Program in Ecology, Evolution and Conservation Biology, University of Nevada, Reno

Principles of Evolutionary Biology

EECB 752-1003
Spring semester, 2013

Instructor information

Instructor:	Dr. Guy Hoelzer
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Course information

Call number / code:	31355	
Credits:	2	
Title:	Principles of Evolutionary Biology	
Meeting time / room:	Thursdays 1–3 PM / Palmer Engineering (PE), room 205	
Description:	This graduate discussion seminar will explore foundational and influential literature that has fashioned the field of evolutionary biology. The main modules will be (i) components of evolving systems, (ii) environmental influences on evolution, (iii) evolution in space, (iv) evolutionary history, and (v) experimental evolution.	
Format:	Weekly meetings will consist of group discussions.	
Text:	No required text	
Assessment:	Participation:	60%
	Discussion synopsis:	20%
	Annotations:	20%
Grading scale:	A	≥ 92%
	A-	< 92 ≥ 90%
	B+	< 90 ≥ 88%
	B	< 88 ≥ 82%
	B-	< 82 ≥ 80%
	C+	< 80 ≥ 78%
	C	< 78 ≥ 72%
		< 72%

Alvarez, et al. (1980). "Extraterrestrial cause for the Cretaceous–Tertiary extinction". *Science* **208** (4448): 1095–1108

Assessment

Participation: The seminar format will be that of any standard discussion. This means that success of the class (group) is contingent upon each student (individual) coming prepared and eager to engage. To be explicit, being prepared means not only reading, but also fully understanding the reading to the extent that if called upon, one could recall the conceptual foundation, objectives, methodology, significant results, and implications of the paper in addition to stating one's own analysis of the strengths, weaknesses, and higher-level analogies (e.g., relating concepts to other areas of basic and applied science).

Of the papers that we read each week, at least one will be read class-wide (global reading), and supplemental papers will be assigned to individuals or groups (individual readings). A class-wide paper will attempt to ground the day's topic in the boarder scope and foundation of evolutionary biology, while the supplemental papers will add breadth to the topic.

The quality and the quantity of participation will be taken into account. That is, we encourage you to speak, but both chattering and lethargic attitudes are unwelcome. Also, an egalitarian approach is encouraged to better facilitate exchange of ideas. We are uninterested in group members dominating discussion. If you are one that tends to monopolize discussion, try to engage others, as this is—at least—as important as the matter at hand and is a skill that is greatly underrated and can really boost the level of discussion. If you are one that does not participate, please realize that your input is important to all of us! We are all intelligent and insightful, and engagement and input by all is how we will better understand the topic.

OK, good cop: let's just have fun learning, which is presumably why we are all here. Having a fun time playing ideological ping-pong (not dodge ball) with each other will only harbour growth and learning. Evolutionary biology can be an abstract, conceptual, theoretical, understudied idea that lends itself greatly to creative and alternative views and approaches. In addition, evolutionary biology is a very applied topic; take, for instance, Darwinian or Hamiltonian medicine, pesticide application, and the like.

Synopsis: One individual will be assigned to write a synopsis of the each meeting. The purpose of this assignment is to summarize the main points of the discussion, similar to a court opinion. This will be an invaluable resource when later reflecting upon the class. This also supports the devolvement of an individual so the remainder of the group can benefit by not worrying so much about taking notes. The synopsis should be 0.5–1 page, and will be posted on the course website.

Annotations: For each paper read for this class an annotation will be written. An annotation is a summary and evaluation of a work. Most weeks we will have two: the global reading and individual reading. Both annotations are to be turned in through your Dropbox folder with the following format "Week[#][Last name of author][year].doc(x)" (example: Week3Darwin1859.docx). An example with a template is available on the course website.

