

BIOLOGY 100 General Biology

Lecture: Mondays and Wednesdays from 5:00–6:20PM, ALLH 108

Lab: Monday OR Wednesday 6:30–9:30PM BYKH 201

Instructor: Susan Crowther

Office: Aliso Lab 114E

Phone: 661) 362-3098

Student hours: Most Monday and Wednesday afternoons between 2:00–3:00PM

E-mail: susan.crowther@canyons.edu

I will normally return emails promptly Monday through Friday mid-day. I travel on some weekends and will not be able to reply promptly to weekend emails. I appreciate your patience here. Whenever you email me please make sure to put "Biology 100" in the subject line, otherwise I may not recognize your email address and delete your email without reading it.

Welcome to Biology 100!

In this class we will explore the basic principles of biology which include the structure, function and development of living systems from cells to ecosystems. It is fun, interesting material and I will do everything in my power to help you learn, interact with and enjoy the concepts and ideas we will explore this semester. My teaching philosophy revolves around you, the learner. My goals are to do whatever I can to help you develop the skills and attitudes necessary for your success in this course and in your other college courses.

You will have the opportunity to interact with the content of the class by taking notes, reviewing the ideas, asking questions, taking exams and quizzes, completing short writing assignments, participating in classroom discussions and laboratory activities.

It is important to me that you be physically and psychologically present for each class and laboratory. I encourage you to keep up with the assigned readings, and to ask questions when ANYTHING is unclear to you, especially new vocabulary terms! I know that it can be scary to ask questions in class. You may feel that you will be judged by me or your classmates. I can make you this promise...I will never judge you harshly for asking questions...this is one very important way that we learn new things. If we don't ask questions, put ourselves out there and risk, we aren't learning. In this class you will

encounter many unfamiliar vocabulary terms. Please make special note of each new term and work on remembering what it means. Donald Borror's *Dictionary of Word Roots and Combining Forms* is particularly useful in helping you key in on what each new term means.

MATERIALS FOR THE CLASS

Required Books:

What is Life? A Guide to Biology by Jay Phelan.

Biology: Learning Through Experiments by Gregory Nishiyama and Kim Jesu.

These books and additional handouts will serve as the basis for our exploration of course content.

Recommended Books:

Photo Atlas for Biology by Perry and Morton

Dictionary of Word Roots and Combining Forms by Donald Borror

Other Necessary Materials:

4 Scantrons/No.2 Pencil: For each exam you will need a scantron 882 and a no.2 pencil.

Lecture Notebook with pockets: For each class period bring a notebook for your notes. It will be very helpful if your notebook has pockets to hold handouts distributed in class.

Something to write with: For every class and lab session you will need a pen or pencil to take notes with. It is best to use pencil in the lab for the required sketches in the lab write ups.

Online resources: Some resources and class information are available on my website at:

<http://www.canyons.edu/Faculty/crowthers/>

ASSIGNMENTS

1. EXAMS (Approximately 100 points each, roughly 400 points total)

There will be 4 exams given at regular intervals throughout the semester (see schedule on page 5 of this syllabus). These exams will cover material from the lecture, text readings, the lab (usually general questions only) and handouts. They will consist of M-C, short answer/essay, fill-in, matching, and T-F. If you miss an exam, you will only be able to make up the objective part of the exam, so you will only be eligible to receive a portion of the total points possible. If you do poorly on an exam, you will be able to take the objective portion of the exam again to improve your score, but must do so prior to the next exam.

2. LABORATORY QUIZZES (Approximately 25 points each about 350 points)

You will have approximately 7 "pop" lab quizzes at the beginning or the end of a laboratory; these will not be announced in advance. These quizzes will include general questions about work you are about to do and more specific questions about lab material you have already worked through. You will also have approximately 7 take home lab quizzes that require you to think about and write about relationships and other critical concepts examined in lab. There are no makeup quizzes for lab; if you miss a quiz you will not be eligible to "re-gain" these points at some other time. If you miss more than 1 hour of lab it will be counted as an absence and you will lose any and all points associated with that lab.

3. LABORATORY PRACTICAL EXAM (100 points):

At the end of the term, there will be a cumulative laboratory test to evaluate your mastery of the laboratory topics covered this semester. It is composed entirely of "fill in the blank" questions. More information about this exam will be supplied closer to the end of the semester.

4. WRITING ASSIGNMENTS (20 points each, up to 100 points)

There will be a number of short writing assignments about topics related to our course content. More detail about the format of each assignment will be given in class.

