Proposal to Change a Course

NOTE: All gray text boxes must be completed (even if you just put N/A into them), otherwise the committee must consider the form incomplete.

1. Department: Biology

2. Course Number and Title: BIOL 101 – Elements of Biology and BIOL 102 – Elements of Biology

3. Semester and year when the course change(s) will go into effect: Spring 2010

4. Change(s) Desired Note: if more than 2 items listed under “Typical changes handled by this form” in Standard Course Change Form are crossed out, then a New Course Form must be completed:

   • Changes to course titles and descriptions

   Current course titles and descriptions:

   **101 ELEMENTS OF BIOLOGY (3) F & S**
   A course for non-science majors on living systems with an emphasis on the concepts of structure and function at the molecular and cellular levels. Topics include biochemistry, cell structure and function, respiration, photosynthesis, genetics, and molecular biology. Provides a background to understanding and evaluating critically issues facing society. Topics are considered in relation to technology, societal issues, and the history and limits of science. Lectures - 3 hours per week. Corequisite: Biology 101L

   **101L ELEMENTS OF BIOLOGY LABORATORY (1) F & S**
   A laboratory course to accompany Biology 101. Laboratory - 3 hours per week. Corequisite: Biology 101

   **102 ELEMENTS OF BIOLOGY (3) F & S**
   A course for non-science majors on living systems with an emphasis on evolution, ecology, and the structure and functions of the major groups of organisms. Provides a background to understanding and evaluating critically issues facing society. Topics are considered in relation to technology, societal issues, and the history and limits of science. Lectures - 3 hours per week. Corequisite: Biology 102L

   **102L ELEMENTS OF BIOLOGY LABORATORY (1) F & S**
   A laboratory course to accompany Biology 102. Laboratory - 3 hours per week. Corequisite: Biology 102

Proposed changes to course titles and descriptions

**101 CONCEPTS AND APPLICATIONS IN BIOLOGY I (4) F & S**
This is a non-science majors' course, which will provide a background for understanding and evaluating contemporary topics in biology and
societal/environmental issues. The course emphasizes cellular and molecular concepts, including biochemistry, cell structure and function, respiration, photosynthesis, genetics and molecular biology. An understanding of methods, history, and dynamic nature of science will also be emphasized. Lecture/Discussion - 3 hours per week.
Corequisite: Biology 101L

101L CONCEPTS AND APPLICATIONS IN BIOLOGY I (0) F & S
A laboratory which accompanies Biology 101. Laboratory - 3 hours per week.
Corequisite: Biology 101

102 CONCEPTS AND APPLICATIONS IN BIOLOGY II (4) F & S
This is a non-science majors' course, which will provide a background for understanding and evaluating contemporary topics in biology and societal/environmental issues. The course emphasizes physiology and anatomy of organisms, ecological and evolutionary concepts, biodiversity, and conservation biology. An understanding of methods, history, and dynamic nature of science will also be emphasized. Lecture/Discussion - 3 hours per week.
Prerequisite: Biology 101 and 101L; Corequisite: Biology 102L

102L CONCEPTS AND APPLICATIONS IN BIOLOGY II (0) F & S
A laboratory which accompanies Biology 102. Laboratory - 3 hours per week.
Corequisite: Biology 102

5. Justification for Change(s):

It is the view of the General Biology Steering Committee that the lack of coordination of effort among highly transient Biol 101/102 instructors had led to courses which were simply “watered-down” versions of our current content-based majors' course. The course no longer consistently emphasized contemporary topics in biology or the connection of biology to societal/environmental issues. In 2005, the department of biology received a National Science Foundation Course Curriculum Laboratory Improvement grant (PI: John S. Peters; Co-PI: Brian Scholtens) to reform how this course is taught. The emphasis of the project is to develop and implement strategies and teaching material that help faculty to focus more on connecting biological concepts to important and engaging civic issues. The project entitled Civic Engagement in Non-majors Introductory Biology: Connecting Problem-Based Learning and Scientific Inquiry (http://petersj.people.cofc.edu/CCLI/CofC NSF CCLI HomePage.html) mainly assists faculty with developing pedagogical strategies for implementing a Problem or Case Studies-Based Learning (PBL/CSBL) to teach the core concepts of biology. The goal is to facilitate biological literacy by utilizing engaging real world issues/problems/case studies or scientific questions to provide a context and reason for learning fundamental biological concepts. Related inquiry-based labs are designed to engage students in the nature of

This form was approved by FCC on 2/17/2009 and replaces all others.
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scientific discovery including scientific methods and how the scientific community operates to establish the validity of scientific knowledge.

As in the past we continue to utilize numerous, often transient, adjunct faculty to teach this course. Additionally the department has long-range plans to hire new roster faculty dedicated to these general education courses. For this reason it is essential that we continue to more fully institutionalize the issues/topic-based emphasis of this course. The modifications to the course descriptions place more emphasis on the use of contemporary biological topics and social/environmental issues to provide a context for learning underlying biological concepts and are meant to more accurately inform students and future instructors of the course emphasis and overarching goals.

The course description for the current Biol 101 and 102 courses refer to the courses as “lectures/discussions”, rather than “lectures”. This change more fully reinforces to both faculty and students that the course is meant to be a dialog, rather than solely a lecture, about fundamental biological concepts and their relation to contemporary biological questions and societal issues. Hence forth, this proposal will refer to the non-lab part of the course as a “lecture/discussion”.

The proposal also connects the lecture/discussion and lab sections of the course into one 4-hour course. Student grades in this single 4-hour course will be based both on lab and lecture/discussion grades. Students would still sign up for the lab and discussion separately, but they would simply count together as a 4-credit course, and 25% of the students’ final grade will be determined by lab assignments/ quizzes/exams.

The lack of connection between lab and “lecture” was a common comment made by students in focus-group interviews conducted in 2005. Connecting lab and discussion into a single course will encourage instructors to more fully connect or integrate concepts from both discussion and lab, and to more fully incorporate concepts discussed in the lab on their exams/quizzes/assignments. This relieves some of the burden of having to “quiz” students in labs that are already pressured for time. Offering lab as a separate course for only 1-credit course sends the message to students that lab requires less effort than the lecture/discussion and is “less” important, at least from a credit hour perspective, than the discussion part of the course.

6. Is this course to be added to the Degree Requirements of a Major, Minor, Concentration or List of Approved Electives?
   a) ☐ yes  ☑ no
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b) If yes, complete the Change Degree Requirements form(s) and list the name(s) of the major, minor, concentration and/or list of approved electives here:

[Blank]

7. Is the course part of any other degree or program? Please consult the most up to date undergraduate catalog and search for uses of the course to see who should be contacted. If yes, what department/program? Please contact the department chair/program director and request a note or email that they are aware of the proposed change and include that note with the proposal.

general education requirement+
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8. Signature of Department Chair or Program Director:

[Signature]

Date: 9/3/09

9. Signature of Dean of School:

[Signature]

Date: 9/9/09

10. Signature of Curriculum Committee Chair:

[Signature]

Date: 10/3/09

11. Signature of Faculty Senate Secretary:

________________________________________

Date Approved by Senate: ____________________

Completed form should be sent by the Faculty Senate Secretary to the Registrar. After implementation, information concerning the passed course and program changes will be provided by the Registrar to all faculty and staff on campus.