
Bi356: Animal Physiology Laboratory

Winter 2019

Instructor - Dr. Lisa Wagner

Office Hours: Mon 12-1 in 130 Heustis

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Office hour: TBD

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Location: 130 Heustis

Lab times: Mondays 10-11:20 and 2-3:30

Wednesdays 10-2:50 and 2-4:50

Laboratory Overview: The laboratory portion of this Animal Physiology course is designed to help you better understand the concepts presented in lecture through hands on anatomical and physiological learning activities. You will also learn about the scientific method by working collaboratively to design a study of your choice. By the end of the course you will be able to:

- 1) Properly and safely use animals and modern laboratory equipment to conduct physiological Research
- 2) Form hypotheses and design experimental methods to answer scientific questions related to animal physiology
- 3) Understand the scientific method and convey that understanding effectively in a project proposal
- 4) Effectively communicate your ideas visually (poster), orally (presentation) and in written form (final paper)

Lab Policies:

- Proper personal protective equipment should be worn, and instructions should be followed to ensure safety for the whole course.
- Drinks are permitted during the lab time. However, they should not be consumed at the workbench and should be stored in a designated area at the front of the classroom.
- **No food is permitted in lab.**
- Backpacks should be stored in the spaces under the workbenches and not on the hallway floor.
- It is expected that stations will be cleaned up at the end of lab and returned to their original state. You will use the same station week in and week out. To ensure you have a useable station, you have to make sure your equipment is clean and in working order.

Course Materials: All course materials will be posted on Canvas (<https://canvas.uoregon.edu>)

You will need to print these materials each week and bring them to use both Monday and Wednesday.

Lab Details:

We do not want lab to be just another lecture, though on Mondays we may present a brief overview of the day's activities or discuss aspects of your projects. Mondays are primarily meant to prepare you for Wednesday's labs and for you to work on your projects. On Mondays you will also need to speak with a GE or instructor who will monitor your project progress throughout the quarter. Wednesdays you will come in and get right to work. Again, all course materials will be posted on Canvas **You will need to print these materials prior to that Monday's lab.**

Assessments: The assessments assigned during lab are designed to help you identify skills and concepts that are concrete, and others that need more work. The intention is that when you identify these skills and concepts that need more work, you will be able to focus your studying and learning. Please refer to the provided syllabus for due dates. Further details will be provided in lab time.

Final Project: This term you will be completing an original investigation on the homeostatic mechanisms of cockroaches. You have the ability to choose your exact topic and experimental design, however, the physiological mechanism to explore must be one that is covered in lecture or lab. It is encouraged to search through literature for experiments and concepts. The original investigation will follow the scientific method and give you the opportunity to form hypotheses, design and carry out an experiment, collect and analyze your data before presenting your research in a scientific paper and group presentation. **The majority of the assignment will be done individually and in your own words and you will turn in your own individual final paper.** The actual experiment and the final presentation will be done in groups.

Specifics on this project can be found in the separate provided document on the term project outline.

Grades:

50 Points	Lab activities
50 Points	Lab final
50 Points	Final Project (Breakdown Below)
	Poster session – up to 15 points
	Oral presentation – up to 15 points
	Final Draft of scientific research proposal – up to 15 points
	Collaboration assessment- up to 5 points

Late Assignments: In order to receive credit for lab assessments, you must be present and participating in lab. Late assessments (of any kind) will not be accepted. In regards to the final project, 10% will be deducted each day the material is late. **FINAL PROPOSALS WILL NOT BE ACCEPTED AFTER WEDNESDAY OF WEEK 10 (3/13/2019).**

Academic Integrity:

- Suspected academic integrity violations will be handled with the teaching staff and reported as appropriate.
- The University Student Conduct Code (available at conduct.uoregon.edu) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at researchguides.uoregon.edu/citing-plagiarism.

