

BSC 424/524
Human Physiology
Fall 2015

PROFESSOR: Dr. Stephen Secor

CONTACT INFORMATION:

Office: 420 Biology
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OFFICE HOURS: T, TH 12:30 - 2:00, and by appointment.

TEXT: None required. Strongly advise you to purchase a used human physiology textbook. I recommend Dee Silverthorn's Human Physiology, An Integrative Approach (any edition)

PREREQUISITES: BSC 300

COURSE DESCRIPTION:

Topics covered are the digestive, nervous, reproductive, immune, muscular, blood, cardiovascular, respiratory, urinary, and body-fluid systems.

COURSE OBJECTIVES:

The objectives of this course are to gain an understanding of the principles of physiological design and the underlying mechanisms of physiological performance. The focus will be on the integration of physiological function among levels of organization (cellular to organismal) within and between organ systems.

STUDENT LEARNING Outcomes:

At the completion of this course student will have a firm understanding of the various physiological systems of the body and the underlying mechanisms of physiological performance. Students will be able to:

- 1) Explain and illustrate mechanisms of cellular and tissue performance.
- 2) Describe the structures and mechanisms of physiological processes.
- 3) Construct the steps resulting in diseases and physiological imbalances.
- 4) Synthesize the interplay between structure and physiological function.
- 5) Describe the steps involved in the regulation of tissue and organ performance.
- 6) Disseminate the integration of tissue performance in the maintenance of homeostasis.
- 7) Comprehend and explain the processes and techniques of study of metabolic performance.

ATTENDANCE:

You are fully expected to attend lecture each day. This is a responsibility that reflects on your commitment to your education and your goal to further your knowledge of biology and physiology and to your ultimate career.

Exam questions will be drawn entirely from my lecture and classroom discussions. Plus, you will be responsible for all announcements made in lecture.

EXAMINATIONS:

Two exams and a final during the semester are tentatively scheduled for the following dates:

Exam 1 on Tuesday, Sept. 22nd at 6:00 pm. Exam covers lectures of August 20th to September 17^h (Homeostasis through nervous system)

Exam 2 on Tuesday, Oct. 27th at 6:00 pm. Exam covers lectures of Sept. 24th to Oct. 22th (Sensory physiology through ventilation)

Final exam on Friday Dec. 11^h at 8:00 am. Exam cover lecture of Nov 3rd to Dec. 3rd (Renal physiology through metabolism)

Week	Date	Lecture Topic	Book Chapters
1	Aug 20	Class syllabus, What is Physiology? Homeostasis	1,6
2	25 27	Cellular structure Cellular metabolism	3 4
3	Sept. 1 3	Cellular membrane dynamics and transport Neurophysiology, membrane potential	5 8
4	8 10	Action potential, synapses, central nervous system Central nervous system, Alzheimer's disease	8,9 9
5	15 17	Somatic nervous system, autonomic nervous system Sensory physiology, chemoreception, balance	10, 11 10
6	22 24	Exam review 6:00 pm Exam 1 Sensory physiology, auditory, vision	10
7	29 Oct 1	Muscle physiology, structure, contraction Biomechanics, smooth and cardiac muscle	12 12,13
8	6 8	Video Cardiovascular physiology, structure, function	14
9	13 15	Cardiovascular control, vascularization, arteriosclerosis Capillary exchange, blood, lymphatic system	15 15,16
10	20 22	Respiratory physiology, structure, ventilation Gas exchange & transport, regulation of ventilation	17 18
11	27 29	Exam Review 6:00 pm Exam 2 No class – Mid Semester Study Break	
12	Nov 3 5	Renal physiology, structure, filtration, secretion Renal physiology, excretion regulation	19 19
13	10 12	Acid/Base balance Digestive physiology, structure, function	20 21
14	17 19	Digestive physiology, function, regulation Digestive physiology, function, regulation	21 21
15	24 26	Endocrine system, thyroid and pancreatic hormones No class - Thanksgiving Break	22,23
16	1 3	Endocrine, male & female reproduction Energetics and metabolism	26 22, 25
17	Dec 11	8:00 am FINAL EXAM	

524 STUDENTS:

Students enrolled in 524 will have additional reading and additional questions on each exam pertaining to those readings.

GRADING:	424	524
Points available		
Exam 1	100	120
Exam 2	150	185
Final	200	245
 Total points	 450	 550

FINAL COURSE GRADE:

At the end of the semester final grades will be assigned accordingly to percentage of points received out of possible 450 points for BSC 424

A+ = 98-100% B+ = 88-89.9% C+ = 78-79.9% D+ = 68-69.9% F = < 60%
 A = 92-97.9% B = 82-87.9% C = 72-77.9% D = 62-67.9%
 A- = 90-91.9% B- = 80-81.9% C- = 70-71.9% D- = 60-61.9%

And possible 550 points for BSC 524

A = 90-100% B = 80-89.9% C = 70-79.9% D = 60-69.9% F = < 60%

THERE IS NO EXTRA CREDIT**MISSING AN EXAM**

If you miss one exam (not including final) for a valid, documented reason (medical, family emergency, official university function), I will prorate the points for that missed exam based on the score of your other exam and final.

