonometry 3 cr.
or 149 Precalculus 4 cr.
MATH 231 Biostatistics 3 cr.
or ANSC 341 Biometrics 3 cr.

Electives courses (21-22 cr. from the following to reach a total of 44 cr.)

Recommended Electives: (not a complete list)

BIOL 195 Freshman Research Experience, 3 cr.
BIOL 240 Cell & Molecular Biology, 3 cr.
BIOL 243 Intro. to Biol. Greek-Latin, 2 cr.
BIOL 305 App. in Molecular Biology, 3 cr.
BIOL 310 Identification of Plants, 3 cr.
BIOL 314 Plant Pathology, 3 cr.
BIOL 320 Plant Physiology, 3 cr.
BIOL 333 Entomology, 3 cr.
BIOL 344 Wildlife Biology, 4 cr.
BIOL 354 Freshwater Biology, 3 cr.
BIOL 434 Ichthyology, 3 cr.
BIOL 444 Ornithology, 3 cr.
BIOL 379 Internship 3-6 cr.
BIOL 495 Undergraduate Research 3 cr.
BIOL 499 Independent Study, 1-3 cr.

Chemistry supporting courses (10- cr.):
- 1 year of CHEM -

CHEM 111 General Chemistry I 4 cr.
+ CHEM 116 General Chemistry Lab I 1 cr.
CHEM 112 General Chemistry II 4 cr.
+ CHEM 117 General Chemistry Lab II 1 cr.

or

CHEM 130 Introduction to Organic Chemistry 5 cr.
CHEM 233 Foundations of Organic Chemistry 5 cr.

Note: Up to 6 elective credits may be taken from outside the Biology Department, by program exception. Examples of courses outside the major often accepted towards Biology elective credits include:

ESM 220 Environmental Sustainability, 3 cr.
ESM 333 Remote Sens. of Natural Resources, 3 cr.
ESM 343 Woodlot Management 3 cr.
ESM 360 Appl. Hydrology and Water Quality 4 cr.
ESM 413 Environmental Analysis, 4 cr.
GEOG 250 Cartography I, 3 cr.
GEOG 360 Introduction to GIS, 3 cr.
GEOL 202 Oceanography, 3 cr.
GEOL 269 Environmental Geology, 2 cr.
GEOL 445 Hydrogeology, 4 cr.
FIELD BIOLOGY OPTION

BACHELOR OF SCIENCE IN BIOLOGY – LIBERAL ARTS
REQUIREMENTS CHECKLIST

Required core courses (21-22 cr.)
- Biology 110 Freshman Colloquium, 1 cr.
- Biology 150 General Biology, 3 cr.
  or Biology 160 General Biology: Fr. Research, 4 cr.
- Biology 230 General Zoology, 3 cr.
- Biology 296 Field Research Experience, 2 cr.
- Biology 350 Genetics and Evolution, 3 cr.
- Biology 360 Ecology Colloquium, 1 cr.
- Biology 481 Seminar, 1 cr.

ELECTIVES: 17 cr. hrs.
(Note: up to 6 elective credits may be taken from outside the Biology Department, by program exception; see options below)
Recommended Electives:
- Biology 195 Freshman Research Experience, 3 cr.
- Biology 240 Cell & Molecular Biology, 3 cr.
- Biology 243 Intro to Biol. Greek-Latin, 2 cr.
- Biology 305 App. in Molecular Biology, 3 cr.
- Biology 310 Identification of Plants, 3 cr.
- Biology 314 Plant Pathology, 3 cr.
- Biology 320 Plant Physiology, 3 cr.
- Biology 324 Microbiology, 4 cr.
- Biology 333 Entomology, 3 cr.
- Biology 344 Wildlife Biology, 4 cr.
- Biology 350 Genetics and Evolution, 3 cr.
- Biology 354 Freshwater Biology, 3 cr.
- Biology 355 Environmental Law, 3 cr.
  or ESM 303 Environmental Policies & Administration
- Biology 379 Internship 3-6 cr.
- Biology 434 Ichthyology, 3 cr.
- Biology 444 Ornithology, 3 cr.
- Biology 495 Undergraduate Research, 3 cr.
- Biology 499 Independent Study, 1-3 cr.
- ESM 220 Environmental Sustainability: Theories, Issues, and Management 3 cr.
- ESM 333 Remote Sensing of Natural Resources, 3 cr.
- ESM 343 Woodlot Management 3 cr.
- ESM 360 Applied Hydrology and Water Quality 4 cr.
- ESM 413 Environmental Analysis, 4 cr.
- Geog 250 Cartography I, 3 cr.
- Geog 360 Introduction to GIS, 3 cr.
- Geol 202 Oceanography, 3 cr.
- Geol 269 Environmental Geology, 2 cr.
- Geol 445 Hydrogeology, 4 cr.

Required supporting courses (21 cr.):
- Chemistry 121*, 122 or Chemistry 130, 233
- Physics 121* or 131
- Math 147*, 149
- Math 226, Math 231 (recommended),
or ANSC 341
Staff Meeting Minutes
Department of Biology
April 5, 2017 @ 5:00 pm

Present: Fred Bonilla; Timothy Lyden; Brad Mogen; Kim Mogen; John Wheeler; Joseph Gathman; Cheng-Chen Huang; Scott Ballantyne; Karen Klyczek; Betsy Gerbec; Amber Qureshi

1. Approve minutes from Feb. 22, 2017 meeting.
   - Passed unanimously.

2. Update on Science Facilities Feasibility meetings last month
   - Plans were presented (see attached document). Feedback is welcome. We will have additional opportunities to discuss facilities when the consultants return (Klyczek).

3. Discuss modification of BIOL 360 Ecology and creation of BIOL 361(?)
   - John and Joe are considering proposing a new course (BIOL 361) on advanced Ecological Methods primarily for Biology major. All agreed.

4. Modifications to our Biology Options were presented and discussed. Adding some courses that are routinely advised for all majors to the required core, including BIOL 103 Fundamentals of Biological Evolution, and BIOL 324 Microbiology. Would increase total credits needed from 34 to 44. We would still accept up to 6 credits outside the department by exception.
   - Move to submit Program changes to the curriculum committee (MogenK, Wheeler). Passed unanimously.

5. Discuss possible IAS hire. Resume of Nicole Shirkey-son, Ph.D. was received and discussed. Move to bring Nicole Shirkey-son to campus for an interview (Gathman/Wheeler). Passed unanimously, 1 abstention

6. Department lounge update: Jonathan was able to get $3000 approved for new furniture and paint. I would like to support funding tech capabilities in that room. All agreed.

7. Adjourn