

**COMPARATIVE ANIMAL PHYSIOLOGY**  
**3100:473/573**

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**Lecture:** SHS 229, 9:15am – 10:30am Monday and Wednesday  
**Office Hours:** Tues 10:30am – 11:30am, Wed 10:30am – 11:30am  
 or by appointment  
**Materials:** Animal Physiology: Hill, Wyse, and Anderson  
 eInstruction RF remote control

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<b>DATE</b>	<b>SUBJECT</b>	<b>CHAPTER</b>
01/17/2006	Introduction to Comparative Physiology	Somero Paper
01/23/2006	Nutrition, Feeding, & Digestion	4
01/25/2006	Nutrition, Feeding, & Digestion	4
01/30/2006	Energy Metabolism	5
02/01/2006	Aerobic/Anaerobic Metabolism	6
02/06/2006	Aerobic/Anaerobic Metabolism	6
02/08/2006	Energetics of Aerobic Activity	7
02/13/2006	Thermal Relations	8
02/15/2006	Thermal Relations	8
02/20/2006	Thermal Relations	8
02/22/2006	Mammals in Cold Places	9
02/27/2006	<b>EXAM #1 (Chapters 4-9)</b>	
03/01/2006	Intro to O <sub>2</sub> and CO <sub>2</sub> Physiology	20
03/06/2006	External Respiration	21
03/08/2006	External Respiration	21
03/13/2006	Transport of O <sub>2</sub> and CO <sub>2</sub>	22
03/15/2006	Transport of O <sub>2</sub> and CO <sub>2</sub>	22
03/20/2006	Circulation	23
03/22/2006	Circulation	23
03/27/2006 – 03/31/2006	<b>SPRING BREAK</b>	

04/03/2006	Diving by Marine Mammals	24
04/05/2006	<b>EXAM #2 (Chapters 20-24)</b>	
04/10/2006	Intro to Water and Salt Physiology	25
04/12/2006	Environmental Physiology of Water and Salt	26
04/17/2006	Environmental Physiology of Water and Salt	26
04/19/2006	Kidneys and Excretion	27
04/24/2006	Kidneys and Excretion	27
04/26/2006	Kidneys and Excretion	27
05/01/2006	Mammals of Deserts	28
05/03/2006	Review	
05/10/2006	<b>COMPREHENSIVE FINAL EXAM (12:00pm - 1:55pm)</b>	

### Schedule

This is a tentative schedule. Certain topics may overlap these dates and other topics may be covered in a shorter period of time. Therefore, you will need to attend all lectures. If you miss a lecture for any reason, you are responsible for getting in-class notes for that period from a classmate.

### Course Description

In this course we will take the *fundamentals* of animal physiology to an advanced level while maintaining an emphasis on understanding the major physiological mechanisms common to all animals. The theme of the course is “unity in diversity”. The course is designed for majors in biology and pre-professionals who require specific training in advanced animal physiology. The lecture portion of the course will be taught in *multimedia* format.

### Course Objectives

Each student will learn the *fundamental principles* and *mechanisms* of the following areas: digestion, energy metabolism, aerobic and anaerobic activity, thermal physiology, oxygen and carbon dioxide physiology, circulation, osmotic balance. Mastery of these principles, mechanisms and their supporting facts will be necessary for undertaking in-depth biological and pre-professional studies in the future. Finally, students will be required to use factual knowledge to evaluate and interpret general physiological relationships.

## Course Requirements

Students are assumed to have taken general biology (3100:112) and chemistry (3150:153). Students who have taken animal physiology (3100:363) will have a distinct advantage in this course as they will have learned many fundamental principles of physiology already. Thus, students who have not had 3100:363 may have to commit additional time to learning the material. Students are expected to read the assigned chapters **BEFORE** the lecture on that subject. Attendance is strongly recommended as points are allotted to in-class activities. Your participation during in-class assignments is expected. If you are not present, you will receive a zero. Some of these assignments will be done in groups while others will be done individually.

I expect class to be run in an environment that enhances learning. This means that distractions should be limited. Cell phones, pagers, etc. **MUST** be turned off while you are in class. Individuals not enrolled in the class should be given permission to attend class prior to the lecture period. I also expect that students will treat one another with respect.

