

Tentative Syllabus: BIOE 109, Evolution (Summer 2014)
Tues/Thurs. 1:00-4:30pm, EMS B206

Instructors:

Kristen Ruegg, kruegg@ucsc.edu (June 24 – July 8)
Office Hours: Tuesday/ Thursday 4:30 – 5:30 am, EMS A419

Joe Sapp, joesapp@gmail.com (July 10 – July 24)
Office Hours: Thursday 4:30 -6:30 pm, EMS D318

Classroom TA: Megan Peterson, mdemarch@ucsc.edu
Office Hours: TBD

Course Description: An examination of the history and mechanisms of evolutionary change. Topics include molecular evolution, natural and sexual selection, adaptation, speciation, biogeography, and macroevolution.

Prerequisites: Biol 20 A, Bioe 20B, Bioe 20C, and Biol 105 (Genetics)

Text: Evolutionary Analysis 4th Edition by Scott Freeman and John C. Herron,
http://wps.prenhall.com/esm_freeman_evol_4/

Reader: BIOE 109, available in book store (required)

Course Information:

- 1. Class Participation/Activities:** It is expected that you attend class meetings (there are no sections for this course) and participate in class activities. Participation in class activities will account for 20% of your course grade. *No late assignments are accepted.*
- 2. Exams:** There will be 2 exams (1 midterm and 1 final), which will consist of a combination of multiple choice and short answer essay questions. Each exam will account for 20% of your overall course grade.
- 3. Writing Assignments:** There will be three writing assignments worth 40% of your course grade. The first assignment will be a formal research paper write-up (10%), the second assignment will be a peer review of another students research paper (10%) and the final paper will be a response to your reviewer comments in conjunction with a re-write of your original research paper (20%).
- 4. Make-up policy:** Make-up exams will only be allowed for students who have a substantiated excuse approved by the instructor. Leaving a phone message or sending e-mail without receiving confirmation is not acceptable. Make-ups for in class assignments consist of a 1-paragraph summary of a recent journal article highlighted in the news AND a 4 minute presentation of the main points of the article to the class.
- 5. Course Evaluation:** Evaluation will be based on your performance on the two exams (40% total), class activities (20%) and performance on 3 class writing assignments (40%).
- 6. E-mail Etiquette:** The best way to contact me is to come to my scheduled office hours. We will respond to e-mail a maximum of twice per week (usually Tu/Th). **All e-mails must have the subject line “Bio 109.”**

7. Grading Scale: A+ (96-100), A (92-95), A- (89-91), B+ (86-88), B (82-85), B- (76-81), C (72-75), C- (69-71), D (59-68), F (below a 59)

Course Outline and Reading Assignments (Tentative)

DATE	TOPIC	READING
Week 1		
June 24	Lecture: Course Intro <i>Activity:</i> Perceptions about evolution <i>Movie Clip:</i> Isn't Evolution Just a Theory? <i>Activity:</i> Evidence for Evolution	Text, Ch. 2 PDF: Was Darwin Wrong?
	Lecture: The Darwinian Revolution <i>Movie Clip:</i> Trial Movie	
June 26	Lecture: Life and Science of Charles Darwin <i>Movie Clip:</i> Who Was Charles Darwin? Lecture: Natural Selection <i>Movie Clip:</i> How does evolution really work? Lecture: Scientific Writing <i>Activity:</i> Discussion Snails Lab (plasticity) <i>Computer Lab:</i> Darwinian Snails	Text, Ch. 3 PDF: Science Writing PDF: the snail papers Course Reader: Exercises 1-6
Week 2		
June 29	Last day to drop the course	
July 1	Lecture: Estimating Evolutionary Trees <i>Movie Clip:</i> The Tree of Life Lecture: Population Genetics I & II <i>Activity:</i> HWE Demonstration	Ch. ? Ch. 6
Darwinian Snails Lab Due		
July 3	Lecture: Population Genetics III <i>Activity:</i> Population Genetic Problem Set Lecture: How to Write a Good Review Guest Lecture: Evolution at Multiple Loci <i>Movie:</i> Why Sex?	Ch. 7 PDF: Science Writing Ch. 8
Hand in Darwinian Snails Research Paper		
July 4	Final day to change grading option	

Week 3

July 8 **Midterm Exam**

Field Trip /Alex

July 10 Lecture: Quantitative Genetics Ch. 9
Activity: Simbio Finches Lab

Lecture: Studying Adaptation Ch. 10

Activity: Discussion of papers for lab?

Activity: Intro to Guppy Lab

Hand in Peer Review of Darwinian Snails Research Paper

DATE	TOPIC	READING
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July 11 Last Day to withdraw from the course

Week 4

July 15 Lecture: Sexual Selection Ch. 11

Lecture: Kin Sel. and Social Behavior Ch. 12

Activity: Relatedness Problem Set

Guppy Lab Due

July 17 Lecture: Speciation & Species Concepts Ch. 16

Activity:

Week 5

July 22 Lecture: Cambrian Explosion Ch. 17

Movie Clip: Great Transformations Video

Movie Discussion & Course Wrap up

Hand in rewrite of Darwinian Snails Research Paper

July 24 **Final Exam**

August 2 Grades available

Policy on academic integrity:

Plagiarism comes in lots of different flavors, ranging from the completely blatant (for example, handing in someone else's paper as your own), to the more subtle (not citing the sources you use in your paper properly -- even if you cite a book or paper as a general source, it is still plagiarism to lift whole phrases or sentences, unless you use direct quotes). Science is a process that builds successively on the work of the others, and giving proper credit for ideas and data is a critical part of this process. As such, I treat plagiarism very seriously.

If you are caught cheating on an exam or in a major act of plagiarism, you will receive a failing grade (zero points) for that assignment, and I will file a report with the University (see the link below for UCSC's policy on academic integrity). If you commit a lesser act of plagiarism, you will receive a substantially lower grade on that assignment. The basic message I wish to convey is: just don't do it. In this digital age, there is a surprisingly high probability that you will be caught. If you have questions about how to properly cite any sources you use in your work, please ask us.

http://www.ucsc.edu/academics/academic_integrity/undergraduate_students/

Summer Session Students with Disabilities:

If you qualify for classroom accommodations because of a disability, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me as soon as possible, preferably within the first week of summer session. Contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu for more information.