Lecture Syllabus for Biology 105, Evolution, Spring 2011

Class Meetings

Lecture: BIOL105 001-11019 Professor Joel Sachs
Tuesday, Thursday at 8:10 am – 9:30 am in SPR 1102

Discussions: Priya Balasubramaniam
Tuesday at 4:10 pm – 5:00 pm in OLMH 1116 (Sec. 020, Call # 19618)
Tuesday at 5:10 pm – 6:00 pm in SPTH 1222 (Sec. 021, Call # 11020)
Tuesday at 6:10 pm – 7:00 pm in SPR 1358 (Sec. 022, Call # 11021)

Final Exam: Saturday June 4, 2010 11:30AM-2:30PM

Instructors and Office Hours

Professor Joel Sachs
W at 12:00- 2:00 pm
3314 Spieth
Joel.Sachs@ucr.edu
827-6357

TA Priya Balasubramaniam
Office Hours: Monday 3-5pm
3346 Spieth
pbala001@ucr.edu

Additional office hours are available by appointment with each instructor.

Textbook

Evolution (2nd edition-loose leaf) by Douglas J. Futuyma, Sinauer Press, published in 2009. You are expected to read the chapter assigned with each lecture topic (listed in this syllabus). The book is available at the campus bookstore. We have also put the book on reserve at the Science Library.

Grading

Your grade will be based on your performance on the exams and discussion exercises. Attendance at the weekly discussion sections is mandatory. There is a separate syllabus for the discussion sections. Note that exams will cover material from the lectures, discussion sections, and readings.

Exams	Midterm 1	50 points
	Midterm 2	50 points
	Final Exam	50 points
Discussion		50 points
		200 points total

Grading Policy

1. **Regrades:** Requests for re-grading must be submitted in writing with an explanation for why the scoring is thought to be inaccurate. Except for Scantrons, only answers written in pen will be eligible for regrade. All grade evaluations are based on an evaluation of the entire exam or assignment. The deadline to request a re-grade is one-week after the answer key is posted or an assignment has been returned.
2. **Late assignments and missed exams** are graded as a zero unless you have written documentation from an appropriate source or have made arrangements with the professor within a week of the due date.
3. **Late arrival at exams** is not acceptable. Please plan ahead for traffic. If you arrive more than 15 minutes late your grade will be decreased by 10%. Once the first student leaves the exam the room is closed and arrivals after that point will receive a zero on the exam.
4. **Discussion of grades** will only be done in person. I am happy to discuss your grades with you in person, but I will not do so over e-mail

Schedule of Lectures

Week	*Date*	*Readings**	*Topics*
1	T, 29 Mar.	1	Introduction to evolutionary biology
1	R, 31 Mar.	2	Phylogeny and classification
2	T, 5 Apr.	3	Patterns of evolution
2	R, 7 Apr.	4,5	The fossil record & the history of the earth
3	T, 12 Apr.	6	The geography of evolution
3	R, 14 Apr.	7	The evolution of biodiversity
4	T, 19 Apr.		**MIDTERM EXAM 1**
4	R, 21 Apr.	8	Origins of genetic variation
5	T, 26 Apr.	9	Variation
5	R, 28 Apr.	10	Drift
6	T, 3 May	11	Natural selection & adaptation
6	R, 5 May	12	Genetical theory of natural selection
7	T, 10 May	14,15	Life histories, Sex & Reproductive success
7	R, 12 May		**MIDTERM EXAM 2**
8	T, 17 May	16	Cooperation & Conflict
8	R, 19 May	17	Species
9	T, 24 May	18	Speciation
9	R, 26 May	19	Coevolution
10	T, 31 May	20	Genes and Genomes
10	R, 2 June	21,22	Evo-Devo & Macroevolution
	Sa. 4, Jun	---	**FINAL EXAM (Saturday 11:30 am – 2:30 PM)**

*Readings refer to chapters in *Evolution* (2nd edition), by D.J. Futuyma, 2009.

Discussion Syllabus for Biology 105, Evolution, Spring 2011

Outline of Assignments and Point Distribution - Discussion (50 points total)

The discussion portion of BIO 105 will be worth 50 points, distributed as follows:

1. Participation – 10 points
2. Discussion quizzes (8) – 5 points each (total-40 points)

Discussion readings

You are expected to critically read all the assigned material each week and be prepared to discuss its relevance and contribution to evolutionary biology. Part of your participation grade will be attendance as well as being prepared for the class (you will not receive participation points unless you actively participate in class discussions).

Discussion quizzes

There will be a short quiz during each of the discussion periods that will cover the assigned reading for the week. Concentrate on understanding the following aspects from each paper as best you can:

- What evolutionary question(s) do the authors address in this paper or book chapter?
- What hypotheses are the authors testing?
- What types of methods are the authors using to test their hypotheses?
- What organisms are used to test hypotheses? What features of these species make them useful to address the question at hand?
- What are the novel findings of the authors?
- What hypotheses could be rejected or ruled out by the authors' data?

You MUST attend the section you are enrolled in.

BIO 105, Evolution: Schedule of Discussion Readings, Spring 2011

Week	*Date*	*Readings*
1	Mar. 29	**No Readings—First week of class**
2	Apr. 5	• Darwin, C. 1859 On the origin of species (Ch. 1. Variation under domestication.)
3	Apr. 12	• Darwin, C. 1859 On the origin of species (Ch. 3. The struggle for existence.)
4	Apr. 19	**No Readings—Midterm**
5	Apr. 27	• Lederberg, J. & Lederberg E. M. 1952. Replica plating and indirect selection of bacterial mutants. *Journal of Bacteriology* 63:399-406.
6	May 3	• Andersson, M. 1981. Female choice selects for extreme tail length in a widowbird *Nature* 299: 818-820.
7	May 10	• Zuk, M., Rotenberry, J. T. & Tinghitella, R. M. 2006. Silent night: adaptive disappearance of a sexual signal in a parasitized population of field crickets. *Biology Letters* 2:521-524.
8	May 17	• Sachs, J. L. & Wilcox, T. P. 2006. A shift to parasitism in the jellyfish symbiont *Symbiodinium microadriaticum*. *Proceedings of the Royal*. *Society of London B*., 273, 425-429.
9	May 24	• Grant, P. R., & Grant, R. 2006. Evolution of character displacement in Darwin's finches. Science 313:224-226.
10	May 31	• Fraser, H. B. *et al*. 2002. Evolutionary rate in the protein interaction network. *Science* 296: 750-752.