## Exams and Grading

Your course grade is broken down as follows:

EXAM #1	02/27/2006	20%
EXAM #2	04/05/2006	20%
ASSIGNMENTS		30%
REMOTES/PARTICIPATION		5%
FINAL EXAM	05/10/2006	25% (Comprehensive)
		<hr/>
		100%

3100:573 students will be expected to complete one additional major assignment and also present something to the class (either a journal article related to class material or a portion of the class material itself)

Lecture tests will cover the text reading assignments with emphasis on the topics covered in detail by lectures. The final exam **WILL BE COMPREHENSIVE**, i.e. it will cover the entire semester.

**There is no provision for dropping low test scores, or for retaking any tests for a better grade.**

**NO EXTRA CREDIT**

## Final Grade

The letter grade for the course will be distributed as follows:

<u>% Score</u>	<u>Grade</u>
92.0 - 100	A
89.0 - 91.9	A-
86.0 - 88.9	B+
82.0 - 85.9	B
79.0 - 81.9	B-
76.0 - 78.9	C+
72.0 - 75.9	C
69.0 - 71.9	C-
66.0 - 68.9	D+
62.0 - 65.9	D
59.0 - 61.9	D-
58.9 and below	F

Final scores will **NOT** be rounded up: e.g. a score of 88.99 will still be a B+.

If the student wishes to retake the course for a better grade, the **entire** semester must be repeated.

This course does **NOT** accept additional work for extra credit to raise an otherwise low grade; students wishing to do additional work should spend extra time trying to learn the basic principles being taught by the course. Students who might wish to work with a tutor in this course may go to Carroll Hall 215a Monday through Friday and request **free** tutorial assistance. Call 330-972-6552 for further information or go to the Tutoring Office in Carroll Hall 215a.

University policy prohibits discussion or releasing of final grades over the phone or through email.

Final grades are final grades. Unless there is an error in grade calculation, I will **NOT** entertain discussions regarding "bumping up" a borderline grade.

## **Taking Tests**

For the purposes of test security and fairness to all, **no latecomers will be allowed to begin a test/exam after the first answer sheet has been turned in during the test period!**

COME TO TESTS **ON TIME** or forfeit your right to take the test!

**THERE ARE NO MAKE-UP EXAMS.**

So what happens if you miss a test?

In order to avoid a ZERO on that exam:

The student must notify the instructor **before 5pm on the day of the test** in order for the instructor to determine if the excuse is valid. If the excuse is valid, the instructor will modify questions on the final exam to cover this material, and the weight (the percent value of the course grade) of the final exam will be increased accordingly.

It is NOT the responsibility of the instructor to contact the student to validate an excuse or follow up after a message has been left. If you do not hear from me, you still have a zero on your missed exam.

Only legitimate excuses will be accepted (such as serious illness or a death in the family). Oversleeping, forgetting about the test day, vacation, etc. demonstrate a lack of responsibility by the student and are not acceptable excuses. The instructor will require **documentation** of the reason for the absence from the student. An unexcused absence from a test will result in a grade of **zero** on the test.

**More than one zero on any of the tests will result in an automatic failing course grade.**

## **WebCT**

webct.uakron.edu (Login using your UAnet ID and password)

This is where you will find everything regarding the course and the labs. I will post announcements, lecture notes, comments, changes, lab assignments, grades etc. on WebCT so it is imperative that you access this site regularly.

**HAND IN ASSIGNMENTS USING WEBCT**

**FOR CORRESPONDENCE, USE EITHER WEBCT OR REGULAR EMAIL**

(Regular email – Please put “Animal Physiology” in the subject line of your email)

Use proper etiquette when emailing – see “netiquette” link in WebCT.

## **Remote Control Units**

- 1) We will be using the remotes for every class excluding testing days. Please bring your remotes to class every time.
- 2) Successfully participating in ALL the remote questions for a given class lecture is worth 10 points.
- 3) Questions might be asked at the beginning of class, during, or at the end of class. For each question missed that day, 2 points will be deducted from your 10 point score for that day.
- 4) If you answer all of the questions correctly for that given day, you will receive 1 bonus point (i.e. 11 points for that day).
- 5) If you are absent that day, you will receive a zero.
- 6) I realize that you will have to occasionally miss class for some reason. Therefore, at the end of the semester, I will drop your 4 lowest scores. Therefore, if you miss more than 4 classes, it will negatively affect your score.
- 7) I may make available a very few extra remotes for those occasions when people forget their remote or experience problems but are present in class. I will extend this courtesy on a first come first serve basis and reserve the right to refuse this courtesy if it is used irresponsibly. You absolutely must email me on the day you used the borrowed remote indicating your name, the day you borrowed the remote, and the remote number.
- 8) For each question, I will advise you whether this is a group effort or an individual effort.
- 9) ANY form of cheating with the remotes (for example, bringing your friend's remote to class so that he/she will get points) will result in a ZERO for the entire participation component of your grade. The zero will be enforced for all involved.
- 10) I reserve the right to remove this participation component from the course at any time and transfer the weight to the final exam.
- 11) Knowing and understanding the above rules are your responsibility.

