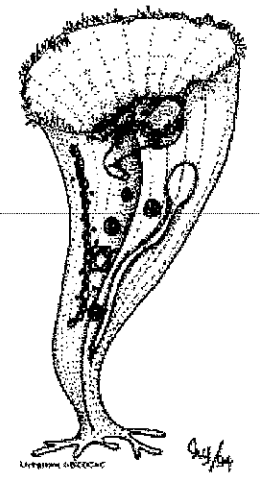
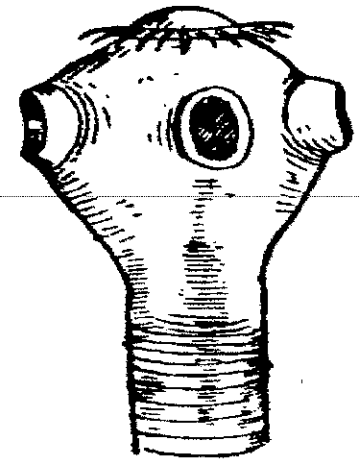


Biology 242

Animal Architecture and Physiology
Spring 2012

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 and research skills. This course is approved as a writing- rich course.

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 (13th ed.)
Review of Invertebrate Diversity			
1.	1/18-1/20	Intro to course, Protista	Ch. 11
2.	1/23-1/27	Protista, Porifera	Ch. 11, 12 (sponges only)

3.	1/30-2/3	Cnidaria/ Introduction to Development	Ch. 13, 8
4.	2/6-2/10	Architecture Platyhelminthes	Ch. 9, 14

EXAM 1 2/7, PIERCE 101, 8 AM, COVERS THROUGH DEVELOPMENT

5.	2/13-2/17	Pseudocoelomates	Ch. 15 (Rotifera, Acanthocephala) Ch. 18
6.	2/20-2/24	Mollusca	Ch. 16

Draft, Stentor Investigation: Due on or before 2/13 at beginning of class

7.	2/27-3/2	Annelida Echinoderms	Ch. 17, 22

Final Report, Stentor Investigation, Due on or before 2/27

EXAM 2, 3/1, PIERCE 101, 8 AM, COVERS THROUGH MOLLUSCA

8.	3/5-3/9	Echinoderms, Prechordates Introduction to Chordata	Ch. 22, 23

Spring Break! March 12-16

Review of Vertebrate Physiology

IN PHYSIOLOGY READINGS, REVIEW AND EMPHASIZE <u>VERTEBRATE MATERIAL ONLY</u>

9.	3/19-3/23	Tissues, Skin, Bones	P. 192-197, Ch. 29
10.	3/26 – 3/30	Muscles/Circulation	Ch. 29,31

Final Report, Regeneration Investigation, due on or before 3/26 at beginning of class

11.	4/2-4/6	Circulation/Respiration	Ch. 31

EXAM 3 4/3, PIERCE 101, 8 AM, COVERS THROUGH MUSCLES

12.	4/9-4/13	Introduction to Immunity; Digestion	Ch. 35,32
13.	4/16-4/20	Excretion; Reproduction	Ch. 30; p. 145-153
14.	4/23-4/27	Neural Control	Ch. 33

Zoology Poster Day Date and Time TBA

15. 4/30 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: You have two options. One has better photos, the other more detailed drawings. Choose the one that you think best suits your learning style.

A. **Exploring Zoology; A laboratory guide,** by David Smith and Michael Schenk. This was lab text ordered by bookstore; lots of pictures!

General Zoology Laboratory Guide, by Charles F. Lytle. Current edition is the 15th. Previous edition will be OK. More detailed diagrams. Available online.

B. Dissection Kit (required)

C. Additional Materials-- The "writing about biology" Handbook will be available on reserve in the library. You may find it useful in your write-ups.

D. 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 rich.** 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.

- This class has a Blackboard site which you will find helpful. Many of the web sites, posted lab outlines, photomicrographs, and study hints will be very useful.

- 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	about 100
(two formal lab reports and one poster @25 each, additional writings in/out of class)	
Final Exam	175
Total	approximately 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 to take pictures during lecture exams or at any time in the laboratory. Computers may not be used in lecture or lab without permission.

- 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.

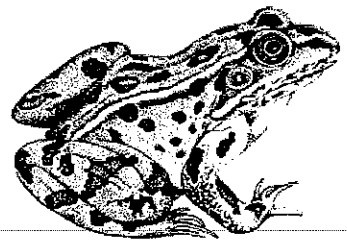
"Student work submitted as part of this course may be reviewed by Oxford and Emory faculty/staff for the purposes of improving instruction and enhancing Emory education."

