

BISC 307 (General Physiology), Spring 2010

Lecture Schedule

Date	Day	Topic	Silverthorn – 5 th Ed.	Quizzes*
Jan 11	M	01 Introduction	Ch 1, Ch 6 (196-209), Ch 5	
Jan 13	W	02 Membrane Dynamics	Ch 5	
Jan 15	F	03 Cellular Communication	Ch 6	Quiz 1
Jan 18	M	<i>Holiday (MLK Day)</i>	-----	
Jan 20	W	04 Electrical Signals in Neurons	Ch 8 (246-273)	
Jan 22	F	05 Action Potentials	Ch 8 (246-273)	Quiz 2
Jan 25	M	06 Synaptic Transmission 1	Ch 8 (273-289)	
Jan 27	W	07 Synaptic Transmission 2	Ch 8 (273-289)	
Jan 29	F	08 Central Nervous System	Ch 9	Quiz 3
Feb 1	M	09 Autonomic Nervous System	Ch 11 (385-396)	
Feb 3	W	10 Skeletal Muscle 1	Ch 11 (396-403), Ch 12 (406-422)	
Feb 5	F	11 Skeletal Muscle 2	Ch 12 (422-432)	Quiz 4
Feb 8	M	EXAM 1	Jan 11 through Feb 3	
Feb 10	W	12 Smooth Muscle	Ch 12 (432-439)	
Feb 12	F	13 Intro to Endocrine Physiology	Ch 7	Quiz 5
Feb 15	M	<i>Holiday (President's Day)</i>	-----	
Feb 17	W	14 Pancreatic Hormones 1	Ch 22 (724-747)	
Feb 19	F	15 Pancreatic Hormones 2	Ch 22 (724-747)	Quiz 6
Feb 22	M	16 Adrenal Glucocorticoids	Ch 23 (757-763)	
Feb 24	W	17 Thyroid, GH, Ca ²⁺ Balance	Ch 23 (764-779)	
Feb 26	F	18 Reproduction 1	Ch 26 (828-844)	Quiz 7
Mar 1	M	19 Reproduction 2	Ch 26 (844-855)	
Mar 3	W	20 Reproduction 3	Ch 26 (855-865)	
Mar 5	F	21 Cardiovascular System	Ch 14 (467-487)	Quiz 8
Mar 8	M	EXAM 2	Feb 5 through Mar 3	
Mar 10	W	22 Heart as a Pump	Ch 14 (487-507)	
Mar 12	F	23 Blood Vessels & Pressure	Ch 15 (512-525)	Quiz 9
Mar 15	M	<i>Spring Break</i>	-----	
Mar 17	W	<i>Spring Break</i>	-----	
Mar 19	F	<i>Spring Break</i>	-----	-----
Mar 22	M	24 Distribution of Blood	Ch 15 (526-542)	
Mar 24	W	25 Blood	Ch 16	
Mar 26	F	26 Innate Immunity	Ch 24 (782-793)	Quiz 10
Mar 29	M	27 Acquired Immunity Overview	Ch 24 (794-800)	
Mar 31	W	28 Mechanisms of Acquired Immunity 1	Ch 24 (800-811)	
Apr 2	F	29 Mechanisms of Acquired Immunity 2	Ch 24 (800-811)	Quiz 11
Apr 5	M	30 Mechanics of Breathing	Ch 17	
Apr 7	W	31 Gas Exchange & Transport 1	Ch 18	
Apr 9	F	EXAM 3 - Last day to drop with "W"	Mar 5 through Apr 5	Quiz 12
Apr 12	M	32 Gas Exchange & Transport 2	Ch 18	
Apr 14	W	33 Kidney Function & Filtration 1	Ch 19 (622-634)	
Apr 16	F	34 Kidney Function & Filtration 2	Ch 19 (622-634)	Quiz 13
Apr 19	M	35 Tubular Transport & Excretion	Ch 19 (635-647)	
Apr 21	W	36 Water & Salt Balance	Ch 20 (650-667)	
Apr 23	F	37 Volume, Osmolarity, Acid-Base Balance	Ch 20 (668-683)	Quiz 14
Apr 26	M	38 Digestive System Overview	Ch 21 (686-699)	
Apr 28	W	39 GI Function 1	Ch 21 (699-708)	
Apr 30	F	40 GI Function 2	Ch 21 (708-721)	-----
*Quizzes distributed via Blackboard by 5 pm on indicated Fridays, and are due the following Tuesday by 10 am.				
May 5	W	EXAM 4, 2:00 – 4:00 pm	Apr 7 through Apr 30	

A. General Course Description and Policies

Catalog Description

BISC 307L General Physiology (4, Sp) Physiological functions of the circulatory, digestive, endocrine, integumentary, musculoskeletal, nervous, respiratory, and urogenital systems of animals. Lecture, 3 hours; laboratory, 3 hours. Prerequisite: BISC 220L or BISC 221L.

