### BIO 319/519 A09C ANIMAL PHYSIOLOGY SPRING 2012 COURSE SYLLABUS

<u>Instructor</u>: Dr. Courtney Kurtz

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Office Hours: M – 10:30-11:30

Th - 1:30-2:30

Also by appointment, as needed

Other Lab Instructor: Dr. Sheldon Cooper

Office: HS 142/153

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#### Timetable:

Lecture	MW	3-4:30	HS 107	Kurtz
Lab A01L	Т	9:40-12:40	HS 167	Kurtz
Disc A01D	Th	9:40 - 10:40	HS 237	Kurtz
Lab A02L	Т	1:20 - 4:20	HS 167	Kurtz
Disc A02D	Th	11:30 – 12:30	HS 457	Kurtz
Lab A03L	Th	1:20 – 4:20	HS 167	Cooper
Disc A03D	Th	8:00 - 9:00	HS 237	Kurtz

## Required Textbook & Materials:

- REQUIRED: Hill, R. W., G. A. Wyse, and M. Anderson. 2008. *Animal Physiology*, 2ND Edition. Sinauer Associates. Sunderland, MA.
- REQUIRED: Cooper, S. J., and Vaughan, D.K. 2010. *Biology 319/519: General Animal Physiology Lab Manual*. UW-Oshkosh.
- RECOMMENDED: College-ruled 80-page composition lab notebook (sold at UW-Oshkosh bookstore and other places)
- REQUIRED: Calculator

E-mail Correspondance & D2L: E-mail communication and D2L will be used frequently throughout the semester to communicate between instructors and students. E-mails constitute legal, official University communication. You are responsible for checking your e-mail and D2L on a regular basis. Not checking your e-mail is not an excuse for performance problems in the class. Contact Academic Computing for assistance with email and D2L.

Course Objectives: This course is designed so that the student will achieve a general understanding of animal physiology. This objective requires a synthesis of several areas within physiology (respiration, circulation, digestion, energy metabolism, etc.) as they apply to an animal's ability to maintain homeostasis. Physiological topics will be examined from a comparative and integrative perspective rather than just studying mammalian physiological systems. The comparative nature of this course is important since students in the course are preparing for several types of future careers. For example, this course is taken by pre-med, pre-vet, pregraduate school and graduate students. However, common functional pathways will be emphasized, thus integrating the information. The laboratory portion of this course will emphasize introductory exercises, experimental techniques, animal surgery, and data collection of physiological variables.

#### Attendance Policy:

- <u>LECTURE</u>: I will not take role in lecture. Attending lecture and good note-taking skills will increase your ability to do well in class. Lectures will be accompanied by PowerPoint slides and will be podcast. Abridged versions of lecture slides will be posted on D2L prior to lecture. These PowerPoint presentations will be missing vital information that you will want to fill in as we go along. In addition, I may discuss topics not addressed in the PowerPoint slides. Remember, podcasts sometimes fail DO NOT RELY ON THEM INSTEAD OF ATTENDING LECTURE! If you miss a lecture, it is in your best interest to get notes from a classmate. Anything that is discussed in class may be covered on an exam whether it is presented on the lecture slides or not!
- LAB: You should plan on lab taking the full 3 hours each week. Do not register for this course if you have a class or work conflict with lab. Lab exercises have been designed to supplement and/or reinforce concepts taught in lecture. You are expected to attend every laboratory session and stay until your group's tasks are completed. Attendance will be taken. A portion of your laboratory grade is based on your attendance and participation (see "Grading" below). One unexcused absence from lab will lead to a loss of ½ of the participation/attendance points. Two unexcused absences will lead to the loss of the remaining participation/attendance points. Dr. Cooper has full discretion for grading lab quizzes and determination of participation/absence grades for his section. Do not come to me if you have a question about a grade that Dr. Cooper has given you. I will defer to his judgment for his lab section.

Small numbers of animals will be used in this course. All government-imposed humane procedures will be followed. If you object to animal use in experiments, you may not enjoy the work required to pass this class.

