



College Biology

Biology 212.05

Winter Quarter 2010



Instructor: Ann J. Murkowski	Office: 2420A
Office Hours: Mon 2-2:50, Tue, 1-1:50, Thurs 9-9:50 and by apt.	Office Phone Number: 528-4511
Course Times: M/W 12-1:50pm; Lab Wed 2-4:50pm	Email: amurkowski@sccd.ctc.edu
	Classroom: M/W=AS1520, Lab=AS1617

Instructor Homepage Address:	http://facweb.northseattle.edu/amurkows/Homepage
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Required Texts:	<u>Biology</u> , 8 th ed.; Campbell & Reece; (ISBN: 0-8053-6844-2)
Recommended Texts:	<u>Photo Atlas for General Biology</u> , Strete & Vodopich

Course Description: This is the second in a series of majors' biology classes covering the principles of biology. The course is an integrated study of basic concepts concerning animal biology, emphasizing animal classification: evolution, histology, embryology, and examination of animal systems. I encourage students to participate through questions and shared experiences to enrich the class work.

By the end of this course you should be able to:

- ◆ Explain the principle mechanisms of evolution.
- ◆ Apply principles of genetics to understand the evolution of populations.
- ◆ Apply principles of evolution to your understanding of biological structure and function.
- ◆ Describe the evolution and relationships of major animal phyla.
- ◆ Explain the physiology of several systems within the animal kingdom.
- ◆ Find and analyze primary scientific literature.
- ◆ Correctly use a microscope and recognize a diversity of tissues and structures within the animal kingdom.
- ◆ Describe the basic methodology of doing science, including hypothesis testing.
- ◆ Keep a lab notebook that meets or exceeds standard industry and academic requirements.
- ◆ Discuss the human implications for some of the topics we cover.

Course Prerequisite: Chemistry 101 (minimum); A base level of chemistry (Chemistry 101) is assumed for this course. Successful completion of Biology 211 is also required. Eligibility for ENG 101 strongly recommended.

Evaluation: Your grade is evaluated as follows:	
Exams (3 total)	50%
Lab Quizzes (3 total)	15%
Lab Exercises & Notebook	15%
Review Paper	10%
Group Quizzes & In-Class activities	10%
	100%

Your grade is based on the following NSCC scale:		
4.0 - 3.5	A/A-	90-100%
3.4 - 2.9	B+/B	80-89.9%
2.8 - 2.2	B-/C+	70-79.9%
2.1 - 1.5	C/C-	60-69.9%
1.4 - 0.9	D+/D	50-59.9%
0.8-0.0	D-/E	below 50%

GENERAL POLICIES AND REMINDERS:

Exams, Lab Quizzes, and Testing: Examinations will not be cumulative. Make up examinations are given **only** when prior arrangements have been made with the faculty instructor. Make up exams may be in an alternate format. If prior arrangements are not made a 0% will be assigned for the missed exam. Laboratory quizzes when possible, will be lab practicals utilizing appropriate lab materials. There are no make-ups for missed laboratory quizzes.

Laboratory Exercises: Lab exercises and handouts will be made available on the course website throughout the quarter. It is your responsibility to print and read these exercises before attending lab. I reserve the right to administer lab quizzes if I feel students are coming to lab poorly prepared. Post lab assignments are due one week after the completion of the lab exercise. A late penalty (10%/class day) will be assessed on any labs turned in after this date, and no **lab work will be Monday, March 21**. There will be no make-ups for missed labs. I will, however, drop your lowest score from the lab grade. Please note that **you will not receive credit for a lab write-up if you were not present in lab**.

Lab Notebooks: A good lab notebook is among a scientist's most valued possessions! We'll continue building good skills and habits this quarter by keeping a lab notebook. You should bring this notebook with you to every lab session! You will receive additional directions on how to maintain your notebook both in class and on the website.

Review Paper: Accessing and evaluating primary literature is a crucial skill for any scientist, no matter what their field! To help you get comfortable finding and making sense of primary literature, we'll be writing a review of a scientific paper this quarter. You will be given a choice of several published journal articles during the quarter, and will write a review of one of them. We will discuss in class how to review a paper, and then take time in class to discuss the article and your drafts. Additional guidelines will be provided in class. Please note that your participation in the paper discussion groups, literature review, and peer review sessions are factored into your grade for the paper. Late papers will be assessed a penalty of 10% per class day.

Group Quizzes: Group quizzes will be given as indicated on the course schedule. You may not use your notes or books for these quizzes, but are encouraged to work with a group. Each student will turn in their own answers at the end of the allotted time. In addition to these quizzes, I reserve the right to administer additional, individual quizzes throughout the quarter. Please keep up with our busy schedule!

