

Bio 325: Genetics (Fall 2006)

TTh 9:30-11am in BUR 212

Prof: Dr. Stuart Reichler

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Date	Class Subject	Relevant Textbook Chapter(s)
August 31	Introduction/Philosophy of Science	1
Sept 5	Strong Inference	1, (article on webpage)
7, 12, 14, 19	Genes: Structure and Function (9/19 homework#1 due)	10, 11, 13, 14, 15
21, 26	Signal Transduction	
Sept 26	Exam 1 (9/27 last day to drop w/o penalty)	
28, Oct 3, 5, 10	Regulation of Gene Expression (10/5 homework #2 due)	14, 15, 16,
12, 17	DNA Replication, Mitosis, and Replication Errors	2, 11, 12, 17
19	Meiosis	2, 12,
24, 26, 31	Inheritance (10/25 last day to Q drop)	2, 3, 4, 5, 6, 7, 8, 9
11/2	Exam 2	
<i>Nov 22-24</i>	<i>Thanksgiving (no class)</i>	
Dec 7	Exam 3 (last day of class)	
Dec 16	Final Exam 7-10pm	

The class **webpage** is: www.bio.utexas.edu/courses/stuart/class.html

As the semester progresses the webpage will be updated with the homework and bonus assignments and their due dates. Also, as we determine topics for the latter part of the class they will be posted.

Course Description: Biology is a vast subject, and an introductory course only has time to briefly cover each topic. In this class we will study many of the same topics as your introductory biology class, but more profoundly. I want to go beyond simply understanding the basics of genetics to look at specific examples and situations. This way you can begin to develop a sense for how science works, how it fails, what we know, and what the next steps might be.

I have set the lecture topics for the first two exams covering topics I think we all need to know so that we can look at more in-depth topics in the latter part of the class. During the first few weeks of class, we will work together to set the topics that we want to study for the end of the semester. Instead of looking at generalized information in a textbook, we will learn about contemporary topics by studying journal articles. I hope this will lead to a dynamic and useful learning experience. The drawback is that there will not be an easy source of information outside of class. Additionally, the subjects that we will cover in the last half of class will only be set one or two days before the lecture.

Lecture: TTh 9:30-11am in BUR 212. Most of the test material will come from information presented in lecture and the articles we study in the last half of the class. I recommend that you take good notes and/or record the lectures. The easiest way to learn and perform well in my class is to attend the lectures and discussion sessions. As we work together to set the topics for the latter parts of the class, I will update the syllabus on the class webpage.

Discussion Sessions: The discussion sessions serve as an opportunity to review the information presented in class and to ask questions in a small class setting. At each discussion session there will be a short quiz that will allow you to test your mastery of the material prior to taking the exams. Discussions are not mandatory, but students who attend and participate in discussion sessions will be awarded up to 2 points to their final course grade. You may attend whichever discussion session per week that best suits your schedule. The discussion times are:

- F 11-noon in RLM 6.112
- F 12-1pm in RLM 6.114
- M 3-4pm in BIO 301
- M 4-5pm in BIO 301

Discussions will start 9/8. There will not be discussions on 9/29-10/2 or 11/3-6.

Grading, Exams, and Homework: I find that much of the time grades discourage learning. I have designed the assignments in this class to encourage you to learn and participate in the class. I hope that the assignments will serve to help you learn and provide useful feedback on your progress.

The semester will be graded on a maximum of 100 points broken down as: exams= 88 points, homework= 12 points, and up to 6 bonus points.

There will be four exams, three in-class and a cumulative final. Each 75 minute in-class exam will include only the information presented since the previous exam. The final will be cumulative and is optional. If you take the final exam, this grade will replace a previous exam grade. If you miss an exam, contact Stuart as soon as possible. Each test will be equally weighted, and collectively your three exams will count for a maximum of 88 points. ***The exams will be short answer and essay.** There will be no multiple-choice questions.*

My teaching and testing style emphasizes the ability to understand and use the information presented in class; therefore, at each exam you will be allowed to bring ONE 8.5 X 11 inch sheet of paper with whatever information you want written on it. In this way I want to minimize your dependence on memorization and encourage you to think critically about biology. See the webpage for sample test questions from previous semesters and answer keys after this semester exams have been returned.

I will assign five homework assignments during the semester that will typically consist of 1-3 page papers. Each assignment will be graded from 0-3 points, and your best 4 scores will be counted for up to 12 points.

Bonus points can be received for attending discussion sections, up to 2 points. Also, two bonus assignments consisting of short papers will be posted on the class webpage throughout the semester. Each bonus assignment can be worth up to 2 points. You can earn up to 6 bonus points that will be added to your exam and homework grade.

Textbook: The textbook is not required. We will be making our own textbook using journal articles. Lectures in the first part of class as well as some background information and figures will come from "Genetics: a Conceptual Approach" by Benjamin Pierce, 2nd ed. I will post my lecture slides on the webpage after class. There are copies of the textbook on reserve in the Life Science library. Handouts will be available in class or on the webpage as appropriate.