Schedule (by week)

WEEK	Example topics
1. Organizational meeting / course overview	
2. Components for evolution	origins of life, autocatalysis
3. Drift	Stochasticity
4. Selection	Determinism, adaptation
5. Development and plasticity	G X E interactions
6. Divergence	Speciation and compatibility
7. Hybridization	Compatibility, cohesion
8. Interspecific reciprocal evolution	Traditional "coevolution"
9. Intraspecific reciprocal evolution	Within compatible lineage coevolution
10. Hierarchical evolution	Scales and levels of evolution
11. Space	Population genetics, phylogeographic patterns
12. History	Tempo and mode of evolution, macroevolution
13. Experimental evolution	Richard Lenski, *Drosophila*, *Arabidopsis*

Rules, regulations, and what to do when things go wrong (i.e. the fine print)

If in doubt:	ASK !!! Guy, Josh, or Chris are happy to answer questions at any time.
What do I do if I'm sick?	If you feel that illness, injury, bereavement or other critical circumstances have prevented you from completing an item of assessment on time, or have affected your performance in a test or exam, you should see Guy and bring along evidence of the circumstances. In the case of illness or injury, a medical certificate from your doctor is the usual evidence of the circumstance.
What do I do if I have to miss something?	In rare cases you may not be able to sit a test or exam because of involvement in representative sport or cultural groups. In such cases see Guy, and a course of action (usually the sitting of an equivalent test or exam at a different time) will be arranged. This should be done well in advance of the set date for the missed assignment.
As a consumer of knowledge, the university has empowered me and demanded on my behalf that professors provide learning outcomes so I may preemptively evaluate the course against others. Where is that information?	No words could to begin to describe how this course will blow your mind. We will revel in the absurd, travel to the ends of theoretical limits, gloat in the abstract, exhume and terrorize all so-called principles of evolutionary biology.
What do I do if I have a disability?	The Disability Resource Center provides support for students with verified disabilities. The DRC support may include alternative testing, extra time, readers, note-takers, interpreters, etc. If you require the service of the DRC, contact them at Thompson building room 101 or on (775) 784-6044, and notify Guy of the special circumstances and the DRC's recommendations for support.
Academic dishonesty:	The University has a very clear policy on academic dishonesty that is set out in the course catalog. It is important that all students are aware that plagiarism, including buying essays, is considered a very serious offence by the Academic community, the University, the College and the Biology Department. Plagiarism includes re-use of previous assignments or the unreferenced use of published material or material from the internet. If you are in any doubt about appropriate use of published material, please speak with Guy or any other member of faculty. Likewise, any form of cheating, such as copying the work of another student (with or without that student's knowledge) or taking proscribed materials into tests or exams, will not be tolerated. Where there is clear evidence of such academic dishonesty (plagiarism or cheating), a student will receive a failing grade in the course.
Where do I hand in assignments?	Annotations are to be turned in to Dropbox before class. Synposes are to be emailed to Guy within one week of the discussion.

What if I can't get it finished in time?	Reports and assignments should be handed in on time, whenever possible. Extensions may be granted under reasonable circumstances. If an extension is required, you should request one, from Guy, with as much notice as possible. Please do this BEFORE the deadline for the assignment. In order to be fair on those that have handed the work in on time, work that is handed in late without explanation or prior arrangement will not be marked.
How can I get help with basic study skills?	Writing: Most courses at University require written assignments, tests and exams. If you feel challenged in meeting the required writing standard, contact the UNR Writing Center at E.J. Cain Hall room 206 or on (775) 784-6030. Math: This course, like many courses in the sciences, requires some familiarity with basic arithmetic, algebra, statistics, and graphing. If you need additional help, contact the UNR Mathematics Center at Ansari Business building room 639 or on (775) 784-4433.
What's the best way to give feedback?	Guy welcomes constructive feedback at all times—help him to make this a valuable course for you. He endeavours to remain approachable at all times. If you feel uncomfortable about approaching him directly, ask a classmate or friend to act as an intermediary.
What's the best way to complain?	If you feel you have not been fairly treated during this course, please raise the issue with Guy in the first instance. If you do not receive satisfaction from Guy, you should speak with the Biology Department Departmental Chair (Professor David Zeh).
How do I get more information on student support and services?	There is a whole lot more information on all services at the following webpage: http://www.unr.edu/content/students.asp