Overview

Physiology is unique among the biomedical sciences in its focus on the functions of intact, living organisms. It is especially concerned with homeostasis, which refers to regulation of conditions inside the body within the narrow limits that are compatible with life. This course will cover the physiology of animal cells, tissues, organs, and organ systems, with emphasis on mechanisms by which homeostasis is maintained, and on the integration of each system with others in the living animal. Human systems are emphasized.

Instructor

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Teaching Assistants

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Textbooks

- *Human Physiology: An Integrated Approach*, by Dee Unglaub Silverthorn, 5th edition. *Note:* Although the 5th edition is our official text, it is not substantially different from the 4th edition. Students interested in saving money may opt for the older version. Such students should consult the newer version to transpose the reading assignments and check for differences. For your convenience, we will place 2 copies of the 5th edition on reserve in Leavey Library.
- *Laboratory Manual for General Physiology*, edited by Michael Moore & Albert Herrera. The lab manual will be available only in the Bookstore.

Website

<https://blackboard.usc.edu/>

- All course materials, information, recordings, quizzes, and grades will be posted on Blackboard until Commencement Day. We will also make extensive use of Blackboard discussion forums, as will be explained in lecture. Blackboard is to be used only for appropriate, course-related activities. Use for other purposes will result in disciplinary action.

Lecture

MWF 1:00 - 1:50, SAL 101, class no. 13018R

- Lectures will be recorded and made available as streaming video and downloadable audio podcasts. Links to download sites will be posted in Blackboard.
- *Important Advice:* Please do not use the lecture recordings as a substitute for regular attendance at lecture or as an excuse to procrastinate. In the past, students who earned the highest grades were those who attended nearly every lecture and took careful notes. Shortly after each lecture, use the recordings to fill gaps in your notes and to review difficult material. In this way, you will keep up with the lecture schedule and reserve the time just before exams to review material you already learned. Be creative in your use of these recordings. For example, keep track of the approximate elapsed time during the lecture, so you can note the timing of material you need to review. Try viewing the video recordings in small groups, so you can pause and discuss the material as you proceed. Take advantage of the portability of the audio recordings. Download them to your iPod or other mp3 player and look for opportunities to listen when you are not otherwise occupied with mindful tasks.

Laboratory

- See Part B below for the complete laboratory syllabus.

Lecture Exams

Exam 1: Monday, Feb 8, 1:00 - 1:55 pm

Exam 2: Monday, Mar 8, 1:00 - 1:55 pm

Exam 3: Friday, Apr 9, 1:00 - 1:55 pm

Exam 4: Wednesday, May 5, 2:00 - 4:00 pm

- Exams 1-3 will consist of a mix of objective questions (e.g., multiple choice, true-false, matching, etc.) and subjective questions (e.g., short essays, fill-in-the-blank, etc.). To facilitate rapid grading, Exam 4 will consist mostly or entirely of objective questions. These exams will cover lecture subjects only; laboratory subjects will not be covered. The emphasis will be on applying the lecture information to solve novel thought problems (see comments on quizzes below). Lecture exams are not cumulative; each of the four exams will be worth the same number of points and each will cover approximately one quarter of the course, as specified in the Lecture Schedule. There will not be a comprehensive final.

Lecture Quizzes

- Fourteen quizzes will be administered via Blackboard. The quizzes will be posted by 5 pm on Friday and must be completed by 10 am on the following Tuesday. Questions will cover the lecture material discussed on the previous Friday, Monday, and Wednesday (see the table below for specific coverage). Each quiz will consist of 4 questions, worth 0.5 points each. Question types will be multiple choice, true/false, or short answer. To allow students to miss a few quizzes for any reason, and to excuse uncharacteristically low scores, only the highest 12 scores will be counted toward the final grade. Therefore, a maximum of 24 points can be earned from the quizzes, or 4 % of the total course grade. No accommodations will be made for students who take fewer than 12 quizzes. Quiz results and correct answers will be discussed at the start of the Tuesday afternoon Q&A session (see below).

