

Biol. 106 – Zoology - Spring 2012

INSTRUCTORS	Dr. Nancy M. Butler	Dr. Wendy Ryan	Dr. Greg Setliff	Dr. Todd Underwood
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Office Hours:	M & Th 12 - 1:50	M 8 - 8:50	M 9 - 9:50	T 9 - 10:50
(and by appointment)	W 2 - 2:50	T 9 - 10:50	W 12 - 12:50	W 2 - 3:50
		W 10 - 11:50	Th 1:30-2:50 & 5 - 5:50	F 10 - 10:50

This course will introduce you to the vast diversity of organisms that fall within the designation of “zoology” and familiarize you with the morphological structures, life histories, and phylogenetic relationships that characterize the various animal taxa through a combination of lectures, lab exercises, and research projects.

TEXTS & SUPPLIES (NOTE: bring the textbook, lab manual, dissecting kit, and lab handouts to every lab)

Animal Diversity 5th Ed. (Hickman, Roberts, Larson) (Be sure to purchase the 5th edition!)

Exploring Zoology: A Laboratory Guide (Smith & Schenk) (KU edition produced for this class)

Dissecting Kit

Lab handouts (download from Dr. Butler’s web page: faculty.kutztown.edu/butler)

Disposable gloves (optional, but recommended)

COURSE DESCRIPTION: This course contains an introduction to the principles of zoology. It places emphasis on the topics of evolution, ecology, animal diversity and comparative characteristics of selected phyla in the kingdoms Protista and Animalia. There are three hours of lecture and three hours of laboratory per week.

PREREQUISITE: BIO 104/105 Principles of Biology

RATIONALE: An introductory understanding of zoology is essential to all students in the life sciences. This introduction will include discussion of the universal principles of zoology and a survey of the most important groups of animals. Throughout this course, the role of animals in the biological spectrum from molecules to biosphere will be a guiding principle. An appreciation of the scientific method in assessing this role will be examined. The unity of animal life with other living organisms will assist the student in correlating and synthesizing the foundations of modern biology presented in the other core introductory courses in biology.

COURSE OBJECTIVES: At the completion of this course, the student will be able to:

1. Understand the importance of zoology as a major discipline in biology, both in historical and contemporary contexts.
2. Integrate the theory of evolution by natural selection into the phylogeny of the Kingdom Protista and the Kingdom Animalia.
3. Discuss protists and animals as dynamic representatives of the biological spectrum within the ecosphere.
4. Distinguish, by comparative biology, the following:
 - a) the protists from the metazoa;
 - b) the lower metazoa from the higher metazoa;
 - c) the radiate animals from the bilateral animals;
 - d) acoelomate, pseudocoelomate and coelomate animals;
 - e) the invertebrates from the vertebrates.
5. List the distinguishing characteristics of the Kingdom Protista and selected phyla within the kingdom.
6. List the distinguishing characteristics of the Kingdom Animalia and be able to compare the phyla Porifera, Cnidaria, Platyhelminthes, Nematoda, Mollusca, Annelida, Arthropoda, Echinodermata, and Chordata.
7. Understand the basic characteristics and comparative biology of the major vertebrate classes.
8. Appreciate the role of animals in the human environment.

ATTENDANCE: Regular attendance in both lecture and labs is expected of all students. The university recognizes certain activities and events as legitimate reasons for missing class. These include death in the immediate family, religious observation, academic field trips, participation in an approved concert or athletic event, direct participation in university disciplinary hearings, and jury duty. A lab missed for legitimate reasons must be made up the same week in which it is offered; there are no specially scheduled makeup lab sessions. If you expect to miss a lab for legitimate reasons, you must arrange to attend another lab section that same week to make up the lab. You will need to have the permission of your lab instructor and the instructor whose lab section you will be attending prior to making up the lab.

EVALUATION:

There will be **4 lecture exams** each worth 100 points. These exams will test your knowledge and understanding of the information and concepts presented in the textbook and lectures and may consist of multiple choice, short answer, and/or essay questions. Makeup exams will be administered **up to 1 week after the scheduled date of the exam** for students who have received **prior consent** to take the exam on an alternate date or for students with **documented emergencies** (e.g. documented illness or death in the family). Prior consent will be granted for documented legitimate absences (e.g. religious observation, academic field trips, participation in an approved concert or athletic event, direct participation in university disciplinary hearings, and jury duty) and such requests are to be made **by email** at least **one week prior to the scheduled exam date**. Make-up exams will not be granted to accommodate holiday or vacation travel arrangements, so be sure that your travel arrangements do not conflict with scheduled exam dates. If you require special accommodations when taking an exam, please let me know the nature of your needs at least two weeks before the exam so that I can help you make appropriate arrangements.

There will be **2 lab practicals**, each worth 50 points. These lab exams will test your knowledge of topics covered in lab, including structure, function, and taxonomy. Given the nature of lab exams, there will be no opportunity to make up a missed lab exam or to take the lab exam other than on the scheduled date. The first lab practical will be held **Wednesday March 7**, and the second lab practical will be held **Wednesday May 2**. Each student must sign up to take the exam during one of the time slots on each exam day. Sign-up sheets will be available at least one week prior to the exam. Students with valid schedule conflicts should see the lab instructor (with documented evidence of the conflict) during the first week of lab. There will be ten 50-minute time slots available for taking the lab exam, beginning at 10:00 a.m.; the last scheduled time will be at 7:00 p.m.

