

BIOLOGY 321 LECTURE SECTION 01 Fall 2020
GENERAL AND COMPARATIVE PHYSIOLOGY
Lecture: Monday, Wednesday, Friday 9:00-9:50 am RITA 152
Lab: ***COMPLETELY ONLINE*******

Instructor: Dr. Jeffrey D. Triplehorn
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Office location: RITA 117
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Office hours: By appointment conducted via Zoom



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 recognize specific physiological terms and put them into the context of the functioning of cells, tissues, organs, and organisms.
- b. Students will be able to write a scientific paper in a clear and organized manner in formats used in the primary literature.
- c. Students will be able to orally present a topic to an audience on a physiological subject in a clear and understandable manner.
- d. 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

Animal Physiology, 4th edition, 2018, Richard W. Hill, Gordon A. Wyse and Margaret Anderson, Sinauer Associates, Inc., Sunderland, MA

5. Required software

PhysioEx 10.0: Laboratory Simulations in Physiology Plus Website Access Code Card for PhysioEx 10.0 -- Access Card Package, 1st edition Peter Zao, Timothy Stabler, Lori A. Smith, Andrew Lokuta, Ed Griff Published by Pearson (December 10th 2019) - Copyright © 2020 1st edition.

6. Course policies and procedures

During the first three weeks, **lectures will be presented online, asynchronously** using VoiceThread and will be available in OAKS. **Labs will be also be conducted online, asynchronously** using online simulations (PhysioEx 10.0).

Beginning the week of September 14th, when students are scheduled to be back on campus, **lectures will be presented face-to-face, three times per week for 50 minutes per lecture as scheduled while labs will continue to be conducted online, asynchronously for the entire semester**. Although attendance is not taken, students that do not attend regularly or view the online lectures and keep up with the material generally do not do well on exams. Class time/online lectures will be used to present material, provide demonstrations and view video clips. Discussions will take place in face-to-face classes, on the Discussion board via OAKS, and in requested responses in VoiceThread lectures. It will be beneficial to read the assigned material **before** viewing recorded lectures or attending face-to-face lectures. Although exams will focus on lecture material (online and/or face-to-face), you are responsible for all material that is covered in the lectures and in the text. If there is an issue either viewing/keeping up with the online lectures or attending face-to-face lectures, I encourage you to contact me as soon as possible. Both online and face-to-face lectures, will use PowerPoint slides and blackboard (face-to-face) or whiteboard (online). Handouts will be provided ahead of time on OAKS to help notetaking. Complete slides will be posted on OAKS *after* lecture.

During the first three weeks of online lectures, I will schedule a Zoom meeting for the class each Friday to answer any questions you have on the material in the online lectures. The Zoom meeting is purely voluntary.

After students return to campus starting the week of September 14, I will not continue these Zoom meetings since we will be meeting face-to-face. However, both during the period of online only and face-to-face classes, I am available to meet with students by scheduling a Zoom meeting; just email me to setup a meeting time that works for both of us.

7. Reaching your instructor

If you have any questions, please use email to reach me. During the week, I will deliver my responses for emails within 24 hours. My response emails will be delivered within 48 hours on the weekend. I expect you to regularly log into OAKS to review plans and expectations for lecture activities and to be informed of course updates posted in the news feed on the lecture course homepage. Please check your email regularly as I will email updates to the class through OAKS to update you on class events and assignments. **Computer failure or unavailability does not constitute an excuse for incomplete or late assignments**. If you feel uncomfortable with technology, the College offers a number of resources to help you develop your technological competency, in general, but specifically within the context of this online class. Visit <http://blogs.cofc.edu/studentreadinessforonlinelearning/> to access those resources. If you experience technological problems during the class, please contact me immediately at triblehornj@cofc.edu.

8. Technology Policy

During face-to-face classes, there will be no use of cell phones, computers, iPads, iPhones, etc. during class. These devices are disruptive to other students in the classroom and to my teaching. If your cell phone goes off during class, you may be asked to leave for the day. All devices are to be turned off and put away (not left on your desk) until class is dismissed.

9. Exam policies

Exams will be administered in class, with the exception of final exam, which will be online and during the scheduled final exam time window for the course (see lecture schedule at the end of the syllabus, *Section 19*).

If you know that you are going to miss an exam, you should inform me of this as soon as possible so that we can make other arrangements.

Due to the novel situation COVID-19 provides, if you become ill or have a need to quarantine or isolate yourself, you need to contact me as soon as possible so that we can make other arrangements. It would be best for these requests occur prior to the day (or night) before the exam, the day of the exam, or after the exam. I will follow up requests with a Zoom meeting with the student as soon as possible to discuss arrangements.