- Our intention is to make the quiz questions as challenging as those that will appear on the more point-heavy exams. To do well in this course, it will not be sufficient to merely look up or memorize answers. You must also be able to apply your knowledge to solve novel thought problems. The quizzes are designed to give you low-stakes practice at this and to gauge your level of preparation for exams. This will only work, however, if you take the quizzes seriously and responsibly. You may consult your textbook and any other printed or electronic material. You may also discuss the quiz questions with fellow students, if those discussions focus on understanding the underlying principles. You should not simply share or reveal your answers to other students, nor try to obtain answers from current or former students, for several reasons. First, you will not know until after the deadline whether your answer is correct. Second, you will deprive that student of a learning opportunity. Third, you will diminish your own chances for a better grade by broadcasting your hard-won answers. Fourth, quiz questions are revised regularly, usually with the goal of making them more challenging. Each quiz is worth only 0.3% of the course grade, but its potential value as a learning tool is much greater. The quizzes will require a disproportionately large amount of effort – on our part to craft challenging questions, and on your part to discern and understand the correct answers. It is likely that students who cheat by merely copying other students' quiz answers will pay a price on exam days. Please don't be one of those students. In the five years since we introduced the quizzes in BISC 307, students have come to see them as one of the most challenging parts of the course, but also one of the most valuable. If you take the quizzes seriously, we think you will come to the same conclusion.
- The following table summarizes important information about the quizzes.

Quiz No.	Posted by 5 pm on Fri	Deadline 10 am on Tues	Lectures Covered
1	Jan 15	Jan 19	1, 2
2	Jan 22	Jan 26	3, 4
3	Jan 29	Feb 2	5, 6, 7
4	Feb 5	Feb 9	8, 9, 10
5	Feb 12	Feb 16	11, 12
6	Feb 19	Feb 23	13, 14
7	Feb 26	Mar 2	15, 16, 17
8	Mar 5	Mar 9	18, 19, 20
9	Mar 12	Mar 23	21, 22
10	Mar 26	Mar 30	23, 24, 25
11	Apr 2	Apr 6	26, 27, 28
12	Apr 9	Apr 13	29, 30, 31
13	Apr 16	Apr 20	32, 33
14	Apr 23	Apr 27	34, 35, 36

Twice Weekly Question & Answer Sessions

- Dr. Herrera will hold Q&A sessions at the following times:
Tuesdays, 3:00 - 4:00 pm, HNB 120F (results and answers of online quizzes discussed at start)
Fridays, 2:00 - 3:00 pm, HNB 120F (no Friday Q&A session on Feb 12, Mar 12, or Apr 9)

- Q&A sessions will be recorded and made available as streaming video and downloadable audio podcasts. For those unable to attend in person, Q&A sessions will also be webcast live with text-based chat so that questions can be submitted remotely. Instructions for accessing live and recorded Q&A sessions will be posted in Blackboard and announced in class.
- Although no particular attempt will be made to record or identify students who are present at Q&A sessions, please be aware that in the confines of the room, students' voices may be audible and recognizable.

Instructor Office Hours

Please contact Dr. Herrera directly for office hour appointments. Office hours are intended for discussion of individual, confidential matters such as grades. Course subject matter and other public issues should be discussed in the Q&A sessions, so that all students can benefit from the interchange. The Lab Manager Dr. Moore will be generally available in his office, which is adjacent to the laboratory, during normal working hours. Teaching Assistants will announce their office hours in their lab sections.

Grading

- Final grades are assigned on a curve, determined entirely by the total number of points earned on exams, quizzes and laboratory work, as shown in the table below. After each exam, a curve will be posted to indicate the approximate letter grades that correspond to current point totals.

Portion	Item	Pts Each	Number	Total	Portion Totals
Lecture	Exams 1 - 4	94	4	376	Lecture = 400 pts
	Online Quizzes	2	14	24*	
Laboratory	Presentation	35	1	35	Lab = 200 pts
	Presentation participation	5	1	5	
	Post-lab discussions	5	8	40	
	Lab Reports	50	2	100	
	General Participation	---	---	20	
					Course total = 600 pts

*Only the highest 12 quiz scores will count.

