

## ANIMAL PHYSIOLOGY SYLLABUS

**Professor:** Dr. Jay Blundon  
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**Phone:** X 3562  
**Office hours:** Tues 1:00 - 3:00 pm, by appointment  
**Class:** TuTh 11:00 am - 12:15 pm, Palmer 206 (lec.) and Mon. 1 - 5 pm, FJ 139W (lab)

**Required reading:** Silverthorn, D. U., 2006. *Human Physiology: An Integrated Approach*, 4th edition. Pearson/Benjamin Cummings, San Francisco, CA, 912 pp.  
Blundon, J. A., 2006. *JAB Guide to Physiology*.

Welcome to Animal Physiology. Biology 340 is a one-semester course that has the potential to cover many diverse topics that relate to animal physiology, both invertebrate and vertebrate. **My main objective for this course** is to provide you with a variety of learning situations in order to:

- a) give you a better understanding of and appreciation for fundamental principles and concepts of physiology and
- b) to further your experience in teaching yourself how to learn.
- c) add to your training in scientific communication and evaluation, both written and oral

You should also establish your own personal goals and objectives for this course and make a constant effort to meet these objectives.

I will try to make the course more interesting and your learning more permanent by seeking your active participation in many areas of the course. This semester you will:

### **1) plan the course syllabus by suggesting topics of interest on the first day of class**

Because there's so much we can learn about physiology, I'd like to give each of you the opportunity to suggest topics of interest that you'd like to explore. We will discuss what these topics might be, and arrange them into a schedule of lectures. If some topics of particular importance get left out of the discussion, I will suggest them as well.

### **2) present topics of interest to the class in the form of an oral presentation**

### **3) be involved in all aspects of the course such as writing exam questions, and evaluating peer exams, oral presentations, lab reports and posters**

### **4) perform several laboratory experiments which will then be presented as publication quality manuscripts or professional quality posters**

### **5) participate in group and class discussions of homework and exam study questions**

It is my hope that the combination of all these tasks and opportunities will provide you with a stimulating and engaging learning experience. While we will undoubtedly discuss and explore many important facts, concepts and principles in physiology this semester, the ultimate goal of any student should be to progress beyond a level of learning that relies solely

on knowledge acquisition. By soliciting active student participation in all aspects of the class, I aim to emphasize learning that relies on the ability of each of you to create your own knowledge. After all, the science facts that we find in all textbooks today were at one time undiscovered, and only through careful and organized thinking, planning, and experimentation have those ideas become established.

This is a challenging course that demands your active involvement and diligence, but what are the rewards? I hope that when the semester is over, you'll look back and feel that this course has been a positive component to your education that has given you a thorough and long-lasting understanding of physiology, and that your active participation and hard work have helped advance your training as a scientist and independent thinker.

## Grading

Exams 1 and 2	32%
Final exam	22%
Oral presentations	8%
Laboratory	32% (two reports and one poster count 8% each, 8% for lab abstracts, 2% each X 4)
Homework	6%

## Explanation of tasks

### *Exams*

1) Objective: Taking a test provides a valuable opportunity to review material you have learned in class and to examine the depth with which you understand concepts. We will discuss in class the appropriate criteria of exam questions that will enable you to critically analyze course material and give you the opportunity to demonstrate your comprehension.

2) Exam writing: In order to create a thorough, thought provoking exam question that truly tests your comprehension of concepts, you must of course understand the material totally. Student writing of exam questions is therefore the next step in mastery of concepts. Exams will incorporate the best and most appropriate questions submitted by students beforehand. You will submit exam questions according to criteria established in advance. These questions are to be written by you individually, but you are encouraged to share the questions with your peers in preparation for the exams. Student exam questions (but not answers) will also be placed in the class folder as a study aid. The Final Exam will also incorporate student questions. On the last day of class, students will bring exam questions to class and within small groups these questions will be reviewed and discussed. Then groups will exchange the best questions they have reviewed and answer each other's questions. These questions and answers will then be presented to the class as a whole for discussion.

3) Exam format: The two lecture exams and the final exam will be closed book "open door" exams. The exams will be placed in a folder outside my office door. When you are ready to take the test, come to Frazier Jelke with no materials other than pencils and a blue book. Come to my office and sign out your copy of the exam. You must take the exam

somewhere on campus in a public place. You will be given a limited amount of time to complete the exams, and the use of any notes, books, aid from other students, etc. will not be permitted. After you are finished the exam, or the allotted time has expired, return the exam to my office.

4) Peer evaluation of exams: During the next class, you and your peers will evaluate exams following a detailed discussion of the correct answers. The criteria upon which answers will be evaluated will be agreed upon beforehand by the class, and the evaluator of each question will explicitly indicate the credit received under these criteria. A different individual will grade each of your answers. To maintain anonymity of both student and grader, students will **not** put their names on their assignments, only their social security number.

5) Fairness of grading: I will review the peer evaluations of all exams to ensure fairness and equity among all students.

6) No make-up examinations will be given. A missed exam equals a zero. If you are absent for a medical reason, notify me as soon as possible. You will be given an oral exam as substitution for the written exam.

### *Oral presentation*

1) Objective: The purpose of inviting students to prepare and deliver oral presentations to the class stems from my feelings that you are capable of learning from each other. The oral presentations provide a formal opportunity for the students to research a subject of particular interest to them, which also fits into the general theme of what the class is discussing, and to organize that material into an informative and effective presentation before an interested audience. Besides, one learns most when one has to “teach” or explain to others.