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, also generally T-W afternoons, or you can make an appointment at other times. You will find that I am on campus from about 8:00-5:00 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 – Spring 2012

Date	Topic	Reading (Smith)
1/26	Protista	5
2/2	Cnidaria and Porifera Dissection: *Grantia, Metridium, Aurelia, Gonionemus* **Investigation #1—Stentor**	6-7
2/9	Platyhelminthes	8
2/16	**LAB EXAM 1, PIERCE 119, 8 AM, THROUGH PLATYHELMINTHES**	
2/16	Pseudocoelomates Dissection: *Ascaris*	9
2/23	Mollusca Dissection: *Venus, Loligo*	10
3/1	Annelida Dissection: *Lumbricus* **Investigation #2, Regeneration**	11
3/8	**LAB EXAM 2, PIERCE 119, 8 AM, THROUGH ANNELIDA**	
3/8	Arthropoda Dissection: *Procambarus or Callinectes*	12, (crayfish)
3/22	Echinoderms, *Amphioxus*, Demos: Echinoderms, prechordates, primitive fishes	13, 14
3/29	Vertebrate Tissues Dogfish, *Rana* (bones, skin frog) Demos: Teleost fishes, amphibians **Investigation #3—Cardiac Physiology**	15, 17, 2

4/5	Open lab for work or review	
4/12	**LAB EXAM 3, PIERCE 119, 8 AM, THROUGH RANA BONES**	
4/12	*Rana* (musculature, cow heart) Demos: reptiles, birds Begin internal if desired	17
4/19	Mammal demos *Rana* internal	
4/26	*Sus*	20
5/1	**LAB EXAM 4, PIERCE 119, 8 AM, THROUGH *SUS***	

ABSENCE POLICY – Biology Department

All students are expected to attend all lecture and laboratory sessions. However, emergencies may arise which will necessitate absences from class. Students are allowed 4 cuts in lecture and **NO CUTS** in lab. Students may only miss lab without penalty in cases of illness, family emergency or a school sponsored event **which is cleared with the professor in advance.** Students are responsible for all material which is covered in laboratory and lecture. When possible, students will be allowed to "make-up" laboratory material missed due to an excused absence; however, because of the nature of laboratory material, actual "make-up" of missed activities is usually impossible.

PENALTIES

Students who exceed the 4 cut limit in lecture for whatever reasons of have an unacceptable absence from laboratory will have their FINAL grade reduced 5 points per absence. **Students who miss 2 labs without acceptable reasons will fail the course (see below).**

LECTURE ABSENCES:

THERE ARE NO EXCUSED ABSENCES FOR LECTURE. Each student may be absent four times without penalty. These four cuts may be used for any reason: illness, studying, travel, family emergency, etc. However, ANY additional cuts will result in grade reduction. **USE YOUR CUTS JUDICIOUSLY**, e.g., for sick leave only.

ACCEPTABLE LABORATORY ABSENCES

Although no discretionary absences, i.e., "cuts", are allowed regarding laboratory, on rare occasions, illness, family emergencies, or certain school sponsored events may make it necessary for a student to miss a laboratory session. The instructor MUST be notified prior to the day of the absence in all but the most extreme emergencies.

In all cases, the final decision regarding whether or not an absence is acceptable will be made by the instructor.

AN UNACCEPTABLE ABSENCE FROM LABORATORY RESULTS IN A FIVE POINT REDUCTION IN THE FINAL GRADE. TWO UNACCEPTABLE LABORATORY ABSENCES RESULT IN FAILURE OF THE COURSE.

MISSED TESTS

Ordinarily, tests cannot be made up, however, this is up to the instructor. If a student misses a test, and the absence is acceptable the missed test will not count either for or against the student. If the absence is not excused the grade will be a zero. Students are cautioned that any excuse for missing an exam will come under severe scrutiny by the instructor. **THE INSTRUCTOR MUST BE NOTIFIED PRIOR TO THE TIME OF THE EXAM, AND THE INSTRUCTOR MAKES THE FINAL DECISION REGARDING WHETHER OR NOT AN ABSENCE IS ACCEPTABLE.**

Laboratory tests which are missed for a reason that is excused **MUST** be made up. **The instructor must be notified prior to the time of the test.**

RELIGIOUS HOLIDAYS:

Students must notify the instructor one week in advance if they intend to be absent for a religious holiday.

TARDINESS

Being late to class is rude and distracting. Continued tardiness by any student will result in the assignment or absences and ultimately a reduction in the student's grade. **Three tardies equal an absence.** The tardy student is responsible for notifying the instructor that she/he entered the classroom late and, therefore was not absent. The instructor reserves the option of excluding a person from further classroom or laboratory participation if the student is continuously tardy.

Falsification of information regarding absences from class or laboratory will be considered as a breach of academic integrity.

09/2008

CLASSROOM AND LABORATORY GUIDELINES

Department of Biology

1. Eating and drinking are not allowed in either classrooms or laboratories. Therefore, do not bring food items and beverages to class or laboratory. The use of tobacco in any form is forbidden in Pierce Hall.

2. Students are expected to wear appropriate attire in classrooms and laboratories. Students must wear closed toed shoes in the laboratory.

3. Students should thoroughly wash their hands before leaving the laboratory.

4. Students must be safety conscious at all times but especially in the laboratories. Special procedures will be reviewed during laboratory sessions as needed.

5. All students are requested to help with housekeeping in the classroom and laboratory.

6. Materials may not be taken out of the laboratories. This includes microscopes, microscopic slides, demonstration notes and materials, charts, and all other items which are to be found in the laboratory.

7. Students may not photograph laboratory materials.

8. Violation of any regulation notes in Sections 6 and 7 above will be treated as a breach of academic integrity. Therefore, such violations will be immediately reported to the Honor Council.