

Biology 122

Genetics and Evolution

Spring 2008

Dr. Daniel (Max) Taub

Lecture: MWF 10:00-10:50 or 11:00-11:50, FJSH 148

Lab: Various sections, FJSH 207, Ms. Linda Southwick

Instructor: Dr. Daniel (Max) Taub, Dept. of Biology

Office: Fondren-Jones 140 (the new part)

Office hours: M 12:00-2:00, W 1:00-3:00, or by appointment. You may also drop by anytime to see if I'm available. The best way to be sure that I can meet with you is to schedule an appointment- during office hours you might find that there are others already meeting with me, or that I've had to step out of the office for a moment.

Phone: 863-1583

Email: taubm@southwestern.edu

Course content: This course is one portion of a four mini-course (two semester) introduction to the study of biology. The purpose of these courses is to prepare students for the upper-level courses in biology. This means that as well as conveying information needed to understand upper-level biology, this course has as its aim the improvement of your writing and thinking skills. Major topics covered in this course include inherited variation among individuals and the processes affecting the genetic constitution of populations.

Course format: This course will meet three times a week for lecture and once a week in a laboratory session. There is a separate instructor for the lecture and laboratory portions of this course. You will receive one final grade based on your performance in both portions of the course. This syllabus is primarily concerned with the lecture portion of the course; more information on the laboratory will be provided by Ms. Southwick, the laboratory instructor.

Textbook: Brooker et al. *Biology*. McGraw-Hill.

Online Learning Aid:

This semester we have access to an online resource that provides quizzing on topics relevant to this course. Signing up is free and quick, and I strongly recommend that you sign up and use this resource. It is called Prep-U and you can sign up at:

<http://www.prep-u.com/signup>

You will need the class code: **taub72**

I will create “assignments” for you on different topics. These are not assignments in the sense that you are required to do them, but these are items that I have chosen from their online database because they are relevant to our course.

Other required items: You will need to bring a calculator to class and to exams, because we will be doing quantitative problem solving during some of the class periods, and for the quizzes and exams. This is particularly true for the last third of the course. The calculator needs to be able to do square roots.

Course Policies:

Grades:

You will receive one grade for the lecture and laboratory portions of this class combined. 450 points are allotted to the lecture portion of this course (out of 600 total). Points for the lecture portion of the course will be calculated in two ways (A & B), and you will receive the higher of the two point totals. The purpose of this is so that the short quizzes can only help, not hurt, your grade.

Grading scheme A :

Two mid-term exams, each	126 points
Final Exam	189 points
Class participation	9 points
Total	450 points

Grading scheme B:

Two mid-term exams, each	98 points
Final Exam	147 points
Quizzes	98 points
Class participation	9 points
Total	450 points

Point Total	Grade
582 – 600	A+
558 – 581	A
540 – 557	A-
522 – 539	B+
498 – 521	B
480 – 497	B-
462 – 479	C+
438 – 461	C
420 – 437	C-
402 – 419	D+
378 – 401	D
360 – 377	D-
<360 points	F

Exams: There will be two midterm exams during the semester, and a final exam. The final exam will cover material from the entire course. While the mid-terms will focus on particular portions of the course, material in any portion of the course may build on material earlier in the course. The exams will be comprised of a variety of question types including multiple choice, matching, problem-solving, short answer and essay questions.

Class Participation: Class meetings may include problem solving as well as lecture. A portion of the grade for this class will be based on class participation. This will be based on my perception of your overall contribution to the in-class experience. You cannot participate if you miss class, so attendance will be a factor in this portion of your grade.

Quizzes: There will be very short quizzes (approximately 1- 3 questions) at the end of most classes. These will cover material only since the previous quiz (including from that day's class) so you can have immediate feedback as to how well you got the main points of the class. These quizzes can only help, and cannot hurt, your grade.

Attendance

Attendance is required for all lecture and laboratory meetings. If exceptional circumstances require absence from class, arrangements must be made with the instructor ahead of time.

Accommodations for disabilities:

Appropriate accommodations will be made for students with disabilities in accordance with University policy. All students requesting such accommodations must consult with the Office of Academic Services. For special accommodations for exams, students must make arrangements with Academic Services at least three weeks prior to the exam.

Honor system

All work is covered under the honor code. All suspected violations will be taken seriously and dealt with under the approved procedures as found in the Student Handbook.

Drop Dates: Because this course continues for one half semester, the timing for drops without record and drops with a W is different than for full semester courses. April 1 is the last date to drop without a record, and April 17 is the last date to drop with a W.

Date	Topic	Reading
3/7	Intro/ Precursors to Darwin	Chapter 23, 479-483
3/10	Logic of Natural Selection	Chapter 24, 483, 504-505
3/12	Traces of evolution	Chapter 23, 483-492
3/14	Population dynamics	Chapter 56, 1207-1211
3/24	Life histories	Chapter 56, 1201-1202 (reproductive strategies), 1203-1204 (survivorship curves), 1211-1212, 1229 (Lynx-Hare)
3/26	Interactions among species	Chapter 57, 1219-1234
3/28	Meiosis	Chapter 15, 299-300, 312-318 (through section on "Natural variation exists in chromosome structure and function")
3/31	Topics in Populations	
4/2	Mendelian Genetics	Chapter 16, 325-336
4/4	Brown Symposium/ No class	
4/7	Mendelian genetics	
4/9	Molecular genetics	Chapter 12, 231-236, 241-242
4/11	Beyond Mendelian genetics	Chapter 16, 341- 346, Chapter 17, 349-352, 357-359
4/14	Linkage	Chapter 17, 353-357
4/16	Sex- determination/sex linkage/chromosomal errors	Chapter 16, 337-340, Chapter 15, 318- 323
4/18	No class	
4/21	Human genetics	Chapter 16, 336-337
4/23	Topics in Genetics	
4/25	Intro to Population Genetics	Chapter 24, 499-502
4/28	Evolution in populations	Chapter 24, 502-506, 510-514
4/30	Group selection	Chapter 55, 1189-1193
5/2	Topics in natural selection	

Apr 2, 6 PM	Exam I	
Apr 24, 6 PM	Exam II	

May 8, 8:30 AM (11:00 section) May 9, 8:30 AM (10:00 section)	Final Exam	Cumulative with a strong emphasis on Last Part
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The information in this syllabus is provisional, subject to change as needed.