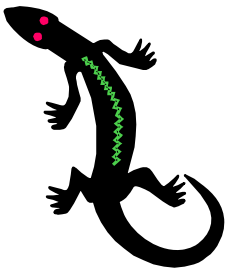


Biology 242

Animal Architecture and Physiology with Laboratory-Fall 2010

Steve Baker
Office: Pierce 117
Phone: 784-8446

Course Objectives:

1. Survey of the form and function of the invertebrate animals and protests with emphasis on classification, life histories, ecological adaptations, and medical importance. Describe *connections* between invertebrate phyla based on their development, evolutionary adaptations, and comparative anatomy.

2. Review of basic vertebrate biology and classification (lab) and physiology (lecture).

3. Develop scientific writing through in-class writings and formal project reports, and research skills through independent investigations in the classroom and laboratory.

Laboratory includes:

a. a review of classification and further study of animal architecture through dissection
b. the examination of demonstration material illustrating representative organisms from each phylum and including information about the classification, ecology, and life history of each.
c. continued emphasis on the study of biology through investigative means; including three major research investigations and several other smaller investigations addressing the physiology or behavior of various invertebrate groups.

Tentative Lecture Schedule:

Week	Date	Topic(s)	Readings
Review of Invertebrate Diversity			
1.	8/25-8/27	Intro to course, Protista	Ch. 11
2.	8/30-9/3	Protista, Porifera	Ch. 11, 12 (sponges only)
9/6		**LABOR DAY**	**Work Hard!**
3.	9/8-9/10	Porifera / Cnidaria/ Introduction to Development	Ch. 12, 13, 8
4.	9/13-9/17	Architecture Platyhelminthes	Ch. 9, 14
EXAM 1	**9/14,**	**PIERCE 101, 8 AM, COVERS THROUGH DEVELOPMENT**	
5.	9/20-9/24	Pseudocoelomates	Ch. 15
Final Report, Stentor Investigation: Due on or before 9/27 at beginning of class			
6.	9/27-10/1	Mollusca	Ch. 16
7.	10/4-10/8	Annelida	Ch. 17
		Fall Break! October 11-12	
EXAM 2, 10/5, PIERCE 101, 8 AM, COVERS THROUGH MOLLUSCA			
8.	10/13-10/15	Echinoderms, Prechordates Introduction to Chordata	Ch. 22, 23
Review of Vertebrate Physiology			
IN PHYSIOLOGY READINGS, REVIEW AND EMPHASIZE VERTEBRATE MATERIAL ONLY			
9.	10/18-10/22	Tissues, Skin, Bones	P. 186-191, Ch. 29
10.	10/25-11/29	Bones, Muscles	Ch. 29

Final Report, Regeneration Investigation, due on or before 11/5 at beginning of class

11.	11/1-11/5	Circulation	Ch. 31

EXAM 3 11/9, PIERCE 101, 8 AM, COVERS THROUGH HEART/TBA

12.	11/8-11/12	Gas Exchange, Introduction to Immunity	Ch. 31, 35
13.	11/15 - 11/19	Digestion	Ch. 32

November 24-26, Thanksgiving Break

14.	11/22	Excretion/Reproduction	Ch. 30

12/2 Poster Day! Poster presentations summarizing <u>Daphnia</u> investigation

15.	11/29-12/3	Neural Control	Ch. 33
16.	12/6	Chemical Control	Ch. 34

Note: I reserve the right to modify this syllabus and course information if I deem it necessary.

Course Information:

I. Text: Integrated Principles of Zoology, by Hickman, Roberts, Larson, et al. The newest edition is the 14th; you may be able to get by with an earlier edition if one is available. See me if you have questions.

II. Laboratory: **A. General Zoology Laboratory Guide, by Charles F. Lytle. Current edition is the 15th.**

B. Dissection Kit (required)

C. Lab Format: Lab will include:

1. Demonstrations of representative specimens of major animal groups
2. Observations and dissections of selected specimens, including frog and fetal pig
3. Investigative activities which may require oral presentations and/or written reports.

III. Additional Course Information

- This course is classified **writing intensive**. You will have two major research reports of independent laboratory investigations, a poster presentation that includes writing and poster construction, and additional writings in the classroom and outside of class. To receive credit for this class as a writing course, you must earn a minimum grade of C-.