Keep in mind that being dishonest about an illness or COVID-related absence is a violation of the Honor Code and students violating the Honor Code will be reported to the Dean of Students.

10. Evaluation

Grades will be based on **four exams, a comprehensive final, five discussion posts/lecture participation, the lab grade, and extra point quizzes (see below)**.

- **Exams**

Exams will consist of a number of question formats that may include: multiple choice, fill-ins, matching, short answers, short essay and figure completions. Material will be drawn from lectures, lab, class discussions, and the readings.

The exams will be given on the dates indicated on the schedule in class. Each student is responsible for knowing when the exams will be given as well as taking the exams on those dates.

If the online only period is extended during the semester, we will continue with the same course format as the first three weeks of the semester until students do return to campus. If this extended period includes exams, the exams will be administered online on the same date as scheduled, during the scheduled course time.

Regardless of when students return to campus, the final exam will be administered online.

Exams administered online will utilize an exam proctoring service (see *Section 12*)

- **Quizzes**

Short, five question, 3 minutes quizzes (mostly fill-in the blank) will be given every Monday evening within a window between 7:00-7:15 (unless informed otherwise).

Quizzes will cover material presented since the last quiz.

The highest quiz grade within the period prior to each non-final exam will be added to the score of the next non-final exam. For example, if you received a 3 on Quiz 1 and a 4 on Quiz 2, then you will have 4 points added to your next exam grade.

If you have an academic course conflict, please inform me at the beginning of the semester

If you miss a quiz, you will not be able to make it up since the quizzes are extra credit and you will have multiple quizzes to earn these extra credit points before each non-final exam.

- **Discussion posts**

There will be five (5) discussion topics posted throughout the semester. These will require an initial response the first week, followed by responses to three additional posts during the second week.

Each discussion will be worth 20 points. Information about discussion posts will be provided when the first discussion is assigned.

The remaining 10 discussion points will be based on answering questions requested during lectures (VoiceThreads online or face-to-face).

If you are a student with special needs (i.e. a documented learning disability) and you require special arrangements for the exams or course, please refer to *Section 13* below and contact me as soon as possible so that I can accommodate your needs. **Please provide documentation of your special need in writing at the beginning of the semester.**

Grades will be assigned on the basis of the number of points that you earn at the completion of the course. The number of points and the approximate percentage of the grade are indicated below.

Course grade breakdown

Source	Approx. % of Grade	Number of Points
Exam I	11%	110
Exam II	11%	110
Exam III	11%	110
Exam IV	11%	110
Final Exam (comprehensive)	15%	150
Discussions	11%	110
Laboratory	30%	300
		1000

The combined total for all of the above will be 1000 points. Your final grade in the course will be based on a percentage of points based on the College of Charleston grading scheme:

% of Total Points	Point Range	Grade Earned
93% and higher	930-1000	A
90-92.9%	900-929	A-
87-89.9%	870-899	B+
83-86.9%	830-869	B
80-82.9%	800-829	B-
77-79.9%	770-799	C+
73-76.9%	730-769	C
70-72.9%	700-729	C-
67-69.9%	670-699	D+
63-66.9%	630-669	D
60-62.9%	600-629	D-
<60%	<600	F

11. 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. Discussion posts, quizzes, and exams (administered in class or online) are individual assignments and no collaboration during the completion of each of these is permitted. All quizzes and exams are considered closed book. 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 or receiving 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>

12. Online Courses with Exam Proctoring

This course will require the use of an exam proctoring service for the comprehensive final and any exams during the online only period. The College has purchased a license for Respondus, which is a lockdown browser and monitoring software system and students should not be responsible for the cost of this service. However, since this is a very recent development, if Respondus is not provided as planned, then students will be responsible for registering, scheduling and the cost of the service prior to the lab practical. In either case, instructions and additional information for online proctoring will be provided later in the semester.

13. Accommodations for students with disabilities

Any student eligible for and needing accommodations because of a disability is requested to speak with the professor during the first two weeks of class or as soon as the student has been approved for services so that reasonable accommodations can be arranged. [Center for Disability Services/SNAP](#)

14. OAKS

OAKS, including Gradebook, will be used for this course throughout the semester to provide the syllabus and class materials and grades for each assignment, which will be regularly posted.

15. 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.

16. Inclement weather, Pandemic, or substantial interruption of instruction

If in-person classes are suspended, faculty will announce to their students a detailed plan for a change in modality to ensure the continuity of learning. All students must have access to a computer equipped with a web camera, microphone, and Internet access. Resources are available to provide students with these essential tools.

If the College of Charleston closes and members of the community are evacuated due to inclement weather, students are responsible for taking course materials with them in order to continue with course assignments consistent with instructions provided by faculty. In cases of extended periods of institution-wide closure where students have relocated, instructors may articulate a plan that allows for supplemental academic engagement despite these circumstances. Be sure to check email and OAKS for course information during evacuations.