DISABILITY ACCOMMODATIONS:

If you are registered with the Office of Disability Services, please make an appointment with Dr. Secor as soon as possible to discuss any course accommodations that may be necessary. If you have a disability but have not contacted the Office of Disability Services, please call 354-5175 or visit Osband Hall to register for services. Students who may need course adaptations because of a disability are welcome to make an appointment to see me during office hours. Students with disabilities must be registered with the Office of Disability Services, 133-B Martha Parham Hall East, before receiving academic adjustments.

ACADEMIC MISCONDUCT:

All students in attendance at the University of Alabama are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any work in this course constitute academic misconduct. Academic misconduct includes all acts of dishonesty in any academically related matter and any knowing or intentional help or attempt to help, or conspiracy to help, another student. This includes, but is not limited to, cheating, plagiarism, fabrication of information, misrepresentations, and abetting any of the above. The Academic Misconduct Disciplinary Policy will be followed in the event that academic misconduct occurs. Student should refer to the Student Affairs Handbook which can be obtained in the Office of Student Life and Services in the Ferguson Center or online from the same office. As a student in this course, this statement means that all words on all exams must be your own.

SEVERE WEATHER PROTOCOL:

In the case of a tornado warning (tornado has been sighted or detected by radar; sirens activated), all university activities are automatically suspended, including all classes and laboratories. If you are in a building, please move immediately to the lowest level and toward the center of the building away from windows (interior classrooms, offices, or corridors) and remain there until the tornado warning has expired. Classes in session when the tornado warning is issued can resume immediately after the warning has expired at the discretion of the instructor. Classes that have not yet begun will resume 30 minutes after the tornado warning has expired provided at least half of the class period remains.

UA is a residential campus with many students living on or near campus. In general classes will remain in session until the National Weather Service issues safety warnings for the city of Tuscaloosa. Clearly, some students and faculty commute from adjacent counties. These counties may experience weather related problems not encountered in Tuscaloosa. Individuals should follow the advice of the National Weather Service for that area taking the necessary precautions to ensure personal safety. Whenever the National Weather Service and the Emergency Management Agency issue a warning, people in the path of the storm (tornado or severe thunderstorm) should take immediate life saving actions. When West Alabama is under a severe weather advisory, conditions can change rapidly. It is imperative to get to where you can receive information from the National Weather Service and to follow the instructions provided. Personal safety should dictate the actions that faculty, staff and students take. The Office of Public Relations will disseminate the latest information regarding conditions on campus in the following ways:

Weather advisory posted on the UA homepage

Weather advisory sent out through Connect-ED--faculty, staff and students (sign up at myBama)

Weather advisory broadcast over WVUA at 90.7 FM

Weather advisory broadcast over Alabama Public Radio (WUAL) at 91.5 FM

Weather advisory broadcast over WVUA 7. WVUA 7 Storm Watch provides a free service you can subscribe to that allows you to receive weather warnings for Tuscaloosa via e-mail, pager or cell phone. Check <http://www.wvua7.com/stormwatch.html> for details.

COURSE WITHDRAWAL

The last day to withdraw from this course is October 28th. If you feel that you need to withdraw from this class, please speak to me prior to doing so.

CLASSROOM ETIQUETTE

- No use of cell phones or cell phones going off in class
- No use of laptops, unless to take notes and you will have to sit in the front row
- No reading the newspaper or anything else other than handouts
- No listening to a MP3 player
- No chatting while I am lecturing
- No arriving late
- No leaving early without notifying me prior to class

How to make it through this class:

- 1) **Attend class!** Students who don't attend class tend to do poorly on exams. If you miss a class, make sure that you copy notes from another student. Exam questions will come largely from lectures.
- 2) **Come to class prepared!** Read through the material in the book prior to the lecture on that material. It will be a lot easier for you to follow along in a lecture if you have done some reading first.
- 3) **Be attentive in class!** Listen to the lectures and take notes. Don't fall asleep, talk, or read the newspaper during lectures. Arrive at class on time! Ask questions.
- 4) **Study!** Review the material given in class and read assigned sections in your textbook. Don't wait until the last moment to cram for an exam, review the material daily.
- 5) **Understand, rather than memorize!** If you can understand the class material, then you have really learned it. Memorization is just short term and may only get you to the next exam.
- 6) **Practice testing yourself and each other!** Exam questions are short essay and fill-in-the-blanks. Think about what you would ask if you were giving the exam.
- 7) **Don't get yourself into a hole!** Keep up with the material; don't cram at the last moment for an exam. Don't wait until the end of the semester to decide to try to pass this class.