Exam Policies

- **Re-grading:** Answers to lecture exam questions will be posted on Blackboard shortly after each exam. Corrected exams will be handed back during your lab period. If you feel an error was made in the grading of your exam, you should make your case in writing on separate sheets of paper. Specify which questions you think were incorrectly graded and why. Give these sheets and your exam to your TA *before you leave the lab*. Exams taken from the lab will not be re-graded. The entire answer of each indicated question will be re-graded, not just the part you think deserves more credit. Your score may increase or decrease as a result of a re-grade.
- **Missed Exams:** No make-up exams will be given. Students who are unable to take an exam at the schedule time must contact Dr. Herrera as soon as possible, preferably in advance. If the student has a valid, well-documented reason for missing the exam, a score equal to the average of the other 3 exams will be assigned. Such an adjustment can be made for only one exam. Students who are ill and miss a regularly scheduled lecture or laboratory exam must see a doctor to document their illness. Within one week of the missed exam, you must provide, in writing,

the following information: 1) your doctor's name and telephone number, and 2) a statement signed by you authorizing us to discuss the situation with your doctor. We will contact your doctor and ask her or him whether you were too ill to take the exam. Note that neither you nor the doctor need tell us the nature of your illness. Simply visiting the University Park Health Center or another medical facility will not be considered a valid medical excuse.

- **Missing Exam 4:** If you miss Exam 4 and you provide a valid medical excuse within 48 hours of the scheduled exam time, a course grade of Incomplete (IN) will be assigned. It will be your responsibility to contact Dr. Herrera to make arrangements for completing the course and replacing the IN with the grade you earned. You have a year to complete the requirements for removal of an IN. After this, your grade will change to an IX (Lapsed Incomplete) which counts as an F in the GPA. If you miss Exam 4 and do not submit a valid excuse, a course grade will be calculated based on your other scores and a zero for Exam 4.

Academic Integrity

- Our university depends on honesty, integrity, and ethical behavior among its members. For students, ethical behavior includes respecting the intellectual property of others, submitting individual work unless otherwise directed by the instructor, protecting one's own academic work from misuse by others, and avoiding the use of another's work as one's own.
- We have reliable, time-tested methods for detecting cheating, plagiarism, and other violations of academic integrity. Please note that to protect the integrity of grades and the academic process, sanctions for violations are severe. The minimum sanction is usually an F for the course. Suspension or expulsion from the university is also possible.
- Resources on academic integrity standards, policies, and expectations:
 1. Trojan Integrity Guide: <http://www.usc.edu/student-affairs/SJACS/forms/tio.pdf>
 2. Guide for Avoiding Plagiarism: <http://www.usc.edu/student-affairs/SJACS/forms/tig.pdf>
 3. Overview of Academic Integrity: <http://www.usc.edu/student-affairs/SJACS/forms/AcademicIntegrityOverview.pdf>
 4. Tutorial on Academic Integrity: http://www.usc.edu/libraries/about/reference/tutorials/academic_integrity/index.php
 5. SCampus (University Governance, paragraph 11): <http://web-app.usc.edu/scampus/1100-behavior-violating-university-standards-and-appropriate-sanctions/>

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with the Office of Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP and should be delivered to Dr. Moore early in the semester, at least two weeks before Exam 1. If a student's approved accommodation is limited to extra time on examinations, the teaching staff of BISC 307 will provide the accommodation. For any other accommodation, such as a private room, translator, etc., students must make arrangements with the DSP office at least 2 weeks before each exam date. For more information, you can visit the DSP office in STU 301 (8:30-5:00, M-F), call at 213-740-0776, email at ability@usc.edu, or go to their website: (http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html).

