



## Zoology 2232: Physiology Laboratory (Spring 2015)

### Course Information:

Instructor: Dr. Laurissa Hamilton  
Office: N261 (Naraghi Hall of Science)  
Office Hours: Monday: 10-11am and 2-3pm; Wednesday: 2-3pm; and by appointment  
Phone: 209-667-3489  
Contact: my office (*best*) or lhamilton@csustan.edu (*good*) or (209) 667-3489 (*worst*)  
Class Time/Place: Tuesday from 2:00 p.m. – 4:50 p.m. in N229  
CLS# & Section: 21750, Sec. 003  
Grading: Letter Grade Only  
Credits: 1 credit hour

### Prerequisites:

- ZOOL 2230 (or concurrent enrollment)
- or
- BIOL 1010, or ZOOL 1050, or ZOOL 2250

**Objectives:** To illustrate, with laboratory experiments, exercises and demonstrations, the principles of physiology with special reference to human physiology.

**Worksheets** - Download your lab assignment/worksheets from Blackboard before coming to lab.  
The website is: <http://www.csustan.edu/blackboard/>

### Components of the Grade

**Lab participation credit** – 20 points maximum. Completed worksheets and check-in of restocked lab materials will be used to determine the participation credit. Each week, lab kits / materials will be checked out to groups for the assigned activity. Groups will acquire 2 points for demonstrating that lab kits and materials are restocked and that workspaces are clean at the **end of each session**. Although this may seem like a small amount of points, they accumulate throughout the semester and will constitute approximately 10% of the final lab score. ***It is your responsibility to bring materials to the instructor for check-in / evaluation; late submissions will not be accepted.*** Attendance is required in this class. Students attending and completing all labs (no absences, late submissions, or incompletes) and successfully checking-in all lab materials will receive 20 points for their participation credit. Students absent from lab twice during the semester will be deducted 5 points from their accumulated total for their participation credit. Students absent 3 or more times during the semester will not receive any points for their participation credit. This lab participation credit is non-negotiable, i.e. it doesn't matter whether the absence was excused or unexcused. Students must complete the lab assignment, participate in all aspects of the lab, restock materials, clean-up workspaces, and submit the completed worksheets on time to receive participation credit.

Due to the complexity of the experiments, **no make-up labs are allowed**. It is required that you remain in the laboratory **until the entire exercise/experiment is completed** and **your lab areas and equipment are cleaned**. Individuals leaving their lab partners to collect data, or leaving their workspaces messy can be deducted an additional 5 points from their participation credit, per lab.

**Worksheet / Lab Report Credit** – 50 points maximum. Laboratory worksheets / reports from the prior session will be collected at the beginning of each lab meeting; **late materials will be deducted 10% points for each day late (including weekends)**. These worksheets consist of materials that are downloadable from the website. These include questions listed in the exercises as well as data sheets for the BioPac and PhysioEx exercises. Laboratory worksheets, or a portion thereof, will be graded on **five** randomly chosen occasions. These will be worth 10 points each for a total of 50 points. Download your lab assignment/worksheets posted on the website before coming to lab. Please do not use the lab printer to print your lab exercises and worksheets.

**Exams** – 50 points maximum per exam. Three exams will be given throughout the semester; they are not cumulative. They will cover material from laboratory data analysis (what you looked at and why), hands-on techniques (proper procedure), and worksheet assignments. Exams dates are given on the tentative laboratory schedule below. Missed exams without a proper written and verifiable excuse will be recorded as 0 points. No makeup exams will be given after an exam has been returned to the class; *any unexcused missed exams without a proper written and verifiable excuse will be recorded as a zero*. If you miss an exam for a legitimate emergency it is your responsibility to notify the instructor immediately. **If provided, makeup exams will be different from regular exams, may include essay and short answer questions, and only will be allowed for a valid documented emergency absence (e.g. a note from a physician that was obtained and signed by the physician on the date of the absence)**. These must be completed as soon as possible and **no later** than within **one week** of the originally scheduled day of the exam. It is the responsibility of the student to contact the instructor and make arrangements to take the test within the allowed time.

