

General Education Course Information Sheet
Please submit this sheet for each proposed course

Department & Course Number Ecology & Evolutionary Biology 98T
Course Title Current Debates in Evolution

1 Check the recommended GE foundation area(s) and subgroups(s) for this course

Foundations of the Arts and Humanities

- Literary and Cultural Analysis _____
- Philosophic and Linguistic Analysis _____
- Visual and Performance Arts Analysis and Practice _____

Foundations of Society and Culture

- Historical Analysis _____
- Social Analysis _____

Foundations of Scientific Inquiry

- Physical Science _____
With Laboratory or Demonstration Component must be 5 units (or more)
- Life Science _____ **X** _____
With Laboratory or Demonstration Component must be 5 units (or more)

2. Briefly describe the rationale for assignment to foundation area(s) and subgroup(s) chosen.

This course provides background in a number of general life science topics, including biological evolution, genetics, and developmental biology.

3. List faculty member(s) and teaching fellow who will serve as instructor (give academic rank):
David Gold, teaching fellow and Professor David Jacobs, faculty mentor

4. Indicate what quarter you plan to teach this course:

2010-2011 Winter _____ Spring X _____

5. GE Course units 5

6. Please present concise arguments for the GE principles applicable to this course.

General Knowledge This course will provide a broad background in a number of scientific fields (see question 2), and encourages students to apply this knowledge to questions where science and social problems intersect.

Integrative Learning Students will have to utilize scientific theories to better understand non-scientific questions, such as philosophical, moral, and social issues.

□ Ethical Implications

The syllabus includes one class session devoted to evolutionary hypotheses of human nature (week 9), and a second devoted to the interaction between scientific and religious ideas (week 10).

□ Cultural Diversity

The class on evolution and human nature (week 9) will include arguments that theories of human "nature" are largely biased by the race and gender of the scientist. Alternate theories by women and minorities will be considered.

□ Critical Thinking

The second half of the quarter will be devoted to arguments grounded in evolutionary theory. Students will be presented with multiple sides of each issue, and will be required to actively debate in class.

□ Rhetorical Effectiveness

Rhetorical effectiveness will be tested during class discussions, and will be a major grading focus of the term paper.

□ Problem-solving

The term papers will require extensive references. Acquiring appropriate sources will be a central theme, with an emphasis on differentiating between peer-reviewed and popular scientific writing.

□ Library & Information Literacy

The term paper will require that students use both digital sources (e.g. Web of Science, JSTOR) as well as older, traditional papers which are harder to acquire digitally.

(A) STUDENT CONTACT PER WEEK

1. Seminar:	3	(hours)
(A) TOTAL student contact per week	3	(HOURS)

(B) OUT-OF-CLASS HOURS PER WEEK (if not applicable write N/A)

1. General Review & Preparation:	_____	(hours)
2. Reading	5	(hours)
3. Group Projects:	_____	(hours)
4. Preparation for Quizzes & Exams:	_____	(hours)
5. Information Literacy Exercises:	_____	(hours)
6. Written Assignments:	2	(hours)
7. Research Activity:	5	(hours)
(B) TOTAL Out-of-class time per week	12	(HOURS)

GRAND TOTAL (A) + (B) must equal 15 hours/week _____ 15 _____

98T: CURRENT DEBATES IN EVOLUTIONARY THOUGHT

David A. Gold (dagold@ucla.edu)

Does evolution encourage organisms to become more complex over time? How about smarter? Can the patterns of evolution tell us anything about life on other planets, or about the existence of God? This course will provide students with the background necessary to tackle these questions both scientifically and philosophically.

The course will introduce students to basic concepts of evolutionary biology, with an emphasis on macroevolutionary processes. Students will gain an appreciation for the diversity of life, and how that diversity has changed over geologic time. The bulk of the class will focus on specific topics that people have claimed at one time or another are causally linked to evolution, including complexity, intelligence, and morality. By this point, students will be equipped to debate such questions intelligently.

COURSE OBJECTIVES: Students will learn how scientists find patterns within evolution, and how to interpret those patterns through a neo-Darwinian framework. Students will gain the problem-solving skills necessary to critically judge claims of evolutionary trends. This will be done by teaching students how to find, evaluate, and reference scientific literature. Finally, students will build rhetorical effectiveness in speaking and writing like a scientist.

