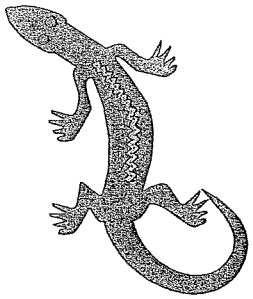


# *Biology 142*

## *General Biology II with Laboratory-Spring 2003*

**Steve Baker**
**Office: Pierce 117**
**Phone: 784-8446**

## *Course Objectives*:

1. Survey of the Kingdoms Fungi, Archaea, Eubacteria, and Protista with emphasis on the form, function, and medical importance of each group.

2. Describe basic developmental processes in invertebrate and vertebrate organisms.

3. Survey of the form and function of the invertebrate animals 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.

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

5. 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. | 1/15-1/17 | Monera<br>Group study project: Fungi | Campbell Ch. 25 |
| | *1/20* | *Martin Luther King Holiday* | |
| 2. | 1/22-1/24 | Monera , Protista | Campbell Ch. 25<br>H Ch. 16 |
| 3. | 1/27-1/31 | Protista, Porifera, Cnidaria | H Ch. 16, 17, 18 |
| 4. | 2/3-2/7 | Cnidaria, ,Development | H Ch.18<br>H Ch 14 |
| 5. | 2/10-2/14 | Systematics, Platyhelminthes | H 353-358<br>H Ch 19 |
| EXAM 1 | **2/20, PIERCE 101, 8 AM, COVERS THROUGH DEVELOPMENT AND SYSTEMATICS** | | |
| 6. | 2/17-2/21 | Pseudocoelomates | H Ch. 20, |
| | **2/24, Write-up for First Investigation due at start of class** | | |
| 7. | 2/24-2/28 | Mollusca, | H Ch. 21, |
| 8. | 3/3-3/7 | Annelida<br>Echinoderms | H Ch. 22<br>H Ch. 25 |
| | **SPRING BREAK! MARCH 10-14** | | |
| EXAM 2 | **3/20, PIERCE 101, 8 AM, COVERS THROUGH ANNELIDA** | | |
| 9. | 3/17-3/21 | Echinoderms<br>Introduction to Chordates<br>Chordate Tissues | H Ch. 25<br>H Ch. 26<br>H. Ch. 6, 141-155 |

*Review of Vertebrate Physiology*

*IN PHYSIOLOGY READINGS, REVIEW AND EMPHASIZE VERTEBRATE MATERIAL ONLY*

*3/24, Write-up for Second Investigation due at start of class*

| | | | |
|---|---|---|---|
| 10. | 3/24-3/28 | Support, Protection, Movement | H 158-164 |
| 11. | 3/31-4/4 | Circulation | H 193-198 |
| 12. | 4/7-4/11 | Respiration, Digestion | H 199-208<br>H 226-238 |
| EXAM 3 | 4/15, PIERCE 101, 8 AM, COVERS THROUGH GAS EXCHANGE | | |
| 13. | 4/14-4/18 | Excretion / Immunity | H 168-170,<br>173-179<br>H. Chapter 9 |
| 14. | 4/21-4/25 | Neural Control | H 241-253 |

***4/21, Write-up for Third Investigation due at start of class***

| | | | |
|---|---|---|---|
| 15. | 4/28 | Chemical Control | |

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

## *Course Information:*

**I. Text: Biology of Animals, Hickman, Roberts, and Larson. Seventh Edition**

Your Campbell text from 141 will be used for some assignments

**II. Laboratory: A. Laboratory Studies in Integrated Principles of Zoology, by Hickman, Hickman, Kats (required)**

**B. Dissection Kit (required)**

C. **Additional Materials**-- You may want to buy (share with a friend) a copy of the Rust book for Biology Labs if you didn't last semester. It will be very useful. **In addition, the 141 lab manual will be used for at least two labs in 142.**

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 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 142, you are responsible for all lecture material AND material covered in your text readings. Pay particular attention to assigned reading topics and to broad topics not covered in lecture.

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

- Tentative point totals for grading are as follows:

| | |
|---|---|
| Exams 3 @ 100 | 300 |
| Lab Exams 3@50 | 150 |
| Lab Writeups and Additional Writing | 60 |
| Final Exam | 175 |
| Total | 685 |

- 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.

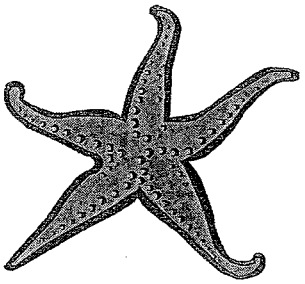
- Exams generally are not made up, unless you have a family emergency or severe illness. If you must miss the exam, you need to let me know ASAP. Exams are typically not rescheduled due to class conflicts or "rough weeks"-- it is part of your job to plan ahead for such contingencies.

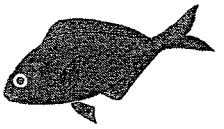
## IV. Honor Code:

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 the office from 9-11 on Tuesday and Thursday, or you can make an appointment at other times. I am generally available at any time, however, and I welcome the chance to talk to you, whether it involves classwork or is just to visit!





*Biology 142*
*Laboratory - Spring 2003*

| Date | Topic | Reading |
|---|---|---|
| 1/16 | No lab | |
| 1/23 | Kingdom Fungi<br>Bacteriology - Kingdom Monera<br>**Investigation #1** | Morgan and Carter 372-385<br>Morgan and Carter,<br>Ex. #13 |
| 1/30 | Protista and Porifera<br>Dissection: *Grantia* | Lytle, 5-6 |
| 2/6 | Cnidaria<br>Dissection: *Metridium, Aurelia, Gonionemus* | Lytle, 7 |
| 2/13 | **LAB EXAM 1, PIERCE 119, 8 AM, THROUGH CNIDARIA** | |
| 2/13 | Development | Morgan and Carter,<br>Ex. #24, Lytle, 4 |
| 2/20 | Platyhelminthes and Pseudo-coelomates<br>Dissection: *Ascaris*<br>**Investigation #2** | Lytle, 9-10 |
| 2/27 | Mollusca<br>Dissection: *Venus, Loligo* | Lytle, 11 |
| 3/6 | **LAB EXAM 2, PIERCE 119, 8 AM, THROUGH MOLLUSCA** | |
| 3/6 | Annelida<br>Dissection: *Lumbricus* | Lytle, 12 |
| 3/20 | Arthropoda<br>Dissection: *Procambarus*<br>**Investigation #3** | Lytle, 13 |
| 3/27 | Echinoderms, *Amphioxus*,<br>Demos: Echinoderms, prechordates, primative fishes | Lytle, 14, 15 |
| 4/3 | **LAB EXAM 3, PIERCE 119, 8 AM, THROUGH PRIMATIVE FISHES** | |

| | | |
|---|---|---|
| 4/3 | Vertebrate Tissues Dogfish, *Rana* (bones)<br>Demos: Teleost fishes | Lytle, 16, 18, 2 |
| 4/10 | Dogfish Dissection/ Open Lab<br>Demos: Amphibians, reptiles | |
| 4/17 | *Rana* (musculature, cow heart)<br>Demos: birds | Lytle, 18; 319-320. |
| 4/24 | *Sus,* sheep brain<br>Demos: mammals | Lytle, 19 |
| 4/28 | Lab closed at 8 AM | |
| 4/29 | **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 or 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 of 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.

01/95