• <u>DISCUSSION</u>: You are expected to attend every discussion section. Attendance will be taken. Discussion sections will be used to discuss topics related to lecture in further detail. This will include reading primary literature from scientific journals or further reading in the textbook and presentations to the class. Come prepared to participate in the discussion of the scheduled topic! Participation will be part of your grade! In addition, lecture exams will be given in discussion sections. If you miss an exam due to an unexcused absence in discussion, you will not be allowed to make up that exam. Participation/attendance grades will be given for discussion as well. One unexcused absence from discussion will lead to a loss of ½ of the participation/attendance points. Two unexcused absences will lead to the loss of the remaining participation/attendance points.

Students with Disabilities: Students with disabilities are welcome in this course. Please contact your lecture instructor in the first week of class so that we can discuss necessary accommodations.

Academic Honesty Policies: Policies are clearly defined at this institution and will be followed.

Students are referred to the University of Wisconsin-Oshkosh Student Discipline Code as detailed in specific provisions of Chapter 14 of the State of Wisconsin Administrative Code.

Any student(s) found in violation of any aspect of the above Code will receive a sanction as detailed in UWS 14.05 and 14.06. Examples of violations include: looking at another student's exam or answer sheet and copying the answers during an exam, talking or whispering to another student during an exam, receiving text messages during an exam on an electronic device or listening to answers or information recorded on an electronic device via earphones during an exam. Cheating on an exam (including looking at someone else's paper) at a

MINIMUM leads to zero on that exam, with no opportunity for a make-up or extra credit. A second offense is an F in the course and a report to Dean of Students.

- Lecture Exam Policy: Exams will be given in discussion section on the assigned dates (see schedule below). Exams will test material covered in lecture and discussion, but not lab. Exams will be handed out at the start of the class period after I am satisfied with seating arrangements and the room is quiet. Exams are closed book and closed notes. Students will have the full hour of lecture to complete the exam, but NO LATER. You MUST be present for EVERY scheduled exam!! Make-up exams will be available only if the student suffers a life-threatening illness or death of a loved one and has a medical excuse or documentation (e.g., obituary) to support that claim. If you cannot be present for an exam, it is your responsibility to get in touch with me before the rest of the class takes the exam. If you need to make-up an exam due to an excused absence, a make-up exam is scheduled for Wednesday, May 9 at 3 p.m. in HS 167. If you miss an exam and the above conditions are not met, you will receive a zero for that exam.
- Lecture Pop-Quiz Policy: Pop-quizzes will be given during lecture randomly and unannounced throughout the semester. Pop-quizzes are closed-book and closed-note and will always be given at the beginning of the class. Students who miss a pop quiz due to an unexcused absence and students who show up late on the day of a pop-quiz WILL NOT BE ALLOWED TO MAKE UP THE QUIZ! There are NO EXCEPTIONS to this rule.
- Lecture Online Quiz Policy: In addition to in-class, closed-book, closed-note exams and quizzes, there will be four online (D2L), open-book, open-note quizzes. These quizzes will be multiple-choice, fill-in-the-blank(s) or true-and-false and <a href="IIMED">IIMED</a> (30 minutes). Although they are technically open-note and open-book, you will not have time to dig through your notes to find an answer for each question. As such, you should study your notes <a href="before">before</a> beginning the online quiz. You will only have one opportunity to complete the quiz and will not be allowed to answer questions once your time has run out. With D2L quizzes, it is important that you save your answers after every question! If you have not saved your answers and time runs out, you will not get credit for those answers. There will be <a href="NO">NO</a> make-up online quizzes. If you fail to take an online quiz before the deadline for <a href="ANY REASON">ANY REASON</a>, you will receive a 0 for that quiz.
- Discussion Online Quiz Policy: Material covered in topic-based Discussion sessions will be the subject of a short (10 pt) online quiz. These quizzes will be multiple-choice, fill-in-the-blank(s) or true-and-false and <a href="ITIMED">ITIMED</a> (15 minutes). Discussion quizzes will open at 1 p.m. on the day of the discussion and remain <a href="available until noon on the Saturday">available until noon on the Saturday</a> after the discussion. You will only have one opportunity to complete the quiz and will not be allowed to answer questions once your time has run out. <a href="with D2L quizzes">With D2L quizzes</a>, it is important that you save your answers after every question! If you have not saved your answers and time runs out, you will not get credit for those answers. There will be <a href="MO">MO</a> make-up online quizzes. If you fail to take an online quiz before the deadline for <a href="MO">ANY REASON</a>, you will receive a 0 for that quiz.
- <u>Lab Quiz Policy</u>: There are 12 scheduled lab quizzes throughout the semester. Lab quizzes will cover material from the previous lab and will be worth 10 points each. Students who miss a lab or show up late for lab due to an unexcused absence WILL NOT BE ALLOWED TO MAKE UP THE QUIZ! **There are NO EXCEPTIONS to this rule**.