Lab projects, quizzes and hand-in assignments, worth a total of 150 points, will be outlined in separate handouts for each lab. The lab handouts will be available on Dr. Butler's web page (faculty.kutztown.edu/butler) and will NOT be handed out in class. Students are expected to print out the lab handouts and bring them to lab.

POINT DISTRIBUTION & GRADE ASSIGNMENTS

Lecture Exams (4)	400	A: 604-650	A-: 585-603
Lab Practical (2)	100	B+: 572-584	B: 539-571
Lab Projects, Hand-ins, Quizzes	150	C+: 507-518	C: 455-506
TOTAL POINTS	650	D: 390-454	F: fewer than 390 points

EXTRA CREDIT: There will be limited opportunities to earn extra credit in the form of unscheduled "pop" quizzes given at random during lecture. There will be no other opportunities for extra credit.

COMMUNICATION: Email is the preferred form of communication outside the classroom as it avoids misunderstandings by providing a written record of the communication. Any special requests (e.g. excused absences, accommodation due to illness, etc) and similar communications should be made via email. Students should identify themselves by first and last name in the text of the message and include the course name in the subject line. While I cannot guarantee that I will read or respond to emails that do not meet these guidelines, I promise to respond promptly to every email I receive that does meet these guidelines. If you do not receive a reply, you should assume I did not receive your email. I encourage students to use their kutztown.edu account for all email, as the KU spam blocker often filters out email sent from other servers and I delete those emails without reading them.

ACADEMIC HONESTY AND STUDENT CONDUCT: Except when directed otherwise, students are expected to work independently and to conduct themselves appropriately with respect to their fellow students and the instructors. **Plagiarism will not be tolerated for any assignment.** Plagiarism includes (but is not limited to) copying all or part of a sentence or paragraph from any work that is not your own, submitting an internet term paper or other text as your own, copying a fellow student's work, or submitting as one's own a graph produced by a fellow student. At minimum, any submitted work that contains plagiarized text will be scored a zero (0) for that assignment. An Academic Dishonesty Report will be filed for plagiarism or other acts of academic dishonesty. For more information, refer to "The Key" for the University's student conduct policy and for details on the University policy on and definitions of academic dishonesty.

LECTURE AND LAB SCHEDULE

	Lecture Topic	Reading*	Lab Exercises**
Tues, Jan. 24	Sci of Zool & Evol of Anim Div	Ch. 1	Lab 1 Ch. 1 & 2 Lab Skills, Cells & Tissues (DIT Lab)
Thurs, Jan. 26	Animal Ecology	Ch. 2	
Tues, Jan. 31	Animal Architecture	Ch. 3	Lab 2 Evolutionary Evidence
Thurs, Feb. 2	Taxonomy & Phylogeny	Ch. 4	
Tues, Feb. 7	Protozoan Groups	Ch. 5	Lab 3 Ch. 5 Protists (DIT Lab)
Thurs, Feb. 9	Protozoan Groups (cont)		
Tues, Feb. 14	Lecture Exam 1	Ch. 1-5	Lab 4 Ch. 6, 7, 8 Porifera, Cnidaria, Platyhelminthes
Thurs, Feb. 16	Poriferans	Ch. 6	
Tues, Feb. 21	Radiate Animals	Ch. 7	Lab 5 Ch. 8 (Cont.) & Ex. 9 Nematoda
Thurs, Feb. 23	Acoelomate Bilateral Animals	Ch. 8	
Tues, Feb. 28	Gnathiferans & Lophotrochs	Ch. 9	Lab 6 Ch. 10 Mollusca
Thurs, Mar. 1	Molluscs	Ch. 10	
Tues, Mar. 6	Molluscs (Cont)	Ch. 10	LAB PRACTICAL 1 (Labs 1-6) Wed March 7
Thurs, Mar. 8	Lecture Exam 2	Ch. 6-10	
Mar 12 –Mar 16	SPRING BREAK		
Tues, Mar. 20	Annelids	Ch. 11	Lab 7 Ch. 11 Annelida
Thurs, Mar 22	Annelids (Cont) & Ecdyzozoans	Ch. 11 & 12	
Tues, Mar. 27	Arthropods	Ch. 13	Lab 8 Ch. 12 Arthropoda
Thurs, Mar. 29	Arthropods (Cont)	Ch. 13	
Tues, Apr. 3	Chaetognaths	Ch. 14	Lab 9 Ch. 13 Echinodermata
Thurs, Apr. 5	Echinoderms	Ch. 14	
Tues, Apr. 10	Hemichordates	Ch. 14	Lab 10 Field Collecting
Thurs, Apr. 12	Lecture Exam 3	Ch. 11-14	
Tues, Apr. 17	Chordates	Ch. 15	Lab 11 Ch. 15, 16, & 17 Fishes & Amphibia
Thurs, Apr. 19	Fishes	Ch. 16	
Tues, Apr. 24	Amphibians	Ch. 17	Lab 12 Ch. 18, 19 & 20 Reptilia, Aves & Mammalia
Thurs, Apr. 26	Reptiles	Ch. 18	
Tues, May 1	Birds	Ch. 19	LAB PRACTICAL 2 (Labs 7 -12) Wed May 2
Thurs, May 3	Mammals	Ch. 20	
Tues, May 8 8:00 AM	LECTURE FINAL	Ch. 15-20	

* Text = Hickman et al. "Animal Diversity"

** Text = Smith & Schenk "Exploring Zoology: A Laboratory Guide Customized for Kutztown University"