

EEB/ANTH 305 – Evolution and Society – Fall 2015

Course Description

This course developed from our experiences as science educators attempting to accurately present scientific material in a social climate that is often skeptical of science and hostile to the concept of evolution. The goal of this course is to expose students to critical thinking about what science is and is not; the development of evolutionary biology and hostility toward it; and current topics in biology with an evolutionary aspect.

The course will use a combination of lecture, writing activities, and team discussion to address these issues, and research papers and oral presentations will be used by students to demonstrate their understanding of the nature of science, the field of evolutionary biology, and their roles and relevance in contemporary U.S. culture.

Instructors: Dr. Gary McCracken, gmccrack@utk.edu, 974-6194. 538 Hesler Biology.
Office Hours: T 9:00-10:00 AM & by appointment.

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Office Hours: by appointment

Course meeting time & place: Tuesday / Thursday 2:10-3:25 p.m.; 488 Dabney Hall.

Required reading: - Papers & book chapters as assigned; available on Blackboard.
There is no assigned textbook for this course.

Course Learning Objectives:

Further develop student understanding of and ability to conduct and present research answering well defined and delineated questions while, simultaneously deepening their understanding of the nature of science in general and biological evolution in particular. Specific objectives include

- 1) Discuss scientific epistemology: what scientific knowledge is, how scientific knowledge is developed and differs from non-scientific modes of inquiry.
- 2) Appreciate science as a dynamic human enterprise and explain how scientific knowledge is both durable and always subject to revision.
- 3) Distinguish between scientific and non-scientific explanatory schema including:
 - a) Identify, analyze, and critique pseudoscientific explanations of natural phenomena.
 - b) Address commonly made assertions that evolutionary biology is unscientific, incomplete, unable to make predictions, and is socially and culturally harmful.
- 4) Outline the development of evolutionary thought, and summarize current understanding of evolutionary insights on topics such as cooperation, morality,

aging, and eugenics.

5) Explain how misunderstanding and misuse of scientific and evolutionary ideas can develop and persist in US culture including:

a) Outline the evolution of opposition to the teaching of evolution in the US.

b) Describe how the strategies of opposition have changed in the context of legal decisions and changes in society.

6) Evaluate the quality of a given source, peer reviewed journal, magazine, or blog, and the reliability of the evidence presented therein.

Expectations:

Students are expected to master the materials presented in lecture and assigned reading to the point at which they can analyze, integrate, and synthesize information related to nature of evolution and its role in U.S. culture. In order to reach this goal it is crucial that students (a) read the assigned material before class, (b) complete assigned homework activities before class, (c) attend and actively participate in all class sessions, and (d) seek help when needed through the online discussion board.

Assessment/Grading:

Class participation (45% of your grade): Contribution to class discussion is central to your role in this class. To stimulate this activity, you are to develop and submit to the instructors at least two (2) email questions before each class dialogue, based upon previous relevant discussions and the reading(s) assigned for the upcoming class meeting. During class discussions you will be expected to clearly articulate your point(s) of view and to engage your classmates (and instructor(s)) in the dialogue.

Writing Assignments (40% of your grade): There will be three (3) writing assignments worth 40 points each whose due dates are:

- 1) Thursday, Oct 1. Topic – The science of evolution. Example topics: age of the earth; the evolution of human intelligence; rates of evolution
- 2) Thursday, Oct 29; Topic – critique of an anti-evolutionary argument. Example topics: defending “academic freedom”; the 2nd law of thermodynamics; intelligent design; flood geology
- 3) Tuesday, Dec 1; Topic – evolution & society
example topics: evolution in public schools; misuse of evolutionary ideas; variation in denominational acceptance of evolution

Each essay is to be 3 or 4 pages in length (no more than 1000 words), double-spaced, 12-point font, 1 inch margins. The essays should involve your critical synthesis of a topic

that concerns issues in the areas, above, that are relevant to the material in this course.

Topics for essays should be cleared with the instructor, before you prepare the essay. It is expected that you will read literature outside of the assigned course materials and appropriately cite those materials (peer-reviewed articles, essays, websites, etc.).

Group Projects (15% of your grade): More details on this will follow. Group Project work will take place during the final week of class (Nov 24, Dec 1) and during the final exam period (Dec 9, 2:45-4:45 pm).

Rubrics: Performance will be assessed by the criteria described in rubrics that define expectations for class participation, writing assignments, and group projects.

Disability Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact one of the instructors privately to discuss your specific needs. Please contact the Office of Disability Services at 865-974-6087 in Hoskins Library to coordinate reasonable accommodations for students with documented disabilities. Their website is <<http://ods.utk.edu>>.

Student Success Center: <http://studentsuccess.tennessee.edu>

Connections Package: EEB/Anthropology 305 is part of the Connections Package "Biodiversity and Humans" in the College of Arts and Sciences curriculum (see: <http://artsci.utk.edu/wp-content/uploads/2012/07/2015-16-Curriculum-Guide.pdf> for a complete guide to the A&S curriculum). The material studied in this course will help us understand how biodiversity is explored, documented, and conceptualized by humans; and how the existence of biodiversity and changes in biodiversity can affect human society.

A note about academic honesty – applies to all work (Hilltopics)

The Honor Statement

An essential feature of the University of Tennessee is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.

Plagiarism is using the intellectual property or product of someone else without giving proper credit. The undocumented use of someone else's words or ideas in any medium of communication (unless such information is recognized as common knowledge) is a serious offense, subject to disciplinary action that may include failure in a course and/or dismissal from the university.