B. Laboratory

Lab Schedule

Wk	Dates	Day	Exercises	Lab Manual	Lab Discussion	Comments
1	Jan 12 ↓ Jan 15	Tu ↓ Fri	Introduction to Lab 1	Ch. 1	---	Intro. to group presentations
2	Jan 19 ↓ Jan 22	Tu ↓ Fri	Introduction to Lab 2	Ch. 1	---	Intro. to iWorx, LabScribe
3	Jan 26 ↓ Jan 29	Tu ↓ Fri	Group Presentations 1	---	---	PowerPoint presentations & discussion
4	Feb 2 ↓ Feb 5	Tu ↓ Fri	Group Presentations 2	---	---	PowerPoint presentations & discussion
5	Feb 9 ↓ Feb 12	Tu ↓ Fri	The Heart	Ch. 2	Yes	
6	Feb 16 ↓ Feb 19	Tu ↓ Fri	Action Potentials	Ch. 3	Yes	
7	Feb 23 ↓ Feb 26	Tu ↓ Fri	Cardiovascular Physiology (ECG/Blood Pressure)	Ch. 4	Yes	
8	Mar 2 ↓ Mar 5	Tu ↓ Fri	Sensory Physiology; Discuss Lab Report 1 Experiments	Ch. 5	Yes	
9	Mar 9 ↓ Mar 12	Tu ↓ Fri	Lab Report 1 Experiments		No	Each group performs its own experiments
10	Mar 16 ↓ Mar 19	Tu ↓ Fri	<i>Spring Break Week</i>	---	---	
11	Mar 23 ↓ Mar 26	Tu ↓ Fri	External Respiration	Ch. 6	Yes	Lab report 1 due
12	Mar 30 ↓ Apr 2	Tu ↓ Fri	Muscle Contraction	Ch. 7	Yes	
13	Apr 6 ↓ Apr 9	Tu ↓ Fri	Fluid & Water Balance	Ch. 8	Yes	
14	Apr 13 ↓ Apr 16	Tu ↓ Fri	PhysioEx Simulation; Discuss Lab Report 2 Experiments		Yes	
15	Apr 20 ↓ Apr 23	Tu ↓ Fri	Lab Report 2 Experiments		No	Each group performs its own experiments
16	Apr 27 ↓ Apr 30	Tu ↓ Fri	Consult with your TA on analyses, literature searches, & writing for Lab Report 2	---	---	Attendance is not mandatory but is highly recommended
17	May 3	Mon				Lab report 2 due by noon

Goals of the Laboratory

- The laboratory is an integral and essential component of the course, with 3 main goals.
- The first goal is to give you hands-on experience with the processes, tissues, and concepts discussed in the lecture part of the class.
- The second goal is to deepen your appreciation of the scientific method by requiring you to design, execute, analyze, and write up your own physiological experiments.
- The third goal is to encourage the development of scientific literacy, i.e., the ability to find, read, comprehend, and discuss original research articles from the physiology literature.

Sequencing of Lab Topics

- By design, the sequence of topics covered in lecture does not match the sequence covered in the lab. In part, this was done so that the group presentations would occur early in the semester. Our hypothesis is that the immersion in research literature and the collaborative work required for the group presentations are foundational; they will enhance your subsequent experience with the course. In addition, studies on human learning¹ indicate that asynchrony between lecture and lab topics may enhance long-term retention and understanding of the material.

¹Bjork, R.A. (1994) Memory and metamemory considerations in the training of human beings. In J. Metcalfe and A. Shimamura (Eds.), *Metacognition: Knowing about Knowing* (pp. 185-205). Cambridge, MA: MIT Press. (A PDF copy of this article will be posted in Blackboard.)

Laboratory Sections

Tue am1	8:00-10:50	13280R	Thu am1	8:00-10:50	13285R
Tue am2	11:00-1:50	13284R	Thu am2	11:00-1:50	13282R
Tue pm	3:00-5:50	13288R	Thu pm	3:00-5:50	13289R
Wed am	8:00-10:50	13281R	Fri am	8:00-10:50	13283R
Wed pm1	2:00-4:50	13286R	Fri pm1	2:00-4:50	13287R
Wed pm2	5:30-8:20	13290R	Fri pm2	5:30-8:20	13291R

Lab Manual

- *Laboratory Manual for General Physiology*, edited by Michael Moore & Albert Herrera, available only in the University Bookstore.

Lab Grading

- Performance in the lab will account for one third of each student's grade. The lab grade will be based on a group presentation, participation in others' presentations, post-lab discussions, lab reports, and general participation. Descriptions of these items follow. See the Grading Table above for point values.

