

BSC 3096 - HUMAN PHYSIOLOGY

3 CREDITS ~ SPRING 2020

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OFFICE HOURS: Posted at the CANVAS homepage for this course

MEETING TIME: MWF 3 (9:35-10:25am)

MEETING LOCATION: Mon/Wed: **TUR L011**; Fri: **CSE E231**

COURSE FORMAT: This course is considered “partially flipped.” In a fully flipped classroom, students perform passive learning (lecture videos, reading, etc.) on their own and participate in more active forms of learning (problem sets, practice questions, discussion, etc.) with the course instructor in the classroom. In this class, students will come to a traditional, live lecture on Mondays and Wednesdays. Students should read the text in advance of lectures and be prepared to take notes/ask questions. On Fridays, students will engage in active learning sessions. In these class meetings, students will participate in individual and group assessments, small group discussions, problem-solving activities, and computer-based activities using content/knowledge from recent lectures/reading.

GENERAL COURSE DESCRIPTION: The course involves the study of the functioning of human tissues, organs and organ systems, emphasizing the physical, chemical and mechanistic bases of normal physiology and the integrated function of the human body. The course also introduces pathophysiological changes associated with some human diseases.

PREREQUISITES: Either Integrated Principles of Biology 2 (BSC 2011) or Applied Human Physiology with Laboratory (APK 2105C); **and** General Chemistry 2 (CHM 2046) or Basic Chemistry Concepts and Applications 2 (CHM1031), all with a minimum grade of C, or permission of instructor.

COURSE GOALS: By the end of this course, students should be able to:

- Explain physiological mechanisms of humans by applying basic principles of biology and chemistry
- Describe the fundamental mechanisms underlying normal function of cells, tissues, organs, and organ systems in humans.
- Explain the basic mechanisms of homeostasis by integrating the functions of cells, tissues, organs, and organ systems.

- Effectively solve basic problems in physiology, working independently and in groups.
- Apply knowledge of functional mechanisms and their regulation to explain the pathophysiology underlying common diseases.
- Generate hypotheses about physiological processes, design experiments to test these hypotheses, and then analyze, interpret and report experimental results.

REQUIRED COURSE MATERIALS/TEXT:

COURSE WEBSITE (E-LEARNING): Class materials, including the syllabus, grades, and other information related to the course will be posted on the CANVAS website for this course. You are responsible for all announcements posted on the course website for this class. For help with CANVAS, call the UF Computing Help Desk at 352-392-4357, or visit E-Learning support: <https://lss.at.ufl.edu/help.shtml>.

PRIMARY COURSE TEXTBOOK: *Human Physiology: An Integrated Approach*. 7th Edition, by Dee Unglaub Silverthorn. Pearson, 2015. ISBN-13: 978-0321981226

Please note that this course will be participating in the UF All Access program. Students have two options to gain access to the REQUIRED MasteringA&P with materials when classes begin (both options provide access to the same materials):

1. Students will have the choice to "opt-in" to MasteringA&P access through Canvas once classes begin for a reduced price and pay for these materials through their student account.
2. Students who do not choose to "opt-in" will be able to purchase a standalone MasteringA&P access code through the UF Bookstore. There will also be a loose-leaf print version of the textbook available at the UF Bookstore for students who wish to have a physical copy of the text.

COURSE POLICIES:

ATTENDANCE POLICY: Attendance at exams is mandatory. If you arrive at an exam after the first person has left, you will not be allowed to take the exam and you will receive a zero. Attendance at Monday and Wednesday lectures is not mandatory, but strongly encouraged. Attendance AND PARTICIPATION at active learning sessions is mandatory and will contribute to your grade. *Falsifying attendance records for a friend who is not actually in attendance is an honor code violation*—do not ask your classmates to do this for you. Instead, reach out to the instructor if you are struggling to make it to class.

EXAM MAKE-UP POLICY: Make-up exams will be given at the discretion of the instructor. To schedule a make-up exam, please fill out the **make-up exam request form** posted in CANVAS and submit it to your course instructor. Documentation will be

required. Unexcused missed exams will result in a zero on the exam (this includes contacting the instructor **after** the exam if you are ill). **You are absolutely not permitted a make-up exam for personal travel/vacations, so please make your travel arrangements accordingly.** If you have a serious emergency or life event, please contact the Dean of Students Office (www.dso.ufl.edu) and they will contact your instructor so that you do not have to provide documentation of the emergency/death in order to get a make-up exam.