17. Mental and Physical Well-being

At the college, we take every students' mental and physical wellbeing seriously. If you find yourself experiencing physical illnesses, please reach out to student health services (843.953.5520). And if you find yourself experiencing any mental health challenges (for example, anxiety, depression, stressful life events, sleep deprivation, and/or loneliness/homesickness) please consider contacting either the Counseling Center (professional counselors at <http://counseling.cofc.edu> or 843.953.5640 3rd Robert Scott Small Building) or the Students 4 Support (certified volunteers through texting "4support" to 839863, visit <http://counseling.cofc.edu/cct/index.php>, or meet with them in person 3rd Floor Stern Center). These services are there for you to help you cope with difficulties you may be experiencing and to maintain optimal physical and mental health.

18. Food and Housing Resources

Many CofC students report experiencing food and housing insecurity. If you are facing challenges in securing food (such as not being able to afford groceries or get sufficient food to eat every day) and housing (such as lacking a safe and stable place to live), please contact the Dean of Students for support (<http://studentaffairs.cofc.edu/about/salt.php>). Also, you can go to <http://studentaffairs.cofc.edu/student-food-housing-insecurity/index.php> to learn about food and housing assistance that is available to you. In addition, there are several resources on and off campus to help. You can visit the Cougar Pantry in the Stern Center (2nd floor), a student-run food pantry that provides dry-goods and hygiene products at no charge to any student in need. Please also consider reaching out to your instructor if you are comfortable in doing so.

19. Lecture schedule

The following schedule represents a tentative plan for the course. **Topics and dates are subject to change.**

WEEK	DATE	LECTURE	TOPIC	Readings
1	8-26	1 (online)	What is animal physiology and why study it?	Ch. 1
	8-28	2 (online)	The study of animal physiology	Ch. 1
2	8-31	3 (online)	Chemical composition of animals	Ch. 6: 131-140
	9-2	4 (online)	Energy metabolism	Ch. 7
	9-4	5 (online)	Aerobic metabolism	Ch. 8: 189-201
3	9-7	6 (online)	Anaerobic metabolism	Ch. 8: 189-201
	9-9	7 (online)	Chemical reactions and Enzymes	Ch. 2 44-59
	9-11	8 (online)	Membranes, channels and transport	Ch. 2: 35-44; Ch. 5
4	9-14	9	**IN PERSON COURSES SCHEDULED TO BEGIN** Membranes, channels and transport	Ch. 5
	9-16	10	Membranes, channels and transport	Ch. 5
	9-18	11	Nervous system	Ch. 15: 407-420
5	9-21		*****EXAM I to cover Lectures 1-10*****	
	9-23	12	Nervous system	Ch. 12
	9-25	13	Nervous system	Ch. 12
6	9-28	14	Nervous system	Ch. 12
	9-30	15	Nervous system	Ch. 12
	10-2	16	Nervous system	Ch. 13 Ch. 2: 63-68
7	10-5	17	Nervous system	Ch. 13
	10-7	18	Nervous system	Ch. 13
	10-9	19	Sensory systems	Ch. 14
8	10-12		*****EXAM II to cover Lectures 11-18*****	
	10-14	20	Sensory systems	Ch. 14
	10-16	21	Endocrine system	Ch. 16
9	10-19	22	Endocrine system	Ch. 16
	10-21	23	Endocrine system	Ch. 16
	10-23	24	Skeletal muscle	Ch. 20
10	10-26	25	Skeletal muscle	Ch. 20
	10-28	26	Skeletal muscle	Ch. 8: 203-207
	10-30	27	October 28 is the last day to Withdrawal from class Circulatory system	Ch. 25
11	11-2		*****EXAM III to cover Lectures 19-26*****	
	11-4	28	Circulatory system	Ch. 25
	11-6	29	Circulatory system	Ch. 25
12	11-9	30	Circulatory system	Ch. 25
	11-11	31	Circulatory system	Ch. 25
	11-13	32	Respiratory system	Ch. 22
13	11-16	33	Respiratory system	Ch. 23
	11-18	34	Respiratory system	Ch. 24
	11-20	35	Respiratory system	Ch. 24
14	11-23		*****EXAM IV to cover Lectures 27-35*****	
	11-25		No class – Thanksgiving	
	11-27		No class – Thanksgiving	
15	11-30	36 (online)	Kidneys and excretion	Ch. 24
	12-2	37 (online)	Ionic and osmotic balance	Ch. 29
	12-4	38 (online)	Ionic and osmotic balance	Ch. 28
			FINAL EXAM: FRIDAY DECEMBER 11, 2020 8:00 – 10:00 AM	