

BIOL 549: General Course Information

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Time and Place:

Tuesday and Thursday from 2:00 - 3:15 PM in room LS 132

Instructors:

Anca Segall

Office = LS 416

Email = asegall@sunstroke.sdsu.edu [please write 549 in the subject line of your message]

Stanley Maloy

Office = LS 317A

Email = smaloy@sciences.sdsu.edu [please write 549 in the subject line of your message]

Office hours:

Tues 3:30-4:30 or by appointment

Prerequisites:

This course will assume that you have a basic knowledge of Microbiology (as taught in BIOL 350) or molecular biology, cell biology, and biochemistry (as taught in BIOL 366). Before beginning this course you should understand the following concepts:

- DNA structure (antiparallel double-helix, Watson-Crick base pairing, base stacking interactions)
- DNA replication (DNA polymerase, primers, 5' and 3' ends, origins, Okazaki fragments)
- Transcription (RNA polymerase, promoters, terminators, sigma factors)
- Translation (ribosomes, mRNA, tRNA, start and stop sites)
- Basic molecular biology tools (restriction enzymes, DNA ligase, hybridization, DNA sequencing, PCR, S-blots)
- Basic properties of viruses
- Basic properties of prokaryotes (Archae and Bacteria)
- Basic eukaryotic cell biology

Readings:

The supplemental textbook for this course is Ptashne "A Genetic Switch". Additional readings from online resources will also be recommended to supplement the lecture. The readings will help you understand and be able to apply concepts presented in class but, unless specifically noted in class, you will not be tested on topics that are not discussed in the lecture, in the assigned homework, or in the assigned papers.

Exams:

There will be a midterm exam and a cumulative final exam worth 100 points.

If you believe a question on your exam was incorrectly graded, you must contact the instructor within two weeks of the day the exam was returned - no grade changes will be made after this two week window.

Use of books, notes, or calculators will not be allowed during exams. The exams will concentrate on the material covered in lectures, assigned readings, and assigned papers. The exams will be short answer format, given during the regularly scheduled class times. Answers for the midterm exams will be posted on the course website after the exams are graded.

The Final Exam will include material from the entire course. The objectives, format, and the level of difficulty will be similar to (but NOT identical to) that of the midterm exam. Final exams will not be returned, but you may make an appointment to peruse your exam if desired.

Homework:

There will be 4 homework assignments worth 25 points each. You must show all your work logically and legibly for credit. It is OK to discuss the homework with other students, but directly copying the answer from the book or from someone else's homework is not acceptable and will result in a score of zero on that assignment.

Homework assignments will be posted online by the date indicated in the course schedule. Homework should be turned in at the beginning of class on the date it is due. Any homework received after this time will be depreciated by 10% per day. Answers will be posted on the BIOL 549 website after the homework is graded. No credit will be given for homework turned in after that assignment has been returned or the answers posted.

As a rule, you will not be able to find the answers to the homework problems by simply looking in your class notes or the textbook - to solve the problems you will need to integrate this information and apply it.

Assigned papers:

Several published manuscripts will be assigned reading over the course of the semester. The manuscripts have been chosen to demonstrate real-world scientific problems that relate to the topics discussed in class. The manuscripts will be posted as pdf files at least one week before they are discussed in class. Each student is expected to read the manuscript and to be prepared to answer questions and participate in a group discussion. Pertinent questions about the manuscripts may be asked on the exams.

One-minute writes:

"One-minute writes" are short written responses to questions occasionally posed during class. Each one-minute write that you turn in will receive 1 point, whether or not the answer is correct. The important point is that you think about the question and try to answer it. However, to receive credit the 1 minute writing assignment must be turned in during the class the question is asked. The answers to one-minute write questions will be discussed in class, but the answers will not be returned. One-minute writes will total about 15 points over the course of the semester. These points will be used as extra credit.

Course grades:

Course grades will be based upon a total score, including 200 points for the lecture exams, 100 points for the homework, and the total of any other assignments. The assigned grade will be based upon the percentage of total points obtained using the following scale:

- A > 90%
- B = 80-90%
- C = 70-80%
- D = 60-70%
- F < 60%

Plus and minus grades will be assigned within the indicated ranges. The percent cutoff for a grade may be lowered but will not be raised.

Class etiquette:

Cell phones must be turned off during class. If you must be available via cell phone for potential emergencies, set your phone to vibrate mode. Please be considerate of your neighbors and avoid distractions such as carrying on conversations or entering and exiting during lectures.

Studying:

How should you study for this course? Go over your notes after each lecture while the material is still fresh on your mind. Although some memorization is invariably necessary when learning a new "language", the goal of learning is to understand the information, not to simply memorize a bunch of disconnected "facts".

A major purpose of studying is to discover what you don't understand so that you can do something about it. Don't just passively read the notes, think about them and ask yourself questions about them. Do you understand what was said? Does it make sense and why? Compare and contrast the new information with things that you have already learned. Some people find study groups very helpful for the learning process. Many examples of sample problems and solutions will be posted online. You may find it useful to go over these examples for practice, and use them for study aids.

Keep up regularly. You can't cram all of the information into your brain the night before an exam, and we may not be available to answer your questions at the last minute. As a rule of thumb you should spend a minimum of 2 hours studying outside of class each week for every credit hour.

Taking notes:

We could post our lecture notes online or you could photocopy a friend's notes, but people remember better if they listen attentively and actively write down what they hear. Therefore, attending class

regularly and keeping good notes is essential for success in this course. Good notetaking is an acquired skill. Don't try to write full sentences -- you will be so busy writing that you may miss the next point and your notes will be harder to study. Instead of writing down every word during lecture, write down key phrases and use short abbreviations.

Special accommodations:

To request disability accommodations, please make an appointment to speak with the instructor early in the semester.

Letters of recommendation:

Please see the following link before requesting letters of recommendation.

<<http://www.sci.sdsu.edu/~smaloy/recommendation.html>>