

Biology 10 & 11- Introduction to Biology

Fall 2011

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Office Hours: Anytime by email & other TBA

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Lecture: Monday-Wed-Friday 10:00am-10:50am, room C104

Lab: Wednesday 1:00-3:50pm, room C104

Student Learning Outcomes

1. Explain evolutionary theory emphasizing Neo-Darwinian natural selection
2. Describe photosynthesis and cellular respiration
3. Demonstrate proper and safe dissection technique (Biology 10 only)
4. Reiterate the processes involved in the scientific method and reject supernatural explanations

This is a 4-unit introductory biology course. Biology 10 includes 3 hrs/wk of lecture and 3 lab hours per week. Biology 11 is 3 hours of lecture only. This course will introduce the basic concepts of biology and is for non-science majors who need to fulfill a general education science requirement. Biology 10/11 is an introductory survey of the structure and function of living systems from molecules to organisms. The course content is thus extensive and rigorous, and will require considerable time outside of class. Biology 11 students attend the same lecture as biology 10 students, but do not take the lab component of the course. This is not recommended unless absolutely necessary.

Required Text: Biology: A Guide to the Natural World- 4th or 5th edition- By David Krogh

Required Lab Manual (bio 10): College of Alameda- Lab Manual. Buy at Kinko's/Fed Ex

Required Worksheets: (bio 11): College of Alameda – Handouts. Buy at Kinko's/FedEx

Grading Protocol: Your grade will be based on the following:

Lecture:

Various assignments & handouts ~125

Lecture Exams (4 @ 250pts) 1000

Lecture Total ~1125

Lab:

Lab Assignments ~150

Lab Quizzes ~225

Lab Total ~375

A = 90-100%
B = 80-89%
C = 65-79%
D = 55-64%
F < 54%

Bio 11 students will be graded based on available lecture points only.

Lecture:

Four Lecture Exams: (250pts each) The lecture exams may include any material covered in the lectures up to the lecture prior to the exam date. Exam material may also come from concepts covered during lab lectures as these are integral to the material learned in lecture. These exams will be multiple-choice and will require Scan-tron 882-E forms.

Extra Credit:

Study Guides- up to 10pts each (40pts) Study guides are optional, but effective tools to help prepare for an exam. Students who follow the study guide and write down their answers tend to do better on exams than those who do not. (The average is 1 whole letter grade higher!) Study guides that are written out on separate sheets are worth up to 10 points of extra credit. You may work on study guides together; however, each student must turn in their own work (no photocopies or double computer printouts). Study guides for each exam can be obtained at the class website.

www.schoonerchantal.com/granieri.html

Select the link to “Biology 10/11- COA” → this will take you to our class webpage...

Lab:

Weekly Quizzes: (15pts each) There will be a quiz each week in lab that will be completed at the beginning of the period– so don't be late. Quizzes will be based on material covered in the previous lab and may be multiple choice, diagrams or fill-in. The quizzes will require the Scan-tron “quizstrips” 882-ES. **NOTE: If you are late for lab and no one has finished the quiz yet, you may take it. If anyone has finished the quiz, then you are too late and will not be allowed to take the quiz.**

Lab Assignments: (10pts each) Each lab has an associated pre-lab (3pts) and lab report (7pts). Before each lab, you will complete the pre-lab assignment. **The pre-lab will be due at the beginning of lab** (no late pre-labs will be accepted). During each lab, you will complete a laboratory assignment. The instructor will check these off for completeness before you leave the lab, but you will retain them for study. Late labs (within one week of the lab) will earn half credit. Late labs will not be accepted if not turned in within a week. **You must be present to get credit for these assignments.**

Class Information:

Class Attendance Policy: Students are expected to attend lecture and laboratory periods regularly. You will not be graded on attendance per se, but in-class assignments will be given and students who miss class will not be able to make them up. It is highly recommended you attend all lectures and lab sessions.

