BIOE 109 Evolution Syllabus
Summer 2015

Thimann 1, Tu/Th 9:00AM-12:30PM

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.

Instructor:
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Office Hours: TBD

Teaching Assistant:
Kristen Elsmore
Email: kelsmore@ucsc.edu
Office Hours: by appointment

Required Texts:
Evolution: making sense of life by Carl Zimmer and Douglas J. Emlen
(On reserve at the Science Library)

Recommended Texts:
Origin of species (1st edition!) by Charles Darwin

The Selfish Gene by Richard Dawkins

Readings:
Readings for each week will typically include one or more chapters from the text plus one scientific paper from the primary literature. Primary literature readings will be available on the course website (ecommons, see below).

The primary literature readings will be discussed during lecture. It is critically important that you keep up with the readings. This class is built on a model of sustained effort and participation, as reflected in the grading breakdown (see below). Cramming interspersed with periods of inactivity will not be a successful strategy.

Course Website:
If you are enrolled in the course, you should have automatically been added the ecommons course site (BIOE 109 Summer15). If you cannot access the course site, please see me.

Academic integrity:
Cheating will not be tolerated. Cheating during tests will result in a zero and may result in a failing grade in the class.

By enrolling in the university, students are automatically agreeing to abide by policies, including those on academic misconduct. Academic integrity and scholarship are core values that should guide our conduct and decisions as members of the UCSC community. Plagiarism and cheating contradict these values, and so are very serious academic offenses. Penalties can include a failing grade in an assignment or in the course, or suspension or expulsion from the university. Students are expected to familiarize themselves with and follow citation practices (http://nettrail.ucsc.edu/ethics/index.html) and the university's Rules of Conduct regarding student conduct and discipline: http://www2.ucsc.edu/judicial/handbook.shtml.

Classroom Accommodations:
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 before the third week of classes. Contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu for more information.

Grading:
Weekly Quizzes (3x): 30 points
Final Exam: 30 points
Writing assignment (35 points total)
- First draft: 10 pts
- Peer review: 10 pts
- Final draft: 15 pts

Lecture Participation: 5 points

Schedule (subject to change!):

DATE	TOPICS	ASSIGNMENT	TEXTBOOK
Week 1			
Introduction			
Tu July 28	The Nature of Evolution: Selection, Inheritance, and History Review: Basic transmission genetics		Ch. 2 Zimmer & Emlen Ch. 5
Microevolution: selection, drift, mutation & migration			
Th July 30	Population genetics Scientific Writing		Ch. 6

DATE	TOPICS	ASSIGNMENT	TEXTBOOK
Week 2			
Tu Aug 4	Quantitative genetics & the evolution of phenotypes Paper discussion	Vignieri et al 2010 **Quiz #1 in class**	Ch. 7
Th Aug 6	**Field trip: Sexual Selection of hummingbirds at the Arboretum** Sex, causes & consequences		Ch. 11
Week 3			
Tu Aug 11	Evolution of life history & parental care Kin Selection Paper discussion	Heath et al 2003 **1st draft due**	Ch 12
Macroevolution: speciation & extinction			
Th Aug 13	Species & Speciation Tree of life & phylogenies	**Quiz #2 in class**	Ch 13 Ch 4
Week 4			
Tu Aug 18	History of life Paper discussion	Barluenga et al 2006 **Peer review due**	Ch 14
Th Aug 20	Coevolution Evolution and development	**Quiz #3 in class**	Ch 15, 16
Week 5			
Tu Aug 25	Human evolution Evolutionary medicine Paper discussion	Bramble et al 2004 **Final draft due**	Ch 17, 18
Th Aug 27	**Final Exam**		