**The final course grade received will be determined based on the total accumulated points received as a percentage of the total possible points available for the course, rounded to the nearest 0.1%:**

**Exams: 3 x 50 = 150 points possible**

**Participation/Attendance: 20 points possible**

**Worksheets: 50 points possible**

**Total for the course: 220 points possible**

Percent	Grade
≥ 90.0 %	A
80.0 to 89.9 %	B
70.0 to 79.9 %	C
60.0 to 69.9 %	D
≥ 59.9 %	F

**There is zero tolerance for academic dishonesty, as defined by the university catalog. Any form of academic dishonesty will be reported to the Dean and will result in an F grade for the course.** As I complete grading for each assignment or exam, you will be able to check your score on Blackboard. You have one week (7 days) following return of any exam / assignment or the posting of scores to meet with me to work out any reasonable changes in grading. **No grades will be changed after the one-week interval and no course grades will be changed once they have been submitted to the registrar.** *The last day to drop the class is Monday, February 23<sup>rd</sup>.*

### Tentative Laboratory Schedule (subject to change)

Date	Lab.	Topic	Section	PhysioEx
1/27	1	Getting Started – Introduction of General Conceptual Models	Introduction, Homeostasis, Flowcharts, & Metric System, BioPac Tutorial	
2/3	2	Diffusion, Osmosis and Tonicity	Transport	Ex.1: #2, #4 & #5
2/10	3	Measurement of Plasma Glucose	Plasma Glucose Video	Ex. 4: #1
2/17	4	The Nervous System – Hearing & Equilibrium, Mammalian Eye	Vision Ear	Ex. 3: #2; #4-5
2/24	5	The Cardiovascular System*	BioPac 5 & 6*	
3/3	6	<b>Exam #1</b> The Immune System	Immunity	
3/10	7	Blood Pressure & Heart Sounds Components of the EKG & Pulse	BioPac 7	Ex. 6: #1, 2, & 4
3/17	8	The Respiratory System	BioPac 12 & 13 Video	
3/24	9	Acid / Base Balance	Respiratory Acidosis & Alkalosis	Ex. 10: #3 & 4
3/31		<i>No Lab – Cesar Chavez Day</i>		
4/7		<i>No Lab – Spring Break</i>		
4/14	10	<b>Exam #2</b> The Digestive System	Digestion	
4/21	11	The Muscular System	BioPac 1 & 2	Ex. 2, #6 & 7
4/28	12	Renal Regulation of Fluid and Electrolyte Balance	Renal	Ex. 10
5/5	13	The Endocrine System		
5/12	14	<b>Laboratory Final</b>		

**\*Material from the 2/24 Cardiovascular exercises will be on Exam #2.**

## General Physiology Lab Policies:

*Note: Infractions of any of these policies will result in the loss of 5 participation points for each lab period. If participation points are no longer available, infractions of these policies will result in the loss of 5 points from your overall course grade for each incident.*

You are required to stay until your lab group has finished the exercise and your workspace and glassware has been cleaned and returned to its appropriate storage location.

**Broken glass belongs in the labeled glass disposal containers, and paper and plastic in the regular trash.**

You are responsible for the equipment checked out to you for each lab. Lost or broken equipment will be charged to the group and must be paid for before grades will be released.

**No food or drinks will be consumed in the lab.** If you get hungry or thirsty, take your lunch/snack into the hallway. Be sure to wash your hands.

Cell phones must be turned off and put away during lab, leaving lab to talk on the phone or text messaging during lab is considered an absence, regardless of how long you were on the phone.

Computers are to be used for laboratory exercises, not checking email or surfing the net. No programs, files or pictures may be downloaded to the computers in lab.

Bare feet are not allowed, and shoes with closed-toe areas (vs. thongs or sandals) are strongly recommended.

Microscopes, regardless of the condition they were previously put away in, must be put away properly:

1. 4X (or empty slot) objective in place over the stage
2. Stage completely lowered
3. Light level turned to its lowest setting (before turning off the scope)
4. Electric cord properly wrapped around the scope
5. Clean optics

### Other activities that can negatively affect your points:

**Laboratory equipment and space** – Please read your laboratory safety guidelines and assignment before coming to lab. These are posted on the web site. At the beginning of each lab, organize your lab space and get all necessary glassware, instruments and reagents. Be aware of what you and your lab partners are doing. **At the end of each lab, clean all glassware and return all supplies to their proper locations.** You will be working in assigned groups (usually no more than three students per group) and your group is responsible for the given equipment and supplies. Missing and broken glassware/equipment will be charged to the group. These items must be replaced before a grade will be given. Clean your lab area with soap and water before you leave the laboratory. Negligent loss of equipment or improper storage of equipment will result in loss of up to 5 participation points for that lab day.

**Printer use** – Printers are available for printing of data from the PhysioEx and BioPac experiments only. Use of the printers for any other reason (including printing out copies of the lab worksheets) will result in loss of the student's participation credit for that lab (e.g. it will count as one absence).