Group Presentations

- Group presentations of classic papers from the primary research literature in physiology will enhance your scientific literacy, as well as skills in communication and collaborative problem solving. For a complete description of group presentation requirements, see the document "Guidelines for BISC 307 Group Presentations" posted in Blackboard. A brief summary follows.
- During the lab meeting in the first week of the semester, groups of 2 students each will be formed. Each group will select one classic physiology paper from a list that will be provided in

Blackboard. Copies of the papers in PDF format will also be available in Blackboard. Other papers can be used, but these must be approved in advance. During the 3rd and 4th week of the semester, each group will give a 20 minute PowerPoint presentation to their lab section, and then conduct a 5-10 minute session for questions, answers, and discussion.

- Grading will be based on each student's participation in her/his group's presentation, as well as participation in the presentations of other groups.

Post-Lab Discussions

- For the 8 lab meetings during which you will perform assigned lab exercises, the lab period will conclude with a formal discussion of the results of those exercises. Each of these discussions will be worth 5 points, for a total of 40 points. Your TA will assign these points based on the level and strength of your engagement in these post-lab discussions.

Lab Reports

- The 2 lab reports, worth 50 points each, will be based on experiments that you design and conduct yourself.
- The subject of your 1st lab report will be the experiment(s) you perform in the 9th week of the semester (March 9 - March 12). These experiments should use the equipment and approaches employed in the Cardiovascular Physiology lab exercise. The second half of the lab meeting during the 8th week (March 2 - March 5) will be devoted to discussion of the design of your experiments. Your TA will explain the guidelines and must approve your project. The first lab report will be due by the start of your lab period in the 11th week (March 23 - March 26).
- The subject of your 2nd lab report will be the experiment(s) you perform in the 15th week of the semester (April 20 - April 23). These experiments should use the equipment and approaches employed in the lab exercises entitled External Respiration*, Muscle Contraction, or Fluid & Water Balance. The second half of the lab meeting during the 14th week (April 13 - April 16) will be devoted to discussion and design of these experiments. The 2nd lab report will be due by noon on May 3. We have higher expectations for the quality of the 2nd lab report compared to the 1st and so we will grade it more stringently. To help you meet these expectations, the entire lab period during the 16th week (April 27 - April 30) will be available for optional discussion of the analyses, literature searches, and writing for the 2nd lab report.

*In addition to the equipment used in the External Respiration lab, a limited number of devices for real-time measurement of O₂ and CO₂ in human subjects will be available.

- For a complete description of the requirements and grading policies for lab reports, see the document "Guidelines for BISC 307 Lab Reports" posted in Blackboard.
- Submission of Lab Reports: Lab reports must be submitted electronically, via the Blackboard site for your lab section. Once you submit your lab report, Turnitin will perform an originality review, searching for similarities between your text and other internet content or previously submitted student work. Each student will retain the copyright of her/his own original work. Turnitin is not permitted to use student-submitted work for any purpose other than a) performing an originality review of your work, and b) including your work in the database against which it checks other student-submitted work. Please see the section on Academic Integrity above for an explanation of why we are using Turnitin.
- Late Lab Reports: If you miss a lab report deadline, your report will lose 20% of its point value during every 24-hour period after the deadline. For example, let's say a student writes a report that would earn 40 of the 50 points available if it were submitted on time. If the same report was

submitted late, after the deadline but before 24 hours after the deadline, the report would earn only 32 points. Point deductions would increase by an additional 20% for each subsequent 24 hour period of lateness.

Lab Performance Guidelines

- You are expected to attend all lab sessions on time, and to remain for the entire period or until excused by your TA. Unexcused absences will affect your general participation scores.
- For some lab exercises, it will be necessary for you to place your backpacks, purses, and other materials under the tables. Please follow your TA's instructions. At the end of the lab session, please clean your work area. Return supplies to their proper place. Dispose of chemicals, animal tissues, sharp objects, and contaminated material appropriately. Close all open applications on your computer workstations.

Final Thoughts

- Please forgive the length of this syllabus. We feel it is important for everyone to know exactly what to expect.
- Details aside, we hope you will enjoy our mutual exploration of physiology. The mechanisms we will study are fundamentally important in all animals, and highly relevant to the understanding of human health and disease. We promise to apply all of our experience in teaching and research, as well as some of the latest pedagogical techniques, to present an interesting and informative course and to assign grades fairly.