Lecture Content and Testable Material: I expect students to read the appropriate text and/or lab chapters **before** the corresponding lecture or laboratory. I will try to cover the majority of material presented in the texts, but time is always against the instructor. Therefore, lecture content will most likely not cover all the material presented in the textbook; however, students are responsible for material presented in **both** the lecture and the textbooks. Material not covered in the lecture, but presented in the textbook **is** testable material.

Attendance and Commitment: Students should attend every class session. It is the student's responsibility to obtain lecture notes, handouts, or other materials in case of an absence. Rescheduling of exams or laboratory experiments should be done **prior** to the appropriate date. I will do all I can to help students who must miss class due to illness or other emergencies, but **I must know as soon as possible**. A student who stops attending class without an official withdrawal will be assigned a grade based on the work completed up to that point. This is a course that will require a great deal of individual effort by each student. I have given you a detailed schedule of the quarter for a reason. With this schedule, you will be able to stay on top of the material, and should not be pressed for time. Attendance, attentiveness, and effort are essential for success in the class.

Electronic Devices: Out of respect for your instructor and fellow students, please turn off cell phones and pagers before class. No electronic devices may be used during exams.

Fragrance-Free Policy: Many people suffer from allergies and/or chemical sensitivities. As NSCC is officially a "fragrance-free" campus, please minimize your use of perfumes, colognes, and other heavily scented products.

Academic dishonesty will not be tolerated, and will result in a ZERO for the effected exam, quiz, or assignment. Please err on the side of caution and consult with your instructor if you have any questions concerning what constitutes plagiarism and/or academic dishonesty. A second offense will result in a withdrawal from the class for the remainder of the quarter.

TENTATIVE SCHEDULE: BIOLOGY 212, WINTER 2010

THIS SCHEDULE IS SUBJECT TO CHANGE. PLEASE WATCH THE WEBSITE FOR CORRECTIONS AND CHANGES!

Week	Date	Lectures, Labs, Activities
1	Mon 1/4	Course Introduction, Intro to Darwinian Evolution (Ch 22: 452-466)
	Wed 1/6	Evolution of Populations (Ch 23: 468-484);
	Lab	Lab 1: PCR analysis of Alu Intron- Part 1
2	Mon 1/11	Evolution of Populations continued; <i>Black Death</i>
	Wed 1/13	Origins of Species (Ch 24: 487-504); Group Quiz 1
	Lab	Lab 2: PCR analysis of Alu Intron- Part 2
3	Mon 1/18	Holiday—No Class
	Wed 1/20	Phylogeny and Systematics (Ch 26: 536-553); Review, Group Quiz 2
	Lab	Lab 3: Phylogeny, Systematics, and Evolution
4	Mon 1/25	Exam 1
	Wed 1/27	Intro to Primary Literature; Animal Origins and the Protozoans (Ch. 28: 575-577, 580); Intro to Animals (Ch 32: 654-664)
	Lab	Lab 4: Animal Diversity
5	Mon 2/1	Animal Diversity: Invertebrates (Ch 33: 666-696), Group Quiz 3
	Wed 2/3	Animal Diversity continued: Intro to Vertebrates (Ch 34: 698-723)
	Lab	Lab 5: The Aquarium! (Fieldtrip)
6	Mon 2/8	Intro to Animal Structure and Function (Ch 40: 822-872)
	Wed 2/10	Circulatory Systems and Structures in the Animal Kingdom (Ch 42: 898-915), Group Quiz 4
	Lab	Lab 6: Circulation
7	Mon 2/15	Holiday—No Class
	Wed 2/17	Intro to Gas Exchange (Ch 42: 915-926), Review Paper Outline and Literature Review Due
	Lab	Lab 7: Respiration, Group Quiz 5
8	Mon 2/22	Exam 2
	Wed 2/24	The Immune System (Ch 43: 930-947)
	Lab	Lab 8: Immunity
9	Mon 3/1	Intro to Animal Development (Ch 47: 1021-1044), Group Quiz 6
	Wed 3/3	Animal Development cont'd; Review Paper Draft Due (Peer Review)
	Lab	Lab 9: Development
10	Mon 3/8	Hormones and the Endocrine System (Ch 45: 975-994), Group Quiz 7
	Wed 3/10	Hormones, cont'd; Review Paper Due
	Lab	Lab 10: Environmental Hormone lab
11	Mon 3/15	Overview of Animal Homeostasis (Ch 44: 954-972), Group Quiz 8
	Wed 3/17	Homeostasis cont'd,
	Lab	<i>Review</i>
12	Mon 3/22	Exam 3; Review Paper Revisions Due