Requirements for class attendance and make-up exams, assignments, and other work are consistent with the university policies found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

PERSONAL CONDUCT POLICY: Students are expected to exhibit behaviors that reflect highly upon themselves and our University:

- Read and refer to the syllabus
- Arrive to lecture and lab on time (*a few minutes early*)
- Show respect for the authority of the course instructor and graduate TAs through politeness and use of proper titles (e.g., “Dr. Ahlgren” or “Doc. A”)
- Use of professional, courteous standards for all emails and discussions:
 - Descriptive subject line
 - Address the reader using proper title and name spelling
 - Body of the email should be concise but have sufficient detail
 - Give a respectful salutation (e.g., thank you, sincerely, respectfully)
 - No textspeak (e.g., OMG, WTH, IMO)
- No texting or checking Face Book (or the like) during class/lab instruction time
- No personal conversations during class/lab instruction time
- Adherence to the recently revised UF Student Honor Code:
<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>
 - Honor code violations of any kind will not be tolerated and sanctions will be determined by the course instructor for first-time violators
 - Any use, access, or handling of technology during an exam will result in a zero on the exam **and** potential failure of the course
 - All allegations will be reported to the Dean of Students Office

GRADING:

The table below outlines point-accruing components of the course and their relative weight in the overall grading scheme.

Evaluation Components	% of Total Grade
Midterm Exams (4)	36%
Comprehensive Final Exam (1)	7%
MasteringA&P Homework	15%
Active Learning Sessions	40%
Reflections (2)	2%

Midterm Exams – There will be four midterm exams. Each exam will assess baseline knowledge and application/transfer of information from the student learning objectives (SLOs) associated with chapters covered in that particular module. *Cramming for exams is discouraged.* Each exam could consist of multiple-choice, true-false, fill-in-the-blank, ordering, and numeric (basic calculations) types of questions that are intended to truly examine your knowledge and ability to implement/apply the knowledge to solve problems. *Exams are intended to be challenging but fair.* The number of questions on each exam may vary slightly, but you will have 45 minutes to complete the exam. *Exams will be completed without collaboration from peers or other resources and may be on paper or as a CANVAS quiz—depending on the day of the exam.*

Comprehensive Final Exam – The comprehensive final will be given during finals week, so you will have two hours to complete it. This exam will be administered as a quiz in CANVAS. For this exam, your course instructor will select specific student learning objectives (SLOs) from each chapter for you to focus on. Focus will be given to areas where the class struggled the most during the term. Those learning objectives will be posted to CANVAS following the last midterm exam. The final is intended to be less rigorous than the midterm exams, but will assess your retention of important physiological concepts.

Mastering A&P Homework – There will be questions available from each chapter that correspond with the reading assignments from the text. These are to be completed prior to the exam date covering that content. For example, if chapters 1-5 are on exam 1, then those homework assignments need to be completed by the day/time of the first exam. These homework problems are NOT designed as a study guide/practice for the exams. Instead, these are to be used as a mechanism to keep you on-task and consistently checking your comprehension of basic physiological concepts/facts as you work through each chapter. The following grading policies apply to Mastering HW:

- You may open/close the HW as many times as you wish up to the due date.
- Late submissions will be penalized 50% and must be submitted within 24 hours of the deadline. No submissions will be accepted beyond that.

- For multiple choice and true/false questions, incorrect responses will be deducted: $100\% / (\# \text{options} - 1)$
- For other types of questions (such as drag and drop), you will get a 10% deduction for each incorrect submission attempt up to the final attempt. You are permitted six attempts.
- For fill in the blank questions, spelling and grammar count.

Active Learning Sessions – During active learning sessions, students will be seated at computer stations and will work both individually and in small groups. Students should arrive to class on-time and log into the CANVAS immediately. The activities during these sessions may vary greatly from day-to-day/week-to-week, so coming to class having attended lecture and having read/studied the material will be most beneficial to successful engagement and effective learning. Attendance will be taken at these sessions—you must attend class in order to earn points for participating. If you are unable to attend an active learning session, it is YOUR RESPONSIBILITY to work with your peers and your course instructor to find out what you missed and determine if a make-up assignment is possible. Any request for make-up work **MUST** be accompanied by documentation verifying the legitimacy of your absence. *Skipping class “just because” does not qualify you for any type of make-up.*

Reflections – Following the second midterm exam and the final exam, students will compose a short (200-300 words) reflection expressing how they feel about what they are learning and its usefulness. These will be CANVAS assignments and specific instructions will be provided within those assignments. These will be graded solely on whether or not the prompts were addressed in the reflections and word limitations.

GRADING SCALE: Any discrepancies with the gradebook should be pointed out to the instructor before reading days. **There is no curve for this course and final grades will not be rounded up.** See the UF undergraduate catalog for information regarding current UF grading policies: <https://catalog.ufl.edu/search/?search=grading+policies>.

Letter Grade	Percent of Total Points Associated with Each Letter Grade	GPA Impact of Each Letter Grade
A	90.00-100%	4.0
B+	87.00-89.99%	3.33
B	80.00-86.99%	3.0
C+	77.00-79.99%	2.33
C	70.00-76.99%	2.0
D+	67.00-69.99%	1.33
D	60.00-66.99%	1.0
E	0-59.99%	0

Any requests for extra credit or special exceptions to these grading policies will be interpreted as an honor code violation (i.e., asking for preferential treatment) and will be handled

accordingly. Minus grades are not assigned for this course. A minimum grade of C is required for all critical tracking courses.

