

Biol Sci 433-01, Winter, 2011
BIOS 246
TR 1:30 – 2:45 PM

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BIOL 433: Animal Physiology I

COURSE DESCRIPTION: Biological Sciences 433 is the 1st quarter of a 2-quarter physiology sequence designed for upper-division or graduate students in the life sciences, especially those interested in progressing to professional (medical, dental, pharmacy, *etc.*) or graduate (Ph.D., MS) school programs. This course takes a systems approach and covers the function of the mammalian nervous, muscle, and endocrine systems. This course will investigate these systems at the cellular level and progress to the whole animal level. We will also build in this course on basic skills, knowledge and biological concepts explored in the majors' core Biology courses, Biol Sci 300, 320, and 380. Because Biol Sci 380 is the final final core course taken by most Biology majors, I will assume that you have also completed Biol Sci 300 and 320 and, although, I will briefly review skills developed in those courses in the laboratory sections of those courses, I will not cover too much detail nor will I provide much guidance in developing those skills as provided in those 2 courses. Biol Sci 433 laboratory builds on the objectives for this course and is designed to further enhance your expertise with data interpretation and scientific communication of research results.

COURSE TEXTBOOK: Guyton, A.C., Hall, J.E., *Textbook of Medical Physiology*, 12th edition, Philadelphia, Elsevier Inc., 2010. This textbook will also be used in Biol Sci 434 – Animal Physiology II.

GRADING: There will be 2 midterm exams (100 points each) each consisting of a mixture of multiple choice and short answer/short essay questions, a final exam (100 points, March 15th), and 4 lab exercises (50 points each). Grades will be assigned based on the following scale:

“A” = 90-100% of possible points

“B” = 80-89%

“C” = 65-79%

“D” = 50-64%

“F” < 50% of possible points

Within each grade range, the top 3% and the bottom 3% will receive “+” and “-” grades. Regarding the exams: If you miss an exam, I will consider a make-up, provided you can furnish me with a valid reason (with evidence) for missing it.

OFFICE HOURS: For questions and assistance regarding class material, please make an appointment with me in person or e-mail for one of my office hour slots. The times posted on the first page of this syllabus have been set aside for this class.

For general advisement issues, please make an appointment to see me via the Biology Department Office at (323) 343-2050. The following hour has been set aside for general advisement: Mon 10:30-11:30 AM.

Biol Sci 433 Lecture Schedule

Lectures can be found on my faculty web-page at:
<http://instructional1.calstatela.edu/arusson>

Date	Topic (Lecture #)	Reading Assignment
Jan 4	Introduction to the course	
Jan 6	Cell Biology (1)	Ch. 1, 2, 3, 4
Jan 11	Chemical Signaling (2), Nervous System (3)	Ch. 5, 45
Jan 13	Nervous System (cont'd) (3)	Ch. 5, 45
Jan 18	Autonomic Nervous System (4)	Ch. 60
Jan 20	General Sensory (5), Smell and Taste (6)	Ch. 46, 47, 48, 53
Jan 25	Midterm Exam I on Lectures 1-6	
Jan 27	Audition and Equil. (7), Vision (8)	Ch. 52, 55, 49, 50, 51
Feb 1	Vision (cont'd) (8)	Ch. 49, 50, 51
Feb 3	Motor System (9), Muscle Physiology (10)	Ch. 54, 55, 56, 6, 7, 8, 9
Feb 8	Muscle Physiology (cont'd) (10)	Ch. 6, 7, 8, 9
Feb 10	Reflexes (11), Biol Rhythms (12)	Ch. 54, 59
Feb 15	Midterm Exam 2 on Lectures 7-11 (not including Biol Rhythms (12))	
Feb 17	No Class	
Feb 22	Biol Rhythms (cont'd) (12), Hormone Signals (13)	Ch. 59, 74
Feb 24	Hormone Signals (cont'd) (13)	Ch. 74
Mar 1	Hypothalamus/Pituitary (14)	Ch. 75
Mar 3	Thyroid (15)	Ch. 76
Mar 8	Adrenals (16), Pancreas (17)	Ch. 77, 78
Mar 10	Pancreas (17)	Ch. 78
Mar 15	Final Exam (100 pts; Covers Lectures 12-17); 1:30 – 3:00 PM	

ADA: Reasonable accommodation will be provided to any student who is registered with the Office of Students with Disabilities and requests needed accommodation.

ACADEMIC HONESTY: Students are expected to read and abide by the University's Academic Honesty Policy, which can be found at <http://www.calstatela.edu/academic/senate/handbook/ch5a.htm>. Students who violate this policy will be subject to disciplinary action and may receive a failing grade in the course for a single violation.

LABORATORY – ASCL 343; Tues or Thurs, 2:55 – 5:25 PM.

Laboratory Textbook/Manual. Stabler, T., Smith, L., Peterson, G., Lokuta, A. *PhysiolEx 8.0 for Human Physiology. Laboratory Simulations in Physiology*. Pearson, Benjamin-Cummings, 2008.

Students will work in pairs, preferably the same pairs throughout the quarter, and work together to complete the 4 exercises in a timely fashion so that they can be turned in on the indicated due date (see Table below). The Stabler *et al.* manual will be available in the bookstore, and each pair will be required to obtain a copy in order to access the material via disk.

Grading: Each Exercise will be worth 50 points x 4 = 200 points total. I will check each pair's exercise for completeness (Did you complete all questions asked?) and correctness of responses (Did you answer all the questions correctly?).

LABORATORY SCHEDULE

<u>Week</u>	<u>Exercise</u>	<u>Due Date</u>
1	Laboratory Introduction	
2	Start Exercise 1	
3	Work on Exercise 1	Exercise 1 due 1/25/11
4	Start Exercise 2	
5	Work on Exercise 2	Exercise 2 due 2/8/11
6	Start Exercise 3	
7	Work on Exercise 3	Exercise 3 due 2/22/11
8	Start Exercise 4	
9	Work on Exercise 4	Exercise 4 due 3/8/11
10	Finish up whatever is remaining	