The University of Oregon is working to create inclusive learning environments. Please notify us if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center in 164 Oregon Hall at 541-346-1155 or uoaec@uoregon.edu.

Inclusivity and Accessibility: Freedom of academic inquiry, equity among all of our diverse array of students, and responsiveness to individual needs so that everyone is able to perform at their best is a core value for the UO and the Animal Physiology team. Accommodations for documented disabilities will be made most easily if you let us know as soon as possible what accommodations are needed; please provide letters from the Accessible Education Center (<https://aec.uoregon.edu>) as soon as possible. If you have other needs, documented or not, please let me know and I will do my best to accommodate you. While we cannot all totally understand each other's personal experiences, we can all work to eradicate discrimination and we can all share and benefit from each other's perspectives with respect and generosity. Courtesy and thoughtfulness will enrich our

journey together this term, and are expected from everyone.

Cell Phones, computers and other electronic devices: Please turn off and put away your cell phones during class. One computer per lab group will be provided on Mondays, however, if you would like to work on your own computer bring it in.

Collaborative learning: There is overwhelming evidence that students who participate in collaborative learning activities perform better on exams. Collaborative learning is widely accepted as an effective learning tool that promotes higher level thinking. As well, these practices promote socialization and trans-cultural communications among students. It involves students working together to achieve common goals or complete group tasks – goals and tasks that they would be unable to complete by themselves. We utilize collaborative learning techniques in both lecture and lab and it is imperative that all students participate in these activities.

Communication: Please make use of the Discussions and Conversations functions in Canvas for most class communication. These tools will likely result in the quickest response time for any questions you might have.

Professional conduct: Academic dishonesty devalues the reputation of our institution, its faculty, its students, and your academic degree. Academic misconduct is particularly unfair for students who do their work with integrity and honor. Please adhere to the University Student Conduct Code (available at <http://studentlife.uoregon.edu/StudentConductandCommunityStandards/>).

Date	Lab	Assessment /points	Final project progress-get checked off at the end of class
M- 1/7/19	No Lab		
W- 1/9/19	Intro, scientific method/Urban myth activity/box activity/find team mates	Ratings sheet 5pts	Find team mates, exchange information- consider target species
M- 1/14/19	How to read scientific papers/Find at least 2 scientific papers to read	Two papers, target animal 5pts	Declare target animal and possible physiological aspect
W- 1/16/19	Surface to volume relationships, Osmosis and diffusion	Teach and Learn 5pts.	
M- 1/21/19	MLK day - No Lab		Literature review - should have 4-6 good papers
W- 1/23/19	Introduction to Lachart using earthworm action potentials	Question set 5pts	
M- 1/28/19	Hypotheses and methods /activity: human eye function	Teach and Learn 5pts.	Literature review- rough draft state hypothesis
W- 2/30/19	Cow eye dissection and fly photoreceptor experiment	Methods for experiment 5pts	
M- 2/4/19	Overview/ work on methods	Method outline 5pts	Methods outlined- go over your rough draft with GE or instructor
W- 2/6/19	Muscle physiology	Teach and Learn 5pts.	
M-2/11/19	Dissection demo/ Conclusion and justification		Conclusion outline
W- 2/13/19	Pig Plucks- a look at pig heart, and lungs	Anatomy quiz 5pts.	
M-2/18/19	electrocardio Demo/work on poster		First Draft of final paper
W- 2/20/19	Frog heart (electrocardiology)/anatomy of a frog	Question set 5pts	
M-2/25/19	Poster work/ What happens at a poster session?		Poster designed
W- 2/27/19	Presentation work/What happens during conference presentations?		
M-3/4/19	Review		
W- 3/6/19	Lab Exam	50pts	
M-3/11/19	Conference begins: Poster Session	Poster rubric 15pts	
W-3/13/19	Oral Presentations	Presentation rubric 15 pts./ Final draft of paper 15pts./ collaboration assessments 5pts.	Final draft of final paper due