Zoology 4230: Animal Physiology
Fall 2018

Lecture (001): TR 800-915
Lab (002): T 930-1220
(003): R 930-1220

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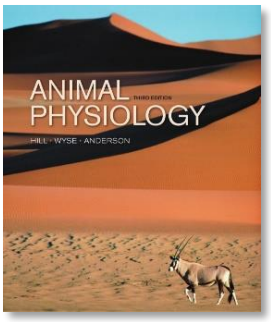
Office Hours: M 1-3



Prerequisites: BIOL 3310 with a C or better, and CHEM 3010/3012.

Required Materials: Dissection Kit

Highly Recommended Materials: Hill and Wyse, Animal Physiology, 4th Edition.
ISBN#: 9781605355948
Other Recommended Materials: Lab Coat and Gloves (if desired), USB drive

Attendance: Students are expected to attend all lectures and lab sessions. Please do not come to class late, and limit coming and going during lecture to emergencies only, these behaviors are rude and disrespectful to the instructor and fellow students. Missing a lab that involves live animal work without prior permission, or a serious and compelling (and documented) excuse will result in a 5% overall grade decrease for each instance. If any labs are missed, the points earned by your lab mates will not be awarded.

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). **If this is on your course list, it must be completed with a 100% score by August 31st or you will be dropped from the course!**
2) Lab exercises and background information can be downloaded on the lab section page under 'assignments'.
3) Lecture slides will be posted as a pdf file FOLLOWING each lecture session on the content page.

Exams: Four 100 point in-class exams will be given and will cover lecture and lab material from the corresponding section. These are intended to show your ability to understand and problem solve using the various physiological concepts and your understanding of the lab data.

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

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

Lab: Lab meets once per week and attendance is mandatory. The lab experiments are the central piece of this course and some will involve experimentation with live animals. If you are not prepared to work with live animals, and in some instances, sacrifice the animal for physiological study, you are highly encouraged to drop the course (with no hard feelings). You will be associated with a group of three for the entire semester, with all assignments turned in as a group. Lab exercises are available on BlackBoard (Section 002 or 003) for download and must be turned in electronically; no paper lab reports will be accepted. Final Lab reports are due posted on Bb a week after the lab's completion. The lab report logistics will be covered during an orientation on the first day. Each lab report is worth 10 or 20 points, and the final score for lab will be based on a percentage of total points, with a maximum of 100 points possible. ALL assignments are subjected to anti-plagiarism software when submitted.

Important: Working with live animals requires attention to detail and focus by all students, while at times some lab activities may be loud and collegial, even light-hearted, students are asked to take working with live animals very seriously and respectfully. **Anyone witnessed by the instructor or another student making light of, or engaging in disrespectful behavior toward, the animals used in the lab will be asked to leave and not come back.** This will result in a failing grade; the animals deserve our respect and anything less than 100% seriousness in this respect will not be tolerated. Furthermore, please hold all outside activities during these technically challenging labs (ie; studying for other courses, phone droning, texting, or internet surfing). We are also not permitted to film or take photos of the animal preps, this violates the policy of the Institutional Animal Care and Use committee.

Assessment: There will be a subjective grade worth 25 points based on your lab participation. Not participating, being late, working on non-lab materials, or unexcused absences will dramatically lower this grade.

Evaluation:

Five In-Class Exams (100 each)	400
Lab Reports (% of Total)	100
Assessment	25
Total Cumulative Points:	525

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 because you are close to the next grade level.
- No requests for extra assignments or special consideration will be given at the end of the course.
- 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 Enrollment Services Office 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. Should you be unable to finish the course past the census date, you must petition for a withdrawal.

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 an immediate failing grade for the course, and subsequent referral to the Student Judicial Affairs Office. See University code of conduct for more info:
http://www.csustan.edu/judicial-affairs/student-responsibilities.
In accordance with CSU Stanislaus and IACUC policies, video or audio recording of lecture or lab is not allowed

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

<u>Tentative</u> Schedule (seriously, tentative…)

Date	Day	Lecture	Ch	Lab (Week)
23-Aug	R	Course Introuction/Animals and Environments	1	No Lab
28-Aug	T	Molecules and Cells in Animal Physiology	2	Lab Safety and Orientation
30-Aug	R	Membranes and Transport Processes	2	Intro to Physiological Data Collection
4-Sep	T	Membrane and Action Potentials	5	Compound Action Potentials in the Frog Sciatic Nerve
6-Sep	R	Digestion and Absorption	6	
11-Sep	T	Energy and Metabolism	7	Oxygen Consumption and Specific Dynamic Action
13-Sep	R	Metabolic Rate	7	of the Mozambique tilapia
18-Sep	T	**EXAM I**		Introduction to the Rat Unilateral Nephrectomy and
20-Sep	R	Nerves versus Endocrine	12	Quiz assignment
25-Sep	T	Neurons and Synapses	12	Integrated Nervous Physiology of Humans
27-Sep	R	Endocrine System	16	
2-Oct	T	Muscles	19	Muscle Twitch in the Frog Gastrocnemius
4-Oct	R	Muscles	20	
9-Oct	T	**Exam II**		The Effect of Temperature on Lizard Sprint Velocity
11-Oct	R	Thermal Physiology	10	
16-Oct	T	Thermal Physiology	10	Acute Thermal Tolerance of Goldfish
18-Oct	R	Respiratory Gasses and Physiology	22	
23-Oct	T	Pulmonary Systems	23	Q10 of enzymes
25-Oct	R	Circulation	24	
30-Oct	T	Hearts		Chronotropy and Inotropy of the Frog Heart
1-Nov	R	Cardiovascular reflexes		
6-Nov	T	Diving Physiology	26	Unilateral Nephrectomy of the Rat and Renal Study
8-Nov	R	**EXAM III**		
13-Nov	T	Problems of Salt and Water Balance	27	Osmo-Respiratory Compromise (ORC) of Gills
15-Nov	R	Osmo- and Ionoregulation	28	
20-Nov	T	Environments and Osmoregulation	28	NO LAB
22-Nov	R	No Class- Thanksgiving		*Thanksgiving*
27-Nov	T	Environments and Osmoregulation	28	Rat Renal Study and ORC Data Analysis
29-Nov	R	Mammalian Kidney	29	
4-Dec	T	Mammalian Kidney	29	Rat Renal Study Data Analysis
6-Dec	R	Comparative Physiology of harsh environments		
		EXAM IV during Finals Week		