5. FIELD TRIP(S) (OPTIONAL)

If the schedule allows there will be 1 or 2 optional field trips. One will be local, free and occur during our regular lab time. The other possible trip will be to the Cabrillo Marine Aquarium. Any points earned on a field trip will be added to your extra credit total.

6. EXTRA CREDIT (20 points maximum possible)

A variety of one to five point extra credit assignments will be presented during the semester. Even if you have a "solid" grade, one low exam score can lower your entire grade in the course, so these opportunities will be a valuable source of "insurance" during the course of the semester. The deadline for all extra credit is Nov. 22nd, the Monday prior to Thanksgiving break.

GRADING

Your final grade will depend on the total number of points you earn in both the lecture and laboratory components of the class. There will be between 950 and 1000 points possible for the entire course. The percentage of the total possible that you will need to earn to achieve a particular grade is as follows:

90.5 - 100 % = A

80.5 – 89.5 %	=	B
70.5 – 79.5 %	=	C
60.5 – 67.5 %	=	D
Below 55.5 %	=	F

If you end up on the borderline (e.g. 89.8%) your level of participation in both class and lab activities will be used to make the final determination. It is to your advantage to do all of the extra credit; it is worth between 2 and 3% of the total possible for the course.

Attendance and full participation are important strategies to succeed in any class. Because I want you to be successful, it is important to me that you attend both class and lab and actively participate in our exploration of the content. To this end if you miss lecture regularly (2 or 3 times) or if you miss lab just once or you miss an exam or other major assignment your final grade will be lowered. If you have a crisis or are very ill please contact me via email before you miss any class or lab! Any missed lab will result in an automatic loss of the points associated with that lab...there are no make up labs.

STUDENT LEARNING OUTCOMES FOR 100

Student Learning Outcome (Lecture):

Characterize the nature of science and scientific inquiry, and describe and analyze biological concepts from cells to ecosystems on a basic level.

Student Learning Outcome (Laboratory):

Evaluate and analyze data and observations based on standard methods of scientific inquiry.

STUDENT HOURS

I will be available to help you with any and all course material during my "student hours" on most Mondays and Wednesdays between 2:00 and 3:00PM. Please drop by my office in the MESA center to see me during this time, or at other times if these are not convenient for you. We can talk about the content of the course; you can clear up any questions and discuss study strategies for Biology 100. In addition to my "student hours" the MESA center and the TLC have biology tutors available on a drop in basis. The MESA Center also has microscopes for student use to help you review for lab quizzes and the final lab practical. Please plan to take advantage of all of these resources...research shows that students who ask questions and actively explore content with others (the teacher, other students and/or tutors) develop academic success skills that lead to better grades!

Tentative Schedule of TOPICS and READINGS

A more specific reading guide with specific page numbers and specific questions for each unit will be provided in class. The exam dates are tentative and may need to be adjusted as we go along.

UNIT 1: Basic Concepts, Biology and the Origin and Basis of Life

Ch. 1 Scientific Thinking: The Science of Biology

Ch. 2 Chemistry: Raw Materials and Fuel

Ch. 3. Cells: The Smallest Part of You

Ch. 4 Energy: From the Sun to You in Just Two Steps

Laboratory Exercises: 1, 2

EXAM #1 September 15th

UNIT 2: Genetic Information and Inheritance

Ch. 6 Chromosomes and Cell Division

Ch. 7 Genetics: Family Resemblance

Ch. 5 Chromosomes and DNA Structure: The Code of Life

Ch. 5 DNA Replication, Transcription and Translation, Biotechnology, Cancer

Laboratory Exercises: 4, 3, 6, 10, 5

EXAM #2 October 13th

UNIT 3: Evolution and the Diversity of Living Organisms

Ch. 10 History of Life on Earth

Ch. 8 Evolution and Natural Selection

Lecture Notes: Animal Development

Ch. 11 Overview: Animal Diversity

Ch. 12 Overview: Plants and Fungi

Ch. 13 Overview: Viruses, Bacteria and Protists

Laboratory Exercises: 7, 8, 9, 11

EXAM #3 November 17th & EXTRA CREDIT Due November 22nd

UNIT 4: Global Ecology and Conservation

Ch. 14 Population Ecology

Ch. 15 Communities and Ecosystems

Ch. 16 Conservation and Biodiversity

Last Exam will be cumulative: 50% New Material, 50% Previous Material,

Lab Material from Exercises 12 and 14 only

EXAM #4, "FINAL EXAM" December 8th

Important Dates:

Refund Deadline = September 3rd

Add Deadline = September 3rd

Drop Without a "W" = September 17th

Drop Deadline with a "W" = October 15th