2) The material presented by students will become part of the general body of knowledge for which you are responsible. You can get ideas for presentations from the lecture schedule, your text or other physiology texts, journal and review articles, or even from Internet searches.

3) Format: The presentation is to last 12 minutes in duration. At 11 minutes, I will indicate that you have 1 minute of time remaining. At that time, if you have not already finished you should summarize the highlights. Three additional minutes will be allotted for questions from the class. In order to attain your objectives in the allotted time it is imperative that you practice your presentation. Clearly state the question you plan to address in your presentation, and don't be too ambitious in what you can accomplish in 12 minutes.

4) Supplementary material: We will be meeting in a “smart classroom” equipped with multimedia technology. PowerPoint presentations are an especially effective media for teaching, and I would encourage each of you to use this media for your oral presentation. To enhance the effectiveness of your presentation you should prepare an outline to be given to the audience before your talk. In this guide you will find instructions for preparing a PowerPoint presentation as well as how to scan printed matter into digital images that can then be added to your presentation.

5) Evaluation: Your peers will judge the degree to which you have succeeded in achieving the objectives of your presentation. After each presentation the class will complete a brief evaluation form and provide written comments for the presenter. These forms will be returned to the presenter at the next class. On the basis of these evaluations, the presenter will arrive at a fair numerical grade for their effort, which is to be submitted to me with written justification, within a week.

### *Homework*

I feel that students learn best not by listening to the professor lecture, but by actively engaging in a discussion of the concepts and ideas. If I rely only on volunteers to answer questions in the discussion, there will invariably be those that choose to participate less, and therefore they will benefit less. I therefore will call on students in class randomly to answer discussion questions, and I will try and involve everyone in each class discussion. To help you prepare you for each class discussion, at the end of each class I will give you a homework reading assignment and questions that will be a part of the discussion during the next class period. To encourage you and to reward you for preparing answers to class questions ahead of time, I will frequently but randomly collect the homework questions. You need not have all correct answers to receive credit for the homework, but you must complete the assignment. Exam questions written by students will also receive homework credit.

### **What do I expect of you?**

I hope that this class will be informative, memorable, and enjoyable. I do ask many things of you. Most important is your enthusiasm, curiosity, and interest. If you bring these attitudes to class, you can't help but learn. While it is my pleasure to guide and help you in all of your academic pursuits, I consider your learning to be first and foremost your own responsibility. You will find that you get as much out of this course as you put into it.

Some additional specifics to do well in this course:

- 1) Read assigned materials before class and to come to class prepared with more questions to clarify your knowledge of the material. Prepare answers to homework questions thoroughly.
- 2) Follow the criteria established by the class for creating and answering exam questions, lab reports, and presentations, as well as the criteria for evaluating these assignments.
- 3) Be a verbal participant during class or lab time. If there's a concept you don't understand, then you're probably not alone. If you've come up with new questions based on your reading, ask them.
- 4) Accomplishments of these items demand regular class and lab attendance (on time!).

### **On-going evaluation of the course**

**We're in this together!** It has been said that the acquisition of knowledge is a personal exploration and not a guided tour. I hope that, along with class lectures and discussions, the many different tasks you will be assigned this semester will help you in your exploration of physiology. Yet I have never considered learning to be a one way street. Through the help

and feedback of students, I am constantly trying to improve my ability to teach. I encourage you to provide feedback to me so that we can all better accomplish our goals for this course. I will solicit feedback from you in two ways:

1) Daily class log: I will provide a notebook which will be circulated in class during each meeting. In this book please feel free to make any comments whatsoever (anonymous or not) about the course. Comments may relate to specific questions about material in lecture or text that you feel need additional clarification, or may be about tasks assigned during the semester and how they help or hinder your learning about physiology. I will try to answer questions about class material either in class or directly in the log next to the entry. If you have helpful criticisms/suggestions regarding my teaching of the course (lectures, exams, labs, homework assignments, etc.), I will respond to them in the class log or in class and perhaps try to incorporate changes into the class. Also, by circulating the log book among the students, perhaps you will get the indication that you're not the only one in class who doesn't understand a certain concept or idea, and that it's OK to ask for additional help, either during class or later one on one with me. During non-class hours, the logbook will be kept in a folder outside my office door.

2) Questionnaire: I will give you a questionnaire at the end of semester which will ask for feedback on many specific aspects of the course, whether these aspects have helped or hindered your learning physiology, and how you might improve the course. Again I will earnestly try to be responsive to your feedback.

### **Office hours**

Although I do have a few specific hours a week I have designated as office hours, if I'm not lecturing or teaching a lab I am usually in my office. If you have questions about material pertaining to the course or lab or about biology in general, comments or feedback about the way the semester is proceeding, please don't hesitate to stop by at any time. I feel one of the satisfactions that comes with teaching at a small institution such as Rhodes is the opportunities that both students and faculty have to get to know each other and learn from each other.

### **In accordance with the Student Honor Code:**

- 1) Assignments written by you are to be done individually with no help from others unless otherwise specified. Any scientific literature used in writing lab manuscripts must be thoroughly documented.
- 2) There will be no giving aid to or receiving aid from a student or other source (text, notes, etc.) on any exam.
- 3) Computer files that do not belong to you or your lab group, although they may be readily available on the computer's hard drive, are not to be accessed or disturbed in any way.
- 4) Lab computers are to be used for biology related work only, unless you have permission from the instructor.
- 5) It is also your obligation to evaluate the work of your peers fairly, honestly, professionally, and without bias.
- 6) Finally, any work you submit for this class must not have been performed for a previous class and may not be used for the fulfillment of requirements in other classes.