## **Attendance and Learning**

Physical presence in a classroom will not contribute points to your grade; your grade is determined entirely by your demonstration of your understanding of the material (including the remote questions). The most efficient and profitable way to learn the material is by attending, paying attention, and participating in lectures and laboratories. Furthermore, important announcements and handouts will be given in lectures from time to time and may not be posted on WebCT. If you choose to be absent from lecture, it is your responsibility to find out what you missed. Do not expect your professor to spend time repeating what was already presented once.

To do well in this class, I recommend the following:

**1. Attend class and listen to the lecture.**

Take additional notes on areas that confuse you. If you bring the lecture notes from WebCT to class, you can listen rather than recopy what was already given to you.

**2. Read the chapters before class, then again after class.**

If you read the chapter before I lecture about it, you will have an excellent idea of what I am talking about and be able to take notes more easily. If you read the notes again after I lecture, you will be able to now focus on the important aspects of the chapter and flush out any confusing areas.

**3. Make your own complete set of notes!**

The danger of WebCT and PowerPoint is that you have a summarized version of the chapter. In not making notes, you skip a critical step in the learning and studying process. Using the PowerPoint notes, my lecture, and the text chapter, I recommend making your own set of complete notes (in a timely manner) from which to study.

**4. Ask questions.**

Don't be afraid to ask a question during class. Chances are other students are also confused. You can also ask questions of me outside of class either in person or via email.

**5. Study with others in the class. You can help one another learn.**

**6. Lastly, you need to spend considerable time on this material outside of class.**

The amount of time you will need to spend on the material outside of class, depends on your brain and motivation. Therefore, there is no magic amount of time. Use your first test score as an indicator of whether you need to ramp up your efforts or not.

I know the above may sound simple and even condescending, but you would be surprised at how many struggling students choose not to follow the above suggestions.

## **Student Conduct**

The following policies have been generated in concert with University of Akron policies and with the help of student feedback. They are designed to promote a quiet, hassle-free learning environment with minimal distraction.

1) Lectures start promptly at 9:15am. If you arrive late, please seat yourself such that the disturbance is minimal. Likewise, lectures end at 10:30am on my watch. If you must leave early, please keep the disruption minimal.

2) Please keep interaction to your fellow students minimal while I am lecturing. There will be ample opportunity during class and lab time to discuss concepts with your classmates.

**3) Please turn off all cellular phones, pagers, wrist watch alarms, beepers, electronic organizer alerts, and other electronic signaling devices before entering the lecture room.**

4) University policy states that no food or drink is to be consumed in either the lecture rooms or laboratories.

**5) If you cheat, you will at the very least, receive a zero on that exam or assignment.** At the most, you will be dropped from the class and likely expelled from the University of Akron. You will be expected to read and sign a form on plagiarism.

*“The University is dedicated to learning by all members of its community. In responding to this dedication, the university demands a high level of scholarly behavior and academic honesty on the part of students. No form of academic dishonesty is acceptable. While the maintenance of an atmosphere of academic integrity is the responsibility of all, the faculty is the principally responsible for the enforcement of these standards. Academic dishonesty includes any act that violates the academic processes of the university. These acts include, but are not limited to, cheating on an examination, stealing exam questions, substituting one person for another at an examination, falsifying data, destroying or tampering with or stealing a computer program or file and plagiarizing (using as one=s own, the ideas or writings of another).”*

IF YOU HAVE A DISABILITY THAT MAY REQUIRE ASSISTANCE, YOU WILL NEED TO CONTACT THE OFFICE OF ACCESSIBILITY. FOR INFORMATION, CALL 330-972-7928 (voice) or 330-972-5764 (TDD) OR VISIT STUDENT AND ADMINISTRATION SERVICES BUILDING, ROOM 125 MONDAY THROUGH FRIDAY 8am to 5pm.