<u>Lab Reports</u>: Several lab activities will require submission of a lab report. These lab reports will be worth 15 points each and should contain the following: a hypothesis, brief description of the procedure(s) of the experiments, results (including charts and graphs), and discussion of results. Lab reports should be typed and checked for spelling and grammatical errors. Lab reports are due at the beginning of the next lab. Labs requiring a lab report are marked with two asterisks (\*\*) in the schedule below.

<u>For Graduate Students Taking Biology 519</u>: Graduate students will have the following additional objectives & activities in order to receive graduate credit for General Animal Physiology.

## Objectives:

- 1. Graduate students will be expected to demonstrate a greater depth of knowledge of the material compared to undergraduate students.
- 2. Graduate students will be expected to demonstrate a higher level of synthesis that undergraduate students.
- 3. Graduate students will be expected to demonstrate a more sophisticated level of communication than undergraduates.

In order to meet the graduate objectives, graduate students will have to answer an additional essay question for each exam. This essay question will not be given at the same time as the rest of the exam since this will limit the student's ability to complete the exam. Graduate students must arrange a time to answer their essay question with Dr. Kurtz <u>at least one week</u> before the scheduled exam. These essay questions will be worth 20 points. The point total for graduate students (BIO 519) will therefore be higher than BIO 319, but the grades will be based on the same percentage system (grading scale). In addition, a grade of less than a C is a failing grade for graduate students.

<u>Common Courtesy</u>: Ringing cellular phones are a distraction to the instructor and others in the class. Turn off all cell phones, pagers and MP3 players before class. Keep them in your backpack or purse until class is finished. NO cell phones, PDAs, headphones or other electronic devices will be allowed out during an exam!

# **Suggestions for Success:**

- In order to do well in this course, expect to spend 2-3 hours studying per 1 lecture hour as you would in all of your college courses.
- Use written rehearsal to study. A good way to do this is to first look over one section or day of
  notes, put them away and then write down what you remember. Start out by writing main
  themes and terms in outline or flowchart format. Then go back to your notes and see what you
  did not remember. Then go back and write more detail into your outline or flowchart until you
  have gotten down the material.
- Study for 20 minutes and then take a 5 minute break. After the 5 minute break continue this 20/5 minute pattern.
- Be prepared to ask questions in class and in discussion. If you have questions over the material that you have studied, bring them to class and ask them.
- Take your time on exams. Slow down and read each question carefully.
- If you don't know the answer to a question, skip the question until the end of the test.

- On multiple choice questions, cover the possible answers with your hand and read the
  question. Give yourself time to come up with an answer. Look for an answer that matches your
  idea from the possible choices listed.
- Short-answer or essay questions generally require definition of terms, explanation of terms, and/or examples that illustrate your knowledge of the subject in regards to the question.

Grading: Grades will be posted on D2L throughout the semester. Lab/discussion grades will be posted to the main D2L site. Due to privacy concerns, I will NOT give grades out over the phone or reveal grades in phone messages.