GRADING: Each week will cover several topics within a single theme. There will be a reading assignment given each week. Students will be required to answer several questions about the readings and must turn them in at the beginning of class. These questions are worth 10% of the final grade. While grades will not be given for showing up to class, being an active member of the discussion will account for 15% of the final grade. Because class is only once a week, **you will be dropped from the class if you miss more than two lectures.**

The focus of the class will be a 15-18 page term paper that argues for one side of a position (e.g. “evolution tends to increase animal complexity over time”). I will offer possible topics on week two, which students will be able to choose from. Students can also choose their own topic pending approval. The first draft is due week four. We will find a time during week five to go over drafts individually, and this will account for 10% of the grade. Second drafts are due week seven. They will be swapped with students who are writing about the same problem from the opposite perspective; if such a student does not exist I will offer my own counterpoints to your argument. The purpose of receiving this paper is not to correct it, but to incorporate their arguments into a 1-page rebuttal (included in the 18 page limit) at the end of your term paper. Final papers are due week 10; 50% of the grade will come from your arguments formed in draft 1 and 2, while 25% will be based on your rebuttal of your opponents ideas:

Discussion: 25%

First Draft: 10%

Final Draft: 65%:

Argument: 50%

Rebuttal: 15%

Week 1: A Very Brief History of Life

Topics: Overview of animal phyla, Constructing phylogenies, Geological time, diversity versus disparity

Discussion: Activity- reconstructing the animal tree

Trip (Tentative): We will visit Dr. Bruce Runnegar of the Earth and Space Science department; he will exhibit fossils of the world's oldest animals.

Week 2: A Less Brief History of Evolutionary Thought

Topics: Precursors to Darwin, Darwinian evolution, the modern synthesis, punctuated equilibrium, group selection, the extended evolutionary synthesis

Discussion: Is natural selection sufficient to explain life?

Writing Assignment- Students choose one side of a question.

Week 3: Evolution and Novelty

Topics: Convergent/parallel evolution, evolutionary developmental biology

Discussion: How do novel, complex features arise during evolution?

Week 4: Evolution and Complexity

Topics: Genomic complexity, left wall

Discussion: How do you define complexity? Does complexity increase over time?

First Draft Due: Schedule meetings for week 5 to go over drafts individually

Week 5: Evolution and the Human Body

Topics: Human evolution, physical anthropology

Discussion: Why are humans so physically different from other animals?

Week 6: Evolution and Intelligence 1

Topics: Diversity of intelligent systems, including social insects, cephalopods, birds, and cetaceans

Discussion: How do we define intelligence? Does intelligence increase over time?

Week 7: Evolution and Intelligence 2

Topics: Human cognition, human evolution

Discussion: Is human intelligence distinct from other animals? Does human-like intelligence exist on other planets?

Second Draft Due: Drafts are swapped with the person writing the other side of the argument. Students have to include a rebuttal in their final papers.

Week 8: Evolution and Sex/Sexuality

Topics: sociobiology, evolutionary psychology, homosexuality, the female orgasm

Discussion: Is evolution sufficient to explain the sexual preferences of humans?

Week 9: Evolution and Morality

Topics: Kin selection, altruism, the moral zeitgeist

Discussion: Is human morality derived from natural selection?

Week 10: Evolution and Religion

Topics: Intelligent design, the conflict thesis,

Discussion: Can science and religion coexist? Was religion crucial to the development of science? Would patterns in evolution give support to the existence of God?

Turn in final papers.

READING SCHEDULE

Week 1: Endless Forms Most Beautiful: Connecting the Diversity of Life

No reading assignment due week 1.

Week 2: Three Billion Years in Half an Hour/ How to write like a Scientist

Selected readings from “On the Origin of Species” by Charles Darwin

Week 3: Darwin is Dead! Long Live Darwin!: Evolution after the Modern Synthesis

Jablonka and Lamb. (2008) The Epigenome in Evolution: Beyond the Modern Synthesis.

Koonin, E.V. (2009). Towards a postmodern synthesis of evolutionary biology.

Week 4: On Growth and Form: The Theory of Transformation

Selected readings from “On Growth and Form” by Darcy Thompson.

Week 5: Lopsided Trees: The Diversity of Diversity

Week 6: Do Reptiles have Genes for Feathers?: Evolution and Novelty

Selected readings from “The Making of the Fittest” by Sean Carroll.

Week 7: Evolution and Complexity

Gould, S.J. (October 1994) “The Evolution of Life on Earth”. Scientific American.

