

# Human Physiology

BSC 3096 | 3 Credits | Spring 2024

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## Course Info

### INSTRUCTOR

Joslyn Ahlgren, PhD

\*Study tips and a personal note from Doc. A are on the last page.\*

Office: FLG 108

Office Phone: 352-294-1728

Email: jahlgren@ufl.edu

Preferred Method of Contact: Canvas email if you are a current student

### OFFICE HOURS

Both *live* and *virtual* office hours will be offered this semester. A schedule, tips for how to best use office hours, and zoom info for office hours will be posted in CANVAS.

### LECTURE TIME & LOCATION

MWF Period 3 (9:35-10:25am)  
TUR L011

## 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.

## PREREQUISITE KNOWLEDGE AND SKILLS

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.

## REQUIRED AND RECOMMENDED MATERIALS

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. 8th 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). 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. 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 FORMAT**

Students will physically attend a one-period class three days each week. Students should read required textbook pages and print out or download PDF slides posted in CANVAS before attending lecture. This is an in-person course with no pre-recorded lectures. Attendance in class is expected.

## **COURSE LEARNING OBJECTIVES:**

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.

## **Course & University Policies**

### **ATTENDANCE POLICY**

Attending class is the only way to complete pop quizzes, which will take place across the term at regular intervals. Pop quizzes cannot be made-up, but the lowest two scores will be dropped. There will also be some days that class time will be used for active learning exercises. Students will not be mandated to attend those, but those are fun and helpful days, so attendance is strongly encouraged. If you are absent from a class meeting for any reason, please get the notes from a friend in class or check the Sharing is Caring discussion board (where students regularly post their notes and audio recordings of the lecture).

### **PERSONAL CONDUCT POLICY**

Students should aim to exhibit behaviors that reflect highly upon themselves and our University:

- Read and refer to the syllabus
- Be in your seat and prepared at the start of any meetings (lecture, lab, exams, etc.)
- Use of professional, courteous standards for all emails and discussions
- Reserve cell phones or other technology for course-related uses only
- Chat with peers before and after class rather than during lectures
- Adherence to the UF Student Honor Code: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>
  - Use, access, or handling of resources or technology during an exam will result in both academic and educational sanctions. This *typically* results in a zero on the exam where cheating occurred.
  - All allegations, regardless of the severity, will be reported to the Dean of Students Office for University-level documentation, investigation, and processing.

## EXAM MAKE-UP POLICY

**Step 1: Get documentation of your illness or emergency.** A student experiencing an illness should visit the UF Student Health Care Center or their preferred healthcare provider to seek medical advice and obtain documentation. If you have an emergency (including but not limited to, a new medical diagnosis or death of a loved one), please contact the Dean of Students Office ([www.dso.ufl.edu](http://www.dso.ufl.edu)) and follow the DSO Care Team procedures for documentation and assistance (<https://care.dso.ufl.edu/instructor-notifications/>).

**Step 2: Fill out the make-up request form posted in CANVAS (course orientation module) and submit it to your course instructor via CANVAS email.** Make-ups will not be granted for personal travel/vacations. Additionally, many students will encounter multiple exams in one day. Only if another exam is scheduled for the same time as an exam in this course will a make-up request be considered.

**Should a student miss an exam due to an unexcused reason** (e.g., overslept, mixed up the exam time, etc.), the exam can be taken with a 20% penalty if taken within 24 hours of the original exam time or with a 40% penalty if taken within 48 hours of the original time.

Requirements for class attendance and make-ups, assignments, and other work are consistent with the university policies that can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

## ACCOMMODATING STUDENTS WITH DISABILITIES

Your instructor is committed to creating a course that is inclusive in its design. If you encounter barriers, please let your instructor know immediately so they can determine if there is a design adjustment that can be made or if an accommodation might be needed. You are also welcome to contact the Disability Resource Center's Getting Started page at <https://disability.ufl.edu/students/get-started/> to begin this conversation or to establish accommodations for this or other courses. Your instructor welcomes feedback that will assist in improving the usability and experience for all students.

Students who are already registered with UF's DRC should share their accommodation letter with the course instructor and discuss their access needs as early as possible in the semester.

