

Zoology 2235.003: Human Physiology Lab

Fall 2019

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Office Hours: R 9:30-10:30 AM, F 9:00-10:00 AM, or by appointment

Note-Lecture and Lab combine to make up the course, they cannot be taken separately.

Prerequisites: Zoology 2250 with a C or better; Chemistry 1000, 1100, or 2100 with a C or better. ****ZOOL 2235 is taught with the understanding that students know the material from the prerequisites! Needed Material from Anatomy and Chemistry will NOT be covered.**

Textbook: *Anatomy and Physiology* is an open source (AKA FREE!) book available to view online or download as a PDF here: <https://openstax.org/details/books/anatomy-and-physiology> You may also pick up a copy in the bookstore or order a hard copy online. Publisher: OpenStax College; 1st edition (January 1, 2013) ISBN-10: 1938168135 ISBN-13: 978-1938168130

Lab assignments: will be online using the BioPac System in the lab

Course Learning Outcomes:

- Describe how the body works, from the molecular level to organ systems and to the whole body
- Explain the importance of physiology in modern medicine.
- Examine the role of the scientific method in the study of physiology as it relates to evaluating evidences and drawing logical conclusions.
- Examine the tissue level of organization and interpret the role of tissues in human systems. Compare and contrast the location, organization and function of the four basic classifications of human tissues.
- Define homeostasis and explain how this concept is used in physiology and medicine.
- Describe the nature of negative and positive feedback loops and explain how these mechanisms act to maintain homeostasis.
- Distinguish between intrinsic and extrinsic regulation and the roles of nervous and endocrine systems.
- Examine and describe the major features and functions of the cardiovascular, respiratory, muscular, digestive, immune, reproductive, and renal systems and their contributions to homeostasis.
- Describe the relationship between homeostatic imbalance and diseases in each of the organ systems.

Attendance: Students are expected to attend all lectures and lab sessions. Please arrive on time!

****Missing class during week one may result in your being dropped from the course to make room for anyone on the waiting list that is present.**

Lab: Lab will meet once a week and attendance will be taken. There are 11 lab activities during the course and two lab exams. Lab is an opportunity for hands on experience to supplement the concepts learned in lecture. The lab exams will be an amalgam of the critical materials from the lab exercises.

Blackboard: We will use Blackboard heavily in this course, if you are not experienced with this site, please take some time to familiarize yourself with how it functions.

- 1) Lab Safety Course: You will be assigned the BioLab safety course on Blackboard (2018-2019-BioLabSafety: BioLabSafety). **This must be completed with a 100% score by Sep 2nd or you will be dropped from the course!**
- 2) Lab slides will be posted as a pdf file FOLLOWING each lecture session.

Exams: There will be 800 points available between lecture and lab:

- 1) Lecture Exams: Five lecture exams will be given representing sections of the course that are highly related (eg; cardiovascular and pulmonary sections). These exams are multiple choice and will consist of 50 multiple choice questions.
- 2) Lab Reports: A group lab report is due for each week's lab exercise and will be turned in online; these are worth 10 points each and include participation points. Your total points will be prorated to a total score of 100 points.
- 3) Lab Exams: Two lab exams will cover critical concepts from the lab activities and be based on problem solving and critical thinking regarding physiological concepts.

*****NO MAKEUP EXAMS WILL BE GIVEN*****

You must have a serious and compelling reason that can be documented in order to miss an exam, should this occur, the student and instructor will develop a plan of action that best suits the circumstances of the absence.

Evaluation:

Lecture Exams (100 x 5)	500
Lab Reports	100
<u>Lab Exams (100 x 2)</u>	<u>200</u>
Total Cumulative Points:	800

Grading: A percentage of total points will be calculated, and the following scale used:

A: 100-93; **A-:** 92-90; **B+:** 89-87; **B:** 86-83; **B-:** 82-80; **C+:** 79-77; **C:** 76-73; **C-:** 72-70; **D+:** 69-67; **D:** 66-60; **F:** 59-0

- These cut offs are absolute, please do not ask to be bumped up, or for extra credit points, after the course because you are close to the line.
- The CR/NC grading option is not approved for this course; only letter grades can be earned.

Course Drop and Withdrawal Policy: Withdraw after the census date can only be done with a documented serious and compelling reason. The Department of Biological Sciences chair will not sign a withdrawal form otherwise, regardless of the instructor's view. It is highly recommended that if you wish to drop the class, you do so by the census date! A grade of

“incomplete” will not be considered under any circumstance, you may petition for a withdrawal if a serious and compelling reason is given.

Academic Dishonesty: There will be a zero-tolerance policy for academic dishonesty, this includes, but is not limited to, cheating, plagiarism, and use of course materials in an inappropriate manner such as posting online. Violating this policy will result in a failing grade for the course and referral to the Student Judicial Affairs Office. See University code of conduct for more info: <http://www.csustan.edu/judicial-affairs/student-responsibilities>

Don't Fall Behind! This is a difficult course due to the material, and it builds one day after the next. Skipping lectures, or putting off studying will result in you getting lost very quickly. If you keep up with the material, you will do much better and enjoy the course much more!!

YOU are responsible for YOUR education, but do not hesitate to get help when needed... Good Luck!

Human Physiology Lecture and Lab Schedule:

Date	Day	Lecture	Lab
22-Aug	R	Course Intro and Homeostasis	<i>No Labs This Week</i>
27-Aug	T	Molecules, Cells and Tissues	Lab Orientation and Physiological Data
29-Aug	R	Energy and Enzymes	
3-Sep	T	Membrane Transport	Membrane Transport
5-Sep	R	Cellular Metabolism	
10-Sep	T	EXAM I	Senses and Reflexes
12-Sep	R	Nerves and Neurons	
17-Sep	T	ANS	Integrative Nervous Physiology
19-Sep	R	Sensory	
24-Sep	T	Muscle Contraction	The Electromyogram
26-Sep	R	Muscle Metabolism	
1-Oct	T	Exam II	The EKG and Cardiovascular Reflexes
3-Oct	R	Blood and the Cardiovascular System	
8-Oct	T	<i>Columbus Day-No Class</i>	<i>Columbus Day-No Lab</i>
10-Oct	R	Hearts and Circulation	
15-Oct	T	Blood Pressure and Fluid Exchange	Lab Exam I
17-Oct	R	Cardiovascular Reflexes	
22-Oct	T	Pulmonary System	Spirometry
24-Oct	R	Gas Exchange	
29-Oct	T	Exam III	Acid/Base Lab
31-Oct	R	Renal Physiology	
5-Nov	T	Renal Physiology	Salt and Water Balance "The Pee Lab"
7-Nov	R	Renal Homeostasis	
12-Nov	T	Digestion	The Electrogastrogram
14-Nov	R	Digestion	
19-Nov	T	Exam IV	Exercise Physiology
21-Nov	R	Metabolism	
26-Nov	T	Metabolism	<i>Thanksgiving Day (Th)-No Labs This Week</i>
28-Nov	R	<i>Thanksgiving Day-No Class</i>	
3-Dec	T	Metabolism	Lab Exam II
5-Dec	R	Endocrine	
10-Dec	T	Endocrine	
		Exam V Finals Week	