Week 8: Telepathic dolphins and tool-wielding octopi: Evolution and Intelligence I

Week 9: The Planet of the Apes Hypothesis: Evolution and Intelligence II

Ayala, F.J. (2008) Three Problems in Human Evolution. In “The Philosophy of Biology” ed. Ruse.

Week 10: Blind Watchmakers and Divine Creators: Evolution, Morality, and Religion

Selected readings from “The Blind Watchmaker” by Richard Dawkins, “Deeper than Darwin” by Haught, and “The Problem of Creation” by Rabbi X.



New Course Proposal

	Ecology and Evolutionary Biology 98T			
	Current Debates in Evolution			
Course Number	Ecology and Evolutionary Biology 98T			
Title	Current Debates in Evolution			
Short Title				
Units	Fixed: 5			
Grading Basis	Letter grade only			
Instructional Format	Seminar - 3 hours per week			
TIE Code	SEMT - Seminar (Topical) [T]			
GE Requirement	Yes			
Major or Minor Requirement	No			
Requisites	Satisfaction of entry-level Writing requirement. Freshmen & sophomores preferred.			
Course Description	The course will introduce students to basic concepts of evolutionary biology, with an emphasis on macroevolutionary processes. Students will gain an appreciation for the diversity of life, and how that diversity has changed over geologic time.			
Justification	Part of the series of seminars offered through the Collegium of University Teaching Fellows.			
Syllabus	File EEB 98T syllabus.doc was previously uploaded. You may view the file by clicking on the file name.			
Supplemental Information	Professor David Jacobs is the faculty mentor for this seminar.			
Grading Structure	Discussion: 25% First Draft: 10% Final Draft: 65%: Argument: 50% & Rebuttal: 15%			
Effective Date	Spring 2011			
Discontinue Date	Summer 1 2011			
Instructor	Name	Title		
	David Gold	Teaching Fellow		
Quarters Taught	Fall	Winter	Spring	Summer
Department	Ecology and Evolutionary Biology			
Contact	Name	E-mail		
	CATHERINE GENTILE	cgentile@oid.ucla.edu		
Routing Help				

ROUTING STATUS

Role: Registrar's Scheduling Office

Status: Pending Action

Role:	FEC School Coordinator - Soh, Michael Young (msoh@college.ucla.edu) - 45040
Status:	Returned for Additional Info on 10/13/2010 3:43:47 PM
Changes:	No Changes Made
Comments:	Routing to Registrar's Office

Role:	FEC Chair or Designee - Knapp, Raymond L (knapp@humnet.ucla.edu) - 62278
Status:	Approved on 10/13/2010 3:43:13 PM
Changes:	No Changes Made
Comments:	No Comments

Role:	L&S FEC Coordinator - Soh, Michael Young (msoh@college.ucla.edu) - 45040
Status:	Returned for Additional Info on 10/6/2010 4:22:44 PM
Changes:	No Changes Made
Comments:	Routing to FEC Chair Ray Knapp for approval

Role:	Dean College/School or Designee - Skrupa, Julie A. (jskrupa@college.ucla.edu)
Status:	Approved on 10/6/2010 11:50:54 AM
Changes:	No Changes Made
Comments:	Dean of Life Sciences, Victoria Sork, approved this course with no changes to be made. Thank you, Julie Skrupa

Role:	L&S FEC Coordinator - Soh, Michael Young (msoh@college.ucla.edu) - 45040
Status:	Returned for Additional Info on 8/25/2010 11:02:49 AM
Changes:	No Changes Made
Comments:	Routing to Julie Skrupa on behalf of Dean Sork

Role:	CUTF Coordinator - Gentile, Catherine (cgentile@oid.ucla.edu) - 68998
Status:	Approved on 6/30/2010 10:46:21 AM
Changes:	Grading Structure
Comments:	on behalf of Professor Kathleen L. Komar, chair, Collegium of University Teaching Fellows

Role:	Initiator/Submitter - Gentile, Catherine (cgentile@oid.ucla.edu) - 68998
Status:	Submitted on 6/30/2010 10:45:14 AM
Comments:	Initiated a New Course Proposal

[Back to Course List](#)

[Main Menu](#) [Inventory](#) [Reports](#) [Help](#) [Exit](#)
[Registrar's Office](#) [MyUCLA](#) [SRWeb](#)

Comments or questions? Contact the Registrar's Office at
cims@registrar.ucla.edu or (310) 206-7045