- This class has a web site which you will find useful. Many of the web sites, photomicrographs, and study hints will be very useful. Some study questions are posted with web sites linked to each lab; you are responsible for these on the lecture quizzes. Here is the web site:

http://www.emory.edu/OXFORD/RESTRICTED/UNIVERSITY/Classes/Baker/142web/Webpages/142Index.html

- This class has a learnlink conference in which you may post questions or discuss with the instructor or other class members. Look here for class news and study hints. I will check it regularly, and I will encourage you to do the same.

- In Biology 242, you are responsible for all lecture material AND some material covered in your text readings. Pay particular attention to assigned reading topics and to broad topics not covered in lecture. We will discuss as a class expectations regarding learning material in textbook that are not covered in the lecture.

- I use the (+/-) scale for grading.

  Tentative point totals for grading are as follows:

Exams 3 @ 100	300
Lab Exams 4@50	200
Lab Write-ups and Additional Writing (two formal lab reports and one poster @25 each, additional short writings may be graded or ungraded)	100
Final Exam	175
Total	775

- Your attendance will definitely influence your grade. Roll will be taken frequently, and frequent absences will lower your course grade, particularly in students with borderline averages. Conversely, excellent attendance will likely improve your grade. Please read the departmental attendance policy and see me if you have questions.

- Tardiness is exceptionally rude and a history of regular tardiness will also have a negative impact on your grade.

- Cell phones must be turned off during lecture and lab time. Camera phones and cameras of any sort are not to be used during lecture exams or at any time in the laboratory unless specific exception is granted.

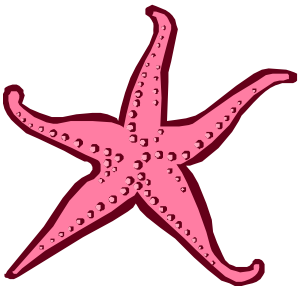
- Exams generally are not made up, unless you have a family emergency or severe illness. If you must miss the exam, you need to let me know ASAP. Exams are typically not rescheduled due to class conflicts or "rough weeks"-- it is part of your job to plan ahead for such contingencies.

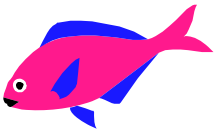
IV. Honor Code:

I adhere strictly to the Honor Code and will advise you as the course proceeds regarding rules for citation, group work, etc.

V. Miscellaneous/Office Hours

I am generally in or around the office from 8:30-9:30 MWF, 9-11 TTh, or you can make an appointment at other times. You will find that I am on campus from about 8:30-5:00 every day unless I am in the field or have family commitments. I welcome the chance to talk to you, whether it involves class work or is just to visit!





Biology 242
Laboratory - Fall 2010

Date	**Topic**	**Reading**
9/2	Protista **Investigation #1--Stentor**	Lytle, 5
9/9	Cnidaria and Porifera Dissection: *Grantia*, *Metridium*, *Aurelia*, *Gonionemus*	Lytle, 6-7
9/16	Platyhelminthes	Lytle 9
9/21	**LAB EXAM 1, PIERCE 119, 8 AM, THROUGH PLATYHELMINTHES**	
9/23	Pseudocoelomates Dissection: *Ascaris*	Lytle 10
9/30	Mollusca Dissection: *Venus*, *Loligo*	Lytle, 11
10/7	**Investigation #2, Regeneration** **(delay longitudinal cuts until after break)**	
10/14	Annelida Dissection: *Lumbricus*	Lytle, 12
10/19	**LAB EXAM 2, PIERCE 119, 8 AM, THROUGH ANNELIDA**	
10/21	Arthropoda Dissection: *Procambarus* or *Callinectes*	Lytle, 13
10/28	Echinoderms, *Amphioxus*, Demos: Echinoderms, prechordates, primitive fishes	Lytle, 14, 15
11/4	Vertebrate Tissues Dogfish, *Rana* (bones, skin frog) Demos: Teleost fishes, amphibians **Investigation #3—Cardiac Physiology**	Lytle, 16, 18, 2
11/11	Open lab for work or review	

Frog Muscles

11/16 LAB EXAM 3, PIERCE 119, 8 AM, THROUGH RANA BONES

11/18 *Rana* (internal, cow heart) Lytle, 18; 319-320.
Demos: reptiles, birds

Thanksgiving Holiday—November 24-26

12/2 *Sus* Lytle 19

12/7 LAB EXAM 4, PIERCE 119, 8 AM, THROUGH *SUS*