UF POLICIES:

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES: Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations. **Students registered with the DRC: I strongly recommend that you submit all of your lecture exam requests through the DRC in the first week of classes to ensure that they are approved in time. There will be in-class assessments during active learning sessions, so please communicate early and often with your instructor to ensure that you have what you need to be successful in all aspects of this course.**

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT: As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>.

UNIVERSITY POLICY ON COURSE EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open.

GETTING HELP:

For issues with technical difficulties for CANVAS, please contact the UF Help Desk at:

- helpdesk@ufl.edu or (352) 392-HELP - select option 2
- <https://at.ufl.edu/service-teams/uf-computing-help-desk/>

Other resources are also available for you:

- Disability resources <https://www.dso.ufl.edu/drc/>
- Ask-a-Librarian <http://cms.uflib.ufl.edu/ask>
- Counseling and Wellness <https://counseling.ufl.edu/>

COURSE SCHEDULE:

Any changes to this schedule will be posted in CANVAS as an announcement.

Week	Dates	Weekly Content/Chapter/Topic
1	Jan 6-10	Chapter 1 – Intro to Physiology Chapter 2 – Molecular Interactions Chapter 3 – Compartmentation: Cells and Tissues
2	Jan 13-17	Chapter 4 – Energy and Cellular Metabolism Chapter 5 – Membrane Dynamics
3	Jan 20-24	Mon: Holiday – no class! Chapter 6 – Communication, Integration, and Homeostasis
4	Jan 27-31	Wed: Exam 1 – 9:35am – TUR L011 – HW 1 due Chapter 7 – Intro to the Endocrine System
5	Feb 3-7	Chapter 8 – Neurons: Cellular and Network Properties
6	Feb 10-14	Chapter 9 – The Central Nervous System
7	Feb 17-21	Chapter 11 – Efferent Division: ANS and Somatic Motor Control Fri: Exam 2 – 9:35am – TUR L011 – HW 2 due

8	Feb 24-28	Chapter 12 - Muscles Chapter 13 – Integrative Physiology I: Control of Movement
9	Mar 2-6	Spring break – no class!
10	9-13	Chapter 14 – Cardiovascular Physiology
11	Mar 16-20	Chapter 15 – Blood Flow and Control of Blood Pressure
12	Mar 23-27	Fri: Exam 3 – 9:35am – TUR L011 – HW 3 due
13	Mar 30-Apr 3	Chapter 17 – Mechanics of Breathing Chapter 18 – Gas Exchange and Transport
14	Apr 6-10	Chapter 19 – The Kidneys
15	Apr 13-17	Chapter 20 – Fluid-Electrolyte Balance
16	Apr 20-24	Mon: Exam 4 – 9:35am – TUR L011 – HW 4 due Review for final exam
Final Exam – Location TBA – Tues. Apr. 28 – 7:30-9:30am		

STUDY and SUCCESS TIPS:

- Read the textbook and watch any video links in the chapters
- **Review the chapter learning objectives prior to reading**
- Study both independently AND with others
- Snowball your studies. Each time you review your course notes, start from the first chapter of the exam material.
- Read and attempt to complete the MasteringA&P homework problems before attending lecture and active learning sessions each week
- Attend office hours and/or reach out to the course instructor ASAP if you feel you are getting off-track...do not wait until late in the semester
- Set aside dedicated time to study for this class every week (preferably every day). Put it in your planner and stick to the plan!

- Ask questions in and outside of class. If your syllabus doesn't have the answer, please ask!
- Don't get behind! This class will cover a LOT of content, so staying on-task is imperative.
- Make sure you understand the figures and graphs...this is a topic that most new physiology students struggle with and/or simply overlook. You should be able to look at just about any graph and describe what story it is telling. What are the axes? What are the variables? What the heck is going on and why? What might make this graph change and why? This is where studying with others can really come into play! 😊
- ***Check the CANVAS announcements daily. Changes to the schedule are possible.***



PERSONAL NOTE FROM DOC. A:

If you are totally overwhelmed by the stresses of your semester and feel like you just can't handle the pressure, please contact me or someone at UF's Counseling and Wellness center. I genuinely care for my students' wellbeing. Without you, I would have no one to teach...and that's uncool.

Also, it is important to me that you feel welcome and safe in this class; and that you are comfortable participating in class discussions and communicating with me. If your preferred name is not what shows on the official UF roll, please let me know. I would like to acknowledge your preferred name and pronouns that reflect your identity. You may also change your "Display Name" in Canvas. Canvas uses the "Display Name" as set in myUFL. The Display Name is what you want people to see in the UF Directory, such as "Ally" instead of "Allison." To update your display name, go to one.ufl.edu, click on the dropdown at the top right, and select "Directory Profile." Click "Edit" on the right of the name panel, uncheck "Use my legal name" under "Display Name," update how you wish your name to be displayed, and click "Submit" at the bottom. This change may take up to 24 hours to appear in Canvas. This does not change your legal name for official UF records.

Let's ROCK this semester, yeah?!

Doc. A