Agenda Item #16-59
Effective Spring 2017

Eastern Illinois University
New Course Proposal
BIO 1550G, General Biology II

Banner/Catalog Information (Coversheet)

1. X **New Course or ____ Revision of Existing Course**

2. **Course prefix and number:** BIO 1550G

3. **Short title:** General Biology II

4. **Long title:** General Biology II

5. **Hours per week:** 3 Class 3 Lab 4 Credit

6. **Terms:** X Fall X Spring ___ Summer ___ On demand

7. **Initial term**: ___ Fall X Spring ___ Summer Year: 2017

8. **Catalog course description:**

   The second in a two-course introduction series for students majoring or minoring in the Biological Sciences, with emphasis on taxonomic groups, form and function, and life history.

9. **Course attributes:**

   General education component: Scientific Awareness

   ___ Cultural diversity ___ Honors ___ Writing centered ___ Writing intensive ___Writing active

10. **Instructional delivery**
    Type of Course:

    X Lecture X Lab ___ Lecture/lab combined ___ Independent study/research

    ___ Internship ___ Performance ___ Practicum/clinical ___ Other, specify: _____

    Mode(s) of Delivery:

    X Face to Face ___ Online ___ Study Abroad

    ___ Hybrid, specify approximate amount of on-line and face-to-face instruction_____

11. Course(s) to be deleted from the catalog once this course is approved.

    NOTE: BIO 1200G and BIO 1300G will be gradually phased out as a result of this new course.

12. **Equivalent course(s):** None

    a. Are students allowed to take equivalent course(s) for credit? ___ Yes ___ No

13. **Prerequisite(s):** General Biology I (BIO 1500) - currently in proposal stage

    a. Can prerequisite be taken concurrently? ___ Yes X No

    b. Minimum grade required for the prerequisite course(s)? ___

c. Use Banner coding to enforce prerequisite course(s)? X Yes ___ No

d. Who may waive prerequisite(s)?

___ No one X Chair ___ Instructor ___ Advisor ___ Other (specify)

14. Co-requisite(s): None.

15. Enrollment restrictions

a. Degrees, colleges, majors, levels, classes which may take the course:

All, but it is intended for Biological Sciences majors and minors, as well as Chemistry majors (Biochemistry concentration).

b. Degrees, colleges, majors, levels, classes which may not take the course:

None.

16. Repeat status: X May not be repeated ___ May be repeated once with credit

17. Enter the limit, if any, on hours which may be applied to a major or minor: ___

18. Grading methods: X Standard ___ CR/NC __ Audit ___ ABC/NC

19. Special grading provisions:

___ Grade for course will not count in a student's grade point average.

___ Grade for course will not count in hours toward graduation.

X Grade for course will be removed from GPA if student already has credit for or is registered in:

both BIO 1200G and BIO 1300G

X Credit hours for course will be removed from student's hours toward graduation if student already has credit for or is registered in: both BIO 1200G and BIO 1300G

20. Additional costs to students:
Supplemental Materials or Software_____

Course Fee ___No X Yes, Explain if yes: This course has a significant laboratory component that requires additional fees to offset the costs of supplies and reagents.

21. Community college transfer:

X A community college course may be judged equivalent.

___ A community college may not be judged equivalent.

Note: Upper division credit (3000+) will not be granted for a community college course, even if the content is judged to be equivalent.

Rationale, Justifications, and Assurances (Part I)

1. _X_ Course is required for the major(s) of Biological Sciences, Chemistry (Biochemistry)

_X_ Course is required for the minor(s) of Biological Sciences

___ Course is required for the certificate program(s) of _____

___ Course is used as an elective

2. Rationale for proposal :

The proposed course is the second of a two-course introductory series intended for Biological Sciences majors and minors, as well as Chemistry majors with a Biochemistry concentration. Currently, the Department of Biological Sciences has a three-part introductory series (BIO 1100, BIO 1200G and BIO 1300G). A two-part series will allow more flexibility in the curriculum by reducing the core requirements. This proposed course (BIO 1550G) will effectively replace BIO 1200G and BIO1300G, while the complementary proposed course (General Biology I: BIO 1500) will effectively replace BIO 1100. Together, these two required introductory courses form a gateway for the remaining core and elective courses in the Department of Biological Sciences.

3. Justifications for (answer N/A if not applicable)

Similarity to other courses:

This course will eventually replace BIO 1200G (General Botany) and BIO 1300G (Animal Diversity). The content of the proposed course is similar to BIO 1200G and BIO 1300G; however, BIO 1200G and BIO 1300G will be phased out in favor of the proposed course.

Prerequisites:

This is the second of a two-part introductory series, which is why the first course (General Biology I: BIO 1500) is a prerequisite (see Part I.2 for more details).

Co-requisites:

There are no co-requisites for the proposed course.

Enrollment restrictions:

There are no enrollment restrictions for the proposed course. However, the course is intended for Biological Sciences majors and minors, as well as Chemistry majors with a Biochemistry concentration.

Writing active, intensive, centered:

N/A

4. General education assurances (answer N/A if not applicable)

General education component:

Scientific Awareness: This class will promote understanding of the life strategies and taxonomic diversity of eukaryotic organisms. Students will also improve their scientific literacy, and develop the capacity to understand their natural surroundings.

