

**SYLLABUS
BIOL 321
SPRING 2009
GENERAL AND COMPARATIVE PHYSIOLOGY**



Instructor: Lou Burnett, Professor of Biology
 Lecture: 9:25 – 10:40 a.m. TR, Lab: 1:00 – 4:00 p.m. R
 Office: Grice Marine Laboratory 122, 953-9170 or 762-8755 (laboratory at HML)
 SCIC 210 (downtown office)
 Email: BurnettL@cofc.edu
 Office Hours: 10:45 a.m. – noon TR or by appointment
 Text: Animal Physiology: Mechanisms and Adaptations by Randall, Burggren, & French, 5th edition

Web Page: <http://burnettl.people.cofc.edu>

Course Goals: This course is designed to acquaint the student with the principles governing form and function in animals. The course builds on the introductory background all students have in the areas of cellular and molecular biology and the form and function of organisms and integrates this information with other disciplines of biology. The laboratory will provide students with skills and approaches necessary to understand, to address, and to solve larger problems in experimental biology.

Date	Week	Topic	Readings	
Jan	13	1	Introduction. History of animal physiology. Modern heros. Concepts of regulation and feedback.	Ch. 1, 2
	15	1	The universe of the molecule. Consequences of molecular motion; driving forces for mechanisms at the molecular, cellular, tissue, and organismal levels.	Ch. 3, 4
	20	2	Consequences of molecular motion.	Ch. 4
	22	2	Scaling at the cellular level; random walks.	
	27	3	Communication Across, Between and Within Cells: Mechanisms of membrane permeation.	Ch. 4 & web site
	29	3	Communication across, between and within cells: Equilibrium potentials, membrane potentials, nerves.	Ch. 5
Feb	3	4	Communication across, between and within cells: nerves.	Ch. 5, 6
	5	4	Lecture Exam #1	
	10	5	Sensing the environment	Ch. 7
	12	5	Hormones	Ch. 9
	17	6	Hormones	Ch. 9
	19	6	Muscle and movement	Ch. 10
	24	7	Muscle and movement	Ch. 10
	26	7	Lecture Exam #2	
Mar	3, 5	8	Spring Break	
	10	9	Ion regulation	Ch. 14
	12	9	Ion regulation	Ch. 14
	17	10	Gas exchange	Ch. 13
	19	10	Gas exchange	Ch. 13
	24	11	Acid-base balance	Ch. 13
	26	11	Circulation	Ch. 12
	31	12	Lecture Exam #3	
Apr	2	12	Circulation	Ch. 12
	7	13	Temperature	Ch. 17
	9	13	Temperature	Ch. 17
	14	14	Special Topic	
	16	14	Special Topic	
	21	15	Special Topic	
	23	15	Special Topic	
May	5	FINAL EXAM, 8 – 11 a.m., Tuesday		

Grading policy:

There will be three hour exams and a cumulative final examination. Approximately one half of the final will count as the fourth hour exam and the remainder will cover the entire course. Since the final exam covers material representing the breadth of the course, an excellent performance on the final can boost a student's grade higher than the raw score would dictate. On the other hand, an excessively poor performance on the final exam could cause a student's final grade to be lower than the raw score would dictate. The grades will be weighted as shown below.

The grading scale will be approximately as follows.

- A = 85 - 100 %
- B = 75 - 84%
- C = 65 - 74%
- D = 60 - 64%
- F = <60%

Grade Distribution		Percent
Lecture	9% lowest lecture exam grade 14% middle lecture exam grade 20% highest lecture exam grade 22% final exam (cumulative)	65
Class Presentation		10
Laboratory	Lab Performance - 3% Notebook - 2% Reports - 20%	25
TOTAL		100

Make-up Exams (please read carefully)

Students who miss an examination for a valid and documented reason must report to Dr. Burnett **as soon as possible**. **All medical or family emergencies must be documented in writing and approved by the Dean of Undergraduate Studies.** Make-up exams must be taken as soon as possible and will be scheduled by Dr. Burnett. The possession of a ticket for airfare that is nonrefundable or unchangeable on or before an exam date is **not** a valid reason for missing an examination — no matter who purchased the ticket. It is suggested that you notify your parents of this policy as soon as possible. Students who do not comply with this policy will receive a grade of zero percent on the missed exam.

Laboratory Schedule	
Week and Laboratory	Assignment
1. No lab 2. Introduction to the lab and the Ammonia Assay 3. Ammonia Excretion in Marine Organisms 4. Ammonia Excretion in Marine Organisms 5. Writing Workshop 6. Osmoregulation 7. Osmoregulation 8. SPRING BREAK – NO LAB 9. Presentation Workshop 10. Oxygen Uptake 11. Oxygen Uptake 12. Hemocyanin Function 13. Hemocyanin Function 14. Class Presentations 15. Class Presentations	TBA

Students with Disabilities

If there is a student in this class who has a documented disability and has been approved to receive accommodations through SNAP Services, please feel free to come and discuss this with me during my office hours.

Honor Code and Academic Integrity

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

Incidents where the professor believes the student's actions are clearly related more to ignorance, miscommunication, or uncertainty, can be addressed by consultation with the student. A written resolution will be crafted and designed to help prevent the student from repeating the error in the future. The resolution, submitted by form and signed by both the professor and the student, is forwarded to the Dean of Students and remains on file.

Cases of suspected academic dishonesty will be reported directly to the Dean of Students. A student found responsible for academic dishonesty will receive a XF 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 X to be expunged. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

It is important for students to remember that unauthorized collaboration--working together without permission-- is a form of cheating. Unless a professor specifies that students can work together on an assignment and/or test, no collaboration is permitted. Other forms of cheating include possessing or using an unauthorized study aid (such as a PDA), copying from another's exam, fabricating data, and giving unauthorized assistance.

Remember, 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 professor.

Students can find a complete version of the Honor Code and all related processes in the *Student Handbook* at http://www.cofc.edu/studentaffairs/general_info/studenthandbook.html.