

BIOLOGY 321L Fall 2018
GENERAL AND COMPARATIVE PHYSIOLOGY LAB
Section 01: Wednesday 1:30-4:30 pm
Section 02: Thursday 1:35-4:35 pm
Rita Hollings Science Center (RITA) 279

Instructor: Dr. Jeffrey D. Triplehorn

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Office location: RITA 117

Phone: 953-5848

Office hours: Wednesday 9-10 am or by appointment

TA: Tessa Pfeifer

1. Course prerequisites and Co-requisite(s) or Prerequisite(s)

Prerequisite: BIOL 111/BIOL 111L, BIOL 112/BIOL 112L, BIOL 211/BIOL211D, and BIOL 305; one year of chemistry. CHEM 232 can be substituted for BIOL 211 and BIOL 305.

Co-requisite(s) or Pre-requisite(s): MATH 250 or equivalent course in statistics

2. Course description

A study of the principles of the functional mechanisms that underlie the life processes of all organisms with emphasis on the ways in which diverse organisms perform similar functions. Lectures three hours per week; laboratory three hours per week.

3. Instructional objectives and student learning outcomes

- a. Students will be able to write a scientific paper in a clear and organized manner in formats used in the primary literature.
- b. Students will be able to orally present a topic to an audience on a physiological subject in a clear and understandable manner.
- c. Students will be able to conduct biological experiments to collect and analyze raw data in the laboratory in the context of simple experimental questions.

4. Required text

Eckert Animal Physiology: Mechanisms and Adaptations, 5th ed, 2002,

David J. Randall, Warren Burggren and Kathleen French, W.H. Freeman and Co., New York

5. Course policies and procedures

The class will meet for three hours, one time per week. **Students are required to attend each laboratory session.**

6. Evaluation

The lab component contributes to **30%** of your overall BIOL 321 General and Comparative Physiology course grade. The lab grade will be based on the following:

Source	% of Lab Grade	Number of Points
Ammonia excretion paper	15%	45
Visual responses paper	25%	75
Practice presentation	10%	30
Muscle physiology graph	5%	15
Final presentation	25%	75
Final presentation participation	10%	30
Lab notebooks	10%	30
Total	100%	300

Students are expected to arrive on time and participate in all labs!

a) **There will be a 30-point deduction for each unexcused missed labs.** Excused and unexcused absences are at my discretion; obtaining an absence memo (documented or not) **does not** automatically count as an excused absence.

b) Late to lab three times = one absence (-30 points to lab grade). If you are more than 10 minutes late to lab, that counts as **two "lates."**

7. Late assignment policy

You are expected to turn in the writing assignment on time. Failure to do so is equivalent to failing to meet a deadline. If you fail to meet the assignment deadline, the highest grade you can earn is the lowest of the assignments turned in on time, minus one point. For example, if the lowest grade in the class was a 40 points on the assignment (out of 50 possible points), you would get 39 points if there was no reason for me to deduct any points. I will not accept an assignment after I have returned the graded assignments to the class. If you have a personal or family emergency, the same policy listed above for the exam applies.

8. Laboratory safety

Laboratory safety is a serious issue. A comprehensive chemical hygiene plan for the College of Charleston campus is available at <http://ehs.cofc.edu/laboratory-and-research-safety/chemical-safety/chemical-hygiene-plan.php> and a copy of the plan at <http://ehs.cofc.edu/laboratory-and-research-safety/chemical-safety/chp.pdf>.

9. College of Charleston Honor Code and Academic Integrity

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student's actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission-- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include

possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others' exams, fabricating data, and giving unauthorized assistance.

Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Students can find the complete Honor Code and all related processes in the *Student Handbook* at <http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php>

10. Accommodations for students with disabilities

If there is a student in this class who has a documented disability and has been approved to receive accommodations through the Center for Disability Services/SNAP (Students Needing Access Parity), please come and discuss this with me during offices hours or by appointment during the first two weeks of class or as soon as the student has been approved for services. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104.

11. Center for Student Learning

I encourage you to utilize the Center for Student Learning's (CSL) academic support services for assistance in study strategies, speaking & writing skills, and course content. They offer tutoring, Supplemental Instruction, study skills appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at <http://csl.cofc.edu> or call (843)953-5635.

12. Tentative laboratory schedule

WEEK	DATE	LABORATORY	ASSIGNMENT
1	Aug 22/23	Lab introduction	None
2	Aug 29/30	Ammonia Excretion in Marine Organisms	Record value of "unknown" in notebook
3	Sept 5/6	Ammonia Excretion in Marine Organisms	Share data on spreadsheet
4	Sept 12/13	Ammonia Excretion in Marine Organisms	Share data on spreadsheet
5	Sept 19/20	Introduction to vision and ERGs	Ammonia excretion paper due
6	Sept 26/27	Writing workshop	
7	Oct 3/4	Light sensitivity of the eye (ERGs)	Share data on spreadsheet
8	Oct 10/11	Eye flicker fusion rates (ERGs)	Share data on spreadsheet
9	Oct 17/18	Visual interneuron flicker fusion rates	Share data on spreadsheet
10	Oct 24/25	Presentation workshop	Insect vision paper due Give 5-minute presentation
11	Oct 31 Nov 1	Muscle physiology	
12	Nov 7-8	Class Presentations	Muscle physiology graph due Give 10-minute presentation
13	Nov 14-15	Class Presentations	Give 10-minute presentation
14	Nov 21-22	THANKSGIVING	Eat
15	Nov 28/29	Endocrine system and crayfish behavior	Study for lecture final exam