Drop Policy: Students are responsible for dropping a class and must fill out the appropriate paperwork by the above deadline to officially drop the course. **Students who stop attending, but do not officially drop the class will receive an F in the course.**

Special Needs: If you need special accommodations (for learning or physical disabilities), please see me after the first class so that I can make appropriate accommodations to meet your needs.

Support Services: The counseling office offers a wide variety of support services to help you through your college career. Services such as tutoring, short reading and writing skills classes, financial aid,

programs in educational transition and help for disabled students are offered for your benefit.
Tutoring is available in the COA library (upstairs and to the left).

Cheating Policy: College of Alameda (and this instructor) has a strict no cheating policy. Students found cheating on class examinations, quizzes or homework will receive a zero on the assignment and may be expelled from this class.

TENTATIVE LECTURE AND LAB SCHEDULE: (Page numbers for reading Krogh)

Wk		Lecture and Lab Topic
1	8-22	Introduction to Biology: Characteristics & Classification of Life (2-15)
		Chemistry for Biology: CHNOPS, pH & Bonding (18-37)
		lab The Metric System & The Scientific Method
2	8-29	Biochemistry: Biological Molecules (42-60)
		Cells: Structure and Function of Organelles (63-89)
		lab Microscopy: Learning to Use a Microscope
3	9-5	Labor Day; No Classes on Monday
		Biological Membranes & Transport (92-103)
		Organs Systems, Body Cavities, Tissues (481-488)
	lab	Diffusion & Osmosis
4	9-12	EXAM I (wk 1-3) (Monday)
		Skeletal System (491-496) Anatomical Terms Handout
		Muscular System (497-502)
		lab Histology, Bones & Joints <i>Film: Universe Within: Muscles</i>
5	9-19	Nervous System & Special Senses (504-526)
		Circulatory System & Respiratory Systems (574-586)
		lab Nervous System: Senses (pigs?)
6	9-26	Digestive System (590-596)
		Nutrition (597-609)
		Reproductive Systems & Birth Control (630-644)
		lab Food Chemistry Lab <i>Film: Universe Within: Digestion</i>
7	10-3	Birth Control & STD's (642 & 648)
		DNA Structure & Functions: Replication (232-242)
		lab STD's & Birth Control Lab <i>Film: Universe Within: Reproduction</i>
8	10-10	EXAM II (wk 5-7) (Monday)
		Gene Expression: Protein Synthesis (244-259)
		Biotechnology: VNTR & Protein Chemotherapy (262-279)
		Gene Expression Exercise <i>Film: Playing God</i>
9	10-17	Cell Division: Mitosis & Meiosis (156-172)
		Mendelian Inheritance (190-225)
		Human Inheritance <i>Film: Great Transformations</i>

10	10-24	Evolution I- Natural Selection (282-313)
		Evolution II- Speciation (318-334)
	Lab	Natural Selection Lab <i>Film: Why Sex?</i>
11	10-31	Origins & History of Life on Earth (338-358)
		Microbes: Viruses (378-384)
	lab	<i>Film: What Darwin Never Knew</i>
12	11-7	Microbes: Bacteria & Protists (385-397)
		Fungi (402-414)
		Veteran's Day: No classes on Friday
	lab	Microbes Lab <i>Film: The Evolutionary Arms Race</i>
13	11-14	EXAM III (wk 9-12) (Monday)
		Animals I (416-435)
		Animals II
	lab	Animal Diversity & Behavior Lab
14	11-21	Plant Evolution & Anatomy (440-475)
		Metabolism: Anabolism (140-152)
		Thanksgiving Holiday: No classes on Friday
	lab	Photosynthesis Lab
15	11-28	Metabolism: Catabolism (108-138)
		Ecology: Populations & Communities (654-686)
	Lab	Salton Sea Lab Video & Discussion
16	12-5	Ecology: Ecosystems
		Climate Change
		Human Impact <i>Film: An Inconvenient Truth</i>
		FINAL EXAM (10am – 12pm) (wk 13-16)