Curriculum:

Please see parts 3 and 8 of the model syllabus for learning objectives and their relation to the learning goals at EIU.

Instruction:

This course involves a classroom-based lecture three days a week (three hours total), as well as a 3 hour laboratory-based exercise each week. The learning goals and objectives of this course are explicitly explored during these face-to-face instruction periods.

Assessment:

Please see parts 3 and 8 of the model syllabus for learning objectives and their relation to the learning goals at EIU. Assessment will be in the form of exams, laboratory reports, and participation.

5. Online/Hybrid delivery justification & assurances (answer N/A if not applicable)

Online or hybrid delivery justification:

N/A

Instruction:

N/A

Integrity:

N/A

Interaction:

N/A

Model Syllabus (Part II)

Please include the following information:

1. **Course number and title:**

   BIO 1550G, General Biology II, 3-3-4

2. **Catalog description:**

   The second in a two-course introduction series for students majoring or minoring in the Biological Sciences, with emphasis on understanding the diversity of eukaryotic organisms.

3. **Learning objectives (Goals):**

   a. Recognize the taxonomic diversity of life within Domain Eukarya (CT-1 to CT-5, RC-1, RC-4)
   b. Understand life forms and survival strategies for plants, fungi, and animals (CT-1 to CT-5, RC-1, RC-4)
   c. Apply knowledge of eukaryotic taxonomy to identify and classify multicellular organisms (CT-1 to CT-5, WR-1 to WR-6, QR-1 to QR-6, RC-1, RC-4)
   d. Synthesize scientific reports based on existing literature and data (CT-1 to CT-6, WR-1 to WR-6, QR-1 to QR-6, RC-1, RC-4)

4. **Course materials:**

   Text: Campbell's Biology, 10th ed. Campbell et al., 2014. Pearson Education, Inc. ISBN: 1-269-86541-2.

   Lab Manual: Available for purchase from the Biological Sciences Graduate Student Association

   Learning Platform: D2L (https://www.eiu.edu/eiuonline) will be used to view grades, access PowerPoint lectures, and access lab material (data, images, etc.).

5. **Weekly outline of content:**

Week	Lecture	Lab
1	Endosymbiosis and the origin of Domain Eukarya	Observation of Protists
2	Algal ancestors of land plants and the origin of alternation of generations	Phaeophyta, Rhodophyta and Chlorophyta
3	How plants colonize land; haploid-dominant plants	Bryophytes
4	Evolution of diploid-dominant plant life cycles; seedless vascular plants	Lycophyta and Monilophytes
5	The evolution of seeds and pollen; early seed plants	Gymnosperms
6	The evolution of flowers and fruits; angiosperms	Angiosperms
7	Early fungi and the evolution of zygotic meiosis	Chytridiomycota and

		Zygomycota
8	The evolution of terrestrial fungi and their symbioses	Ascomycota, Basidiomycota and lichens
9	Origins of animals – multicellularity and complexity (tissues and organs, body symmetry): sponges and cnidaria	Sponges and cnidaria
10	Life histories and life cycles (protostome vs. deuterostome, body cavities): Platyhelminthes, rotifers and Lophophorates	Platyhelminthes, rotifers and Lophophorates
11	Lophotrochozoans: eucoelomate protostomes (Molluscs and Annelida)	Molluscs and annelids
12	Ecdysozoans (nematodes, arthropods)	Nematodes and arthropods
13	Evolution and development of body polarity and segmentation (deuterostomes and evo-devo)	Evolution and development
14	Echinoderms and Chordates	Echinoderms and chordates
15	Ecology and the biosphere	Quantifying diversity
16	Final Exam	

6. Assignments and evaluation, including weights for final course grade.

Lecture Exams (3)	45%
Final Exam	20%
Lab Exercises	30%
Class Participation	5%
Total	*100%*

7. Grading scale.

A = 90 to 100%, B = 80 to 89%, C = 70 to 79%, D = 60 to 69%, F < 60%.

8. Correlation of learning objectives to assignments and evaluation.

Learning Objectives	**Lecture Exams (65%)**	**Lab Quizzes/Reports (30%)**	**Class Participation (5%)**
Recognize the taxonomic diversity of life within Domain Eukarya (CT-1 to CT-5, RC-1, RC-4)	X	X	X
Understand life forms and survival strategies for plants, fungi, and animals (CT-1 to CT-5, RC-1, RC-4)	X	X	X
Apply knowledge of eukaryotic taxonomy to identify and classify multicellular organisms (CT-1 to CT-5, WR-1 to WR-6, QR-1 to QR-6, RC-1, RC-4)		X	X
Synthesize scientific reports based on existing literature and data		X	

(CT-1 to CT-6, WR-1 to WR-6, QR-1 to QR-6, RC-1, RC-4)			

Date approved by the department or school: 03/04/2016
Date approved by the college curriculum committee: 04/15/16
Date approved by the Honors Council ***(if this is an honors course):***
Date approved by CAA: 04/21/16 **CGS:** Not applicable