

**Eastern Illinois University**  
**New Course Proposal**  
**BIO 3003G, An Introduction to Evolution**

Agenda Item #10-71  
Effective Summer 2010

**Please check one:**      ☒ New course      ☐ Revised course

**PART I: CATALOG DESCRIPTION**

1. BIO 3003G
2. Introduction to Evolution
3. An Introduction to Evolution
4. 3-0-3
5. **Term(s) to be offered:** ☒ Fall      ☒ Spring      ☒ Summer      ☐ On demand
6. **Initial term of offering:** ☐ Fall      ☐ Spring      ☒ Summer      **Year:** 2010

**Course description (not to exceed four lines):**

Course is for EIU programs that are exclusively online or off-campus (technology delivered), or non-BIO majors (traditional delivery only). A survey of the history, evidence, mechanisms and implications of evolutionary theory. Topics covered include natural selection, fossil formation, Mendelian genetics, attitudes towards evolutionary theory, and evolution of Homo sapiens. This course does not count toward Biological Sciences major or minor.

**7. Registration restrictions:** None

**a. Identify any equivalent courses.** None

**b. Prerequisite(s):** None

**c. Who can waive the prerequisite(s)?**

☐ No one      ☐ Chair      ☐ Instructor      ☐ Advisor      ☐ Other (Please specify)

**d. Co-requisites** (course(s) which MUST be taken concurrently with this one): none

**e. Repeat status:**      ☒ Course may not be repeated.

☐ Course may be repeated to a maximum of \_\_\_\_\_ hours or \_\_\_\_\_ times.

**f. Degree, college, major(s), level, or class** to which registration in the course is **restricted**, if any:

Course is for EIU programs that are exclusively online or off-campus (technology delivered), or non-BIO majors (traditional delivery only). Credit for BIO3003G will not be granted if the student already has credit for or registration in BIO 4984.

**g. Degree, college, major(s), level, or class** to be excluded from the course, if any:

All Biological Science majors and minors.

**8. Special course attributes:** Biological Sciences component of the Scientific Awareness segment of General Education

**9. Grading methods** (check all that apply): ☒ Standard letter      ☐ C/NC      ☐ Audit      ☐ ABC/NC

**10. Instructional delivery method:** ☒ lecture ☐ lab ☐ lecture/lab combined ☐ independent study/research  
☐ internship ☐ performance ☐ practicum or clinical ☐ study abroad ☒ other

## PART II: ASSURANCE OF STUDENT LEARNING

### 1. List the student learning objectives of this course:

a. If this is a general education course, indicate which objectives are designed to help students achieve one or more of the following goals of general education and university-wide assessment:

- EIU graduates will write and speak effectively.
- EIU graduates will think critically.
- EIU graduates will function as responsible citizens.

Students will:

- Analyze the process of biological evolution, including its influence on everyday life. (citizenship)
- List and apply the basic characteristics of scientific inquiry (critical thinking)
- Apply critical thinking and their newfound scientific knowledge base to evaluate issues in the news and product claims in ads, so that they may become better informed citizens and consumers. (critical thinking, citizenship)
- Convey their opinions based on a firm understanding of the subject matter through various writing assignments (effective writing)
- Identify the origin and extent of biological diversity of life, including humans (diversity)
- Participate in class discussions and/or present oral presentations, and group projects to practice effective speaking skills. (effective speaking)
- Evaluate literature and synthesize information gleaned from the literature into a term paper on an aspect of evolution (topics ranging from adaptive radiations to homosexuality in animals), (critical thinking)

### 2. Identify the assignments/activities the instructor will use to determine how well students attained the learning objectives:

- Four exams (3 midterms + 1 final), class participation (assigned discussions, either online or in-class), term paper and other assignments will be used to determine the students' grades for the course.
- Term paper will be based on research of the current literature and evaluated using the Writing Across the Curriculum (EWP) rubric.
- Exams will have a writing component.

