



“Nothing in biology makes sense except in the light of evolution.”

Theodosius Dobzhansky (Geneticist,1900-1975)

## Evolution

Biology 365 and 365 Lab, Spring 2008

TTh 8:30-9:45, SCI 207

Th 1:30-4:20, SCI 205

**Instructor:** Dr. Sharon Gilman  
**Office:** SCI 221C  
**Office Hours:** MWF 8:30-12 & by appointment  
**Phone:** 349-2248  
**E-Mail:** sgilman@coastal.edu

**Text:** Freeman, Scott, and Jon C. Herron. 2007. Evolutionary Analysis 4<sup>th</sup> Edition. Pearson/Prentice Hall. (required)

**Web Page:** <http://kingfish.coastal.edu/biology/sgilman/bio365.htm>

**Text Web Page:** [http://wps.prenhall.com/esm\\_freeman\\_evolution\\_4/](http://wps.prenhall.com/esm_freeman_evolution_4/)

### Course Description:

We will be discussing the current state of knowledge regarding the history, mechanisms, and outcomes of the process of evolution. This will include population genetics, speciation, systematics, and micro- and macroevolution. We will also keep track of current events in this field. You will be required to learn a lot of facts, but I also expect you to THINK.

### My Job:

I am committed to helping you learn what evolution is and how it works, and how we know this, based on current understanding. To do this I will be on time, prepared, accessible, respectful, fair, and enthusiastic. I will return work to you in a timely manner and please do not hesitate to ask about your grades or anything else related to class.

### Your Job:

You should be committed to learning a thing or two, even when it requires some work on your part.

1. Have a good attitude, even if you have to fake it—I hate whining!
2. Be on time to class and prepared.
3. Be respectful of both your instructor and your classmates.
4. If you miss class, it's **your** responsibility to find out what you missed.
5. Take exams when they are scheduled.
6. Remember that I can't learn this stuff for you.
7. Turn off your cell phone when you arrive in class!

**Student Learning Objectives:**

- You will demonstrate your understanding of evolutionary concepts as listed in the course description.
- You will be able to apply your understanding of evolutionary concepts to present day research.
- You will generate and interpret data according to the basic principles of evolution.

**Assessment:**

“You got what you settled for.” Thelma and Louise, 1991

Each Learning Objective will be assessed based on exam questions, class activities, discussion, and homework, your research presentation, and activities in the lab. You determine what grade you get. I will do whatever I can to help you get the grade you want, but in the end, it is up to you. Your grade should not be a surprise to you so I will gladly show you how you’re doing anytime you ask. You should keep track, too. If you aren’t happy about it and it’s early enough in the semester I bet we can save you. Don’t wait too long though!

The exams are scheduled on the syllabus. The assignments will consist of both in class and out of class activities. There might be quizzes. The research project will involve a class presentation on a topic of your choosing (with instructor approval).

The lab and course points will be combined such that you will get the same grade in each. Grades are based on accumulated points with 100-90% an A, 89-85% a B+, 84-80% a B, 79-75% a C+, 74-70% a C, 69-65% a D+, 64-60% a D, and below 60% an F.

**Point Distribution:**

2 exams @ 100	200 points
research project	50 points
assignments/quizzes	75 points
final exam	100 points
lab assignments	200 points
<b>Total Possible</b>	<b>625 points</b>

**Attendance, Late Assignments, Cheating, and Plagiarism:** If you miss an exam or in-class assignment there will be no make-ups except with a doctor’s excuse or written evidence of a death or other crisis (this is clearly explained in your catalog). Late assignments will lose 10% of their point value per day. See me **AHEAD** of time if you anticipate a scheduling problem. Confirmed cheating on an exam or assignment, or plagiarism will result in a total loss of points for **everyone** involved.

**Students with Disabilities:** If you have a disability and feel that you may have need for some type of academic accommodation order to participate fully and succeed in this class, please feel free to discuss your concerns with me in private and also contact the Office of Disability Services 843-349-2307.

**Class Schedule:**

(Note that this is somewhat flexible-except for exams!

Reading assignments refer to the text. There may be others.)

<b>Week</b>	<b>Date</b>	<b>Lecture</b>	<b>Lab</b>
Week 1	Jan 17	Introduction	Time-Line, Lizards, and Research
Week 2	Jan 20	Evidence for Evolution (p. 37-69)	Whales in Trees
	Jan 22	Darwinian Natural Selection (p. 73-107)	
Week 3	Jan 27	Evolutionary Trees (p. 111-137)	Evolution of Resistant Bacteria I
	Jan 29	Mutation and Genetic Variation (p. 143-167)	
Week 4	Feb 3	Mendelian Genetics I (p. 169-219)	Evolution of Resistant Bacteria II
	Feb 5		
Week 5	Feb 10	Mendelian Genetics II (p. 223-275)	<b>No Lab-COI</b>
	<b>Feb 12</b>	<b>Celebration of Inquiry-there will be an assignment associated with this</b>	
Week 6	Feb 17		TBA
	Feb 19	<b>Exam</b>	
Week 7	Feb 24	Studying Adaptation (p. 363-396)	Exploring Adaptations
	Feb 26		
Week 8	Mar 3	Sexual Selection (p. 401-440)	What Good is Sex?
	Mar 5	Kin Selection (p. 447-478)	
Week 9	Mar 10		TBA (Prairie Dogs maybe?)
	Mar 12	Aging and other Life History Characteristics (p.483-523)	
	<b>16-20</b>	<b>Spring Break</b>	
Week 10	Mar 24		Nematode Wars I
	Mar 26	Evolution and Human Health (p.529-568)	

	<b>Mar 30</b>	<b>Last Day to Drop a Class with a "W"</b>	
Week 11	Mar 31		Nematode Wars II
	Apr 2	<b>Exam</b>	
Week 12	Apr 7	Mechanisms of Speciation (p. 605-633)	Nematode Wars III
	Apr 9		
Week 13	Apr 14	Origins of Life (p. 639-680)	Speciation in Salamanders
	Apr 16	Cambrian Explosion (p. 689-720)	
Week 14	Apr 21		Coral Reef Evolution
	Apr 23	EvoDevo (p. 725-749)	
Week 15	Apr 28	Human Evolution (p. 753-791)	TBA
	Apr 30		

**Final Exam:**

**Thursday, May 9**

**8:30-10:30, SCI 207**