## Grades will be based on the following:

#### Lecture:

Exams 400 pts Pop-Quizzes/Discussions 30 pts Online Quizzes 100 pts

#### Lab:

Quizzes 120 pts
Lab reports 75 pts
Attendance/Participation 50 pts

#### Discussion:

Presentations 25 pts
Online Quizzes 50 pts
Attendance/Participation 50 pts

Total Points Possible: 900 pts

## The grading scale is:

93-100%	Α
90-92%	A-
87-89%	B+
83-86%	В
80-82%	B-
77-79%	C+
73-76%	С
70-72%	C-
67-69%	D+
63-66%	D
60-62%	D-
< 60	F

<sup>\*\*\*</sup> Final grades will be rounded up to the nearest percentage point in order to assign letter grades!!!

<sup>\*\*</sup> Graduate students enrolled in BIO 519 will have an additional essay questions worth a total of 80 pts for a grand total of 980 pts.

<u>Tentative Outline</u>: This schedule is intended as a basic outline of the course lectures. Extenuating circumstances may require a deviation from this schedule. I will inform the class ahead of time if this is the case.

Date	Lecture Topic	Text	Online	Date	Lab Topic	Lab	Date	Discussion Topic
		Ch.	Quiz			Quiz	- /-	(Reading)
1/30	Introduction, Physiol. Fund.	1,2,4		1/31	Histology & Rat		2/2	Discussion Intro &
2/1	Physiological Fundamentals	1,2,4		2/2	Anatomy			Ringer's Soln Prep.
2/6	Nutrition & Digestion	5		2/7	Na+/Glucose Co-port	1	2/9	The Microbiome of
2/8	Nutrition & Digestion	5	#1 up	2/9	**			Animals (pp. 125-129)
2/13	Energy Metabolism	6,7,8	#1 due	2/14	Experimental Prin. &	2	2/16	Finish Energy
2/15	Energy Metabolism	6,7,8		2/16	iWorx Tutorial			Metabolism lectures
2/20	Exam Review/Thermoreg.	9		2/21	Metabolic Rate & Body	E.C.	2/23	Exam 1
2/22	Thermoregulation	9		2/23	Size **			
2/27	Thermoregulation	9,10		2/28	Vertebrate	3	3/1	Hibernation, estivation &
2/29	Thermoreg.; Neural/Endo Ctrl	9,10,14	#2 up	3/1	Thermoregulation **			torpor (pp. 243-245; pp.
	-							261-267)
3/5	Neural/Endocrine Control	14	#2 due	3/6	Hematology	4	3/8	Finish Nerves &
3/7	Nerves & Synapses	11,12		3/8				Synapses lectures
3/12	Exam Review/Sensory Proc.	13		3/13	Physiology of Excitable	5	3/15	Exam 2
3/14	Sensory Processes	13		3/15	Cells			
3/19	SPRING BREAK				NO LAB THIS WEEK			NO DISCUSSION THIS
3/21	SPRING BREAK							WEEK
3/26	Endocrinology	15		3/27	Cardiac Dynamics **	6	3/29	Animal Navigation (Ch.
3/28	Endocrinology	15,16		3/29				17)
4/2	Muscle & Movement	18,19		4/3	Skeletal Muscle	7	4/5	Muscle Plasticity (Ch.
4/4	Muscle & Movement	18,19	#3 up	4/5	Properties **			20)
4/9	Respiration	21-23	#3 due	4/10	Respiratory System	8	4/12	Exam 3 Review
4/11	Respiration	21-23		4/12	Capacities & Control			
4/16	Circulation	24		4/17	Blood Pressure, Heart	9	4/19	Exam 3
4/18	Circulation	24		4/19	Rate & Pig Plucks			
4/23	Immunology	NIB		4/24	Blood Typing	10	4/26	Diving Mammals (Ch.
4/25	Immunology; Osmoregulation	NIB, 26	#4 up	4/26	,, ,			25)
4/30	Osmoregulation	26-28	#4 due	5/1	Urinalysis	11	5/3	Mammals in Dry
5/2	Osmoregulation	26-28		5/3	_			Environments (Ch. 29)
5/7	Lab Quiz #12, Exam 4 Review				NO LAB THIS WEEK		5/10	Exam 4
5/9	Make-Up Exam							