	(55%) <b>Exams</b> (3 midterm exams + 1 final)	(30%) <b>Course participation</b> (Assigned in-class discussions or online posts/live chats)	(15%) <b>Term paper</b> (Based on literature research)
Analyze the process of biological evolution, including its influence on everyday life. (citizenship)	X	X	X
List and apply the basic characteristics of scientific inquiry (critical thinking)	X	X	X

Apply critical thinking and their newfound scientific knowledge base to evaluate issues in the news and product claims in ads, so that they may become better informed citizens and consumers. (critical thinking, citizenship)	X	X	X
Convey their opinions based on a firm understanding of the subject matter through various writing assignments (effective writing)	X	X	X
Identify the origin and extent of biological diversity of life, including humans (diversity)	X	X	X
Participate in class discussions and/or present oral presentations, and group projects to practice effective speaking skills. (effective speaking)		X	
Evaluate literature and synthesize information gleaned from the literature into a term paper on an aspect of evolution (topics ranging from adaptive radiations to homosexuality in animals), (critical thinking)		X (article summaries)	X

### 3. Explain how the instructor will determine students' grades for the course:

- The instructor will determine the grades based on a standard letter grade; A 100%-90%, B 89%-80%, C 79%-70%, D 69%-60%, F <60%
- Each of the three semester exams will be worth 75 points, the final exam will be worth 105 points. The discussions (online, written posts or in-class conversations) will be worth 180 points. The term paper will be worth 90 points. Additional assignments or presentations may be made.
- For technology delivered courses, participation in online discussions or other online activities may be required and will contribute to the overall grade.

**4. For technology-delivered and other nontraditional-delivered courses/sections, address the following:**

- **Describe how the format/technology will be used to support and assess students' achievement of the specified learning objectives:**

Technology delivered sections will only be offered to BGS majors.

For technology delivered sections lectures and course interactions will be accomplished via WebCT and Elluminate. Both PowerPoint lectures and Elluminate interactions will be made available as podcasts online. Students will have the ability to email the instructor or contact the instructor during online discussions or office hours with the chat function of WebCT and Elluminate. Additional material, including supplements to the textbook, will be referenced on the class web site. Students will be assessed through examinations delivered via WebCT. Online discussions will also be created and moderated by the instructor who will guide discussions and provide discussion material.

- **Describe how the integrity of student work will be assured:**

Exams will be given using WebCT. Exams administered via WebCT will use random question banks with scrambled questions and answers under a predetermined time limit in order to maintain integrity.

Collusion by students while taking an exam can occur with online exams given to traditional students. Since the General Studies students are non-traditional students spread across the region, and in some cases the country, it is very unlikely that they will congregate in a computer lab to attempt to cheat in concert with one another.

- **Describe provisions for and requirements of instructor-student and student-student interaction, including the kinds of technologies that will be used to support the interaction (e.g., e-mail, web-based discussions, computer conferences, etc.):**

Any instructors of technology delivered sections must submit proof of having completed the EIU Online Learning Modules, Online Course Development Institute (OCDI), or another documented and equivalent training activity before teaching the sections for the first time.

### **PART III: OUTLINE OF THE COURSE**

**Provide a week-by-week outline of the course's content. Specify units of time (e.g., for a 3-0-3 course, 45 fifty-minute class periods over 15 weeks) for each major topic in the outline. Provide clear and sufficient details about content and procedures so that possible questions of overlap with other courses can be addressed. For technology-delivered or other nontraditional-delivered courses/sections, explain how the course content "units" are sufficiently equivalent to the traditional on-campus semester hour units of time described above.**

<b>Week</b>	<b>Lecture Topics</b>	
1	History of Evolution, What is Science?	
2	Fossils in context	
3	Heredity	
4	Emergence of Life	
5	Diversity of Life	<b>Exam 1</b>
6	Evidence of Evolution	
7	Natural Selection - Evolution in American Society	
8	Origins of Variation	
9	Speciation	<b>Exam 2</b>
10	Co-evolution	
11	Life History Strategies	
12	Life in Groups	
13	Extinctions	<b>Exam 3</b>

14	Human Evolution: Early Hominids
15	Human Evolution: Modern Humans
16	<b>Final Exam</b> (cumulative)

**Term Paper Due**

## **PART IV: PURPOSE AND NEED**

### **1. Explain the department's rationale for developing and proposing the course.**

- a. If this is a general education course, you also must indicate the segment of the general education program into which it will be placed, and describe how the course meets the requirements of that segment.**

BIO 3003G fulfills the biological sciences component of the Scientific Awareness segment of the General Education Core. It is taught by faculty within the Biological Sciences Department and introduces students to biological concepts and issues.

- b. If the course or some sections of the course may be technology delivered, explain why.**

Some sections will be technology delivered to serve Eastern Illinois University's growing segment of non-traditional students whose scheduling is aided by the option of technology delivered courses.

### **2. Justify the level of the course and any course prerequisites, co-requisites, or registration restrictions.**

Bio 3003G is a rigorous introduction to complex theories equivalent to concepts of this level.

### **3. If the course is similar to an existing course or courses, justify its development and offering.**

- a. If the contents substantially duplicate those of an existing course, the new proposal should be discussed with the appropriate chairpersons, deans, or curriculum committees and their responses noted in the proposal.**

BIO 4984 (Organic Evolution) is a major's course that requires three BIO courses as prerequisites; it is not suitable for General Studies students or non-majors.

- b. Cite course(s) to be deleted if the new course is approved. If no deletions are planned, note the exceptional need to be met or the curricular gap to be filled.**

Biological evolution is perhaps the best supported of major scientific theories, and yet it is largely misunderstood, even by many who acknowledge its occurrence. We believe it is important to give non-majors curious about this powerful and unifying theory of biology the opportunity to gain an understanding of it.

### **4. Impact on Program(s):**

- a. For undergraduate programs, specify whether this course will be required for a major or minor or used as an approved elective.** The online version of BIO 3003G is designed for General Studies majors. This course satisfies the General Studies (BGS) requirement for graduation of an upper division science course. The traditional format of BIO 3003G is designed to satisfy the Scientific Awareness General Education requirement for non-biology majors on campus.
- b. For graduate programs, specify whether this course will be a core requirement for all candidates in a degree or certificate program or an approved elective.**

**If the proposed course changes a major, minor, or certificate program in or outside of the department, you must submit a separate proposal requesting that change along with the course proposal. Provide a copy of the existing program in the current catalog with the requested changes noted.**

## **PART V: IMPLEMENTATION**

- 1. Faculty member(s) to whom the course may be assigned:** Any qualified member of the Biological Sciences Department.
- 2. Additional costs to students:** None
  - **Include those for supplemental packets, hardware/software, or any other additional instructional, technical, or technological requirements. (Course fees must be approved by the President's Council.)**
- 3. Text and supplementary materials to be used (Include publication dates):**
  - An Introduction to Biological Evolution (2<sup>nd</sup> Ed.), 2009
  - Other texts and online content may be required.

## **PART VI: COMMUNITY COLLEGE TRANSFER**

A community college course may not be judged equivalent to this course.

## **PART VII: APPROVALS**

**Date approved by the department or school: 04/06/2010**

**Date approved by the college curriculum committee: April 9, 2010**

**Date approved by CAA: April 22, 2010**

\*In **writing-active courses**, frequent, brief writing activities and assignments are required. Such activities -- some of which are to be graded -- might include five-minute in-class writing assignments, journal keeping, lab reports, essay examinations, short papers, longer papers, or a variety of other writing-to-learn activities of the instructor's invention. Writing assignments and activities in writing-active courses are designed primarily to assist students in mastering course content, secondarily to strengthen students' writing skills. In **writing-intensive courses**, several writing assignments and writing activities are required. These assignments and activities, which are to be spread over the course of the semester, serve the dual purpose of strengthening writing skills and deepening understanding of course content. At least one writing assignment is to be revised by the student after it has been read and commented on by the instructor. In writing-intensive courses, students' writing should constitute no less than 35% of the final course grade. In **writing-centered courses** (English 1001G, English 1002G, and their honors equivalents), students learn the principles and the process of writing in all of its stages, from inception to completion. The quality of students' writing is the principal determinant of the course grade. The minimum writing requirement is 20 pages (5,000 words).

## Student Success Center

<http://www.eiu.edu/~success/>

**581-6696**



<http://www.eiu.edu/~counsctr/>

**581-3413**

## Career Services

<http://www.eiu.edu/~careers/>

**581-2412**

## Disability Services

<http://www.eiu.edu/~disablt/>

**581-6583**