## COURSE EVALUATIONS

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

## Getting Help

### HEALTH & WELLNESS

- U Matter, We Care: If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575
- Counseling and Wellness Center: <https://counseling.ufl.edu/>, 352-392-1575
- Sexual Assault Recovery Services (SARS) - Student Health Care Center, 392-1161
- University Police Department, 392-1111 (or 9-1-1 for emergencies) <http://www.police.ufl.edu/>

## ACADEMIC RESOURCES

- E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>
- Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling. <https://career.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- Student Complaints On-Campus: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/> On-Line Students Complaints: <http://distance.ufl.edu/student-complaint-process/>

## Grading

### COURSE COMPONENTS & CALCULATING YOUR GRADE

The following table outlines the point-accruing components of this course. Any changes to this due to mid-semester interruptions will be posted as an announcement in CANVAS.

Course Components (number of each)	% of Total Grade
Mastering A&P Homework	20%
Module Exams (3)	45%
Attendance Pop Quizzes (variable)	15%
Reflections (2)	5%
Partner Project (1)	15%
Extra Credit	-----

*Mastering A&P Homework* – Homework in MasteringA&P will be due Fridays at 11:59pm EST. Homework problems are multiple choice, true/false, fill in the blank, multiple answer, and matching. These questions are specific to the textbook, so that should be the primary resource for answering those questions. These are open-resource assignments, so students are encouraged to work on these question sets with peers. These assignments are NOT intended to be used as the primary study tool for preparing for exams. The function of the homework assignments is to (a) get students more familiar with the textbook, and (b) to get students eased into answering physiological questions. The following are specific homework grading guidelines to keep in mind:

- You may open/close an assignment as many times as you wish until it is due.
- For the fill in the blank questions, spelling and proper tense of the word counts.
- For multiple choice and fill-in-the-blank questions, you are penalized 50% if you miss on the first attempt and 100% if you miss on the second attempt.
- For true/false questions, you are penalized 100% if you miss on the first attempt.
- You are penalized a small fraction for opening a hint if one is available.
- Late submissions will be penalized 25% per day.

*Module Exams* – Module exams will assess students only the chapters presented in each module. Exams will be multiple choice and true/false style questions. Exams will be taken during normal class times and in the same location as the lectures (see schedule below for dates). Exams will assess students on content presented as well

as ability to use that information to solve clinically, scientifically relevant problems. These tests aim to assess depth of knowledge, so focus should be given to lecture notes and chapter learning objectives when preparing.

*Attendance Pop Quizzes* – Pop quizzes will be given in-class between 8-12 times during the semester. The two lowest scores will be dropped. Quizzes cannot be made up. For attendance, simple completion of a quiz will count as full credit per quiz. Accuracy of the quiz answer can earn students extra credit (specific to the quiz...easier questions will be worth less; more challenging questions will be worth more). In total, students can earn up to 5 points of extra credit from pop quizzes. Each quiz will contain 1-3 questions from the previous lecture’s content. Studying on a daily basis is the best way to prepare for these quizzes.

*Reflections* – At the midterm and at the end of the term, students will answer a few short essay questions prompting them to reflect on various aspects of the course. These will be CANVAS assignments and specific instructions will be provided. These will be graded on completion and alignment of the response to the prompt. Points will be removed for not answering the prompt(s) provided, incomplete answers, or lack of courtesy/professionalism. Out of respect for students who speak English as a second language or who may process language differently than the instructor, grammar and spelling will not be considered in grading. However, please use complete sentences where applicable (capital letter at beginning of sentences, punctuation at end of sentences, etc.). Any points removed will be explained in the comments section of the gradebook.

*Partner Project* – You will work with a partner of your choice on a multi-part project that explores a clinical or scientific topic in the field of physiology. This project will involve selection of a unique topic (no one else in class can have the same topic), both scientific/medical explanations as well as lay explanations, exploration of the history and scholarship of the topic selected. A detailed rubric will be provided in canvas.

*Extra Credit* – A total of 10 points of extra credit can be earned in this class (see list below) and this will be treated as “exam recovery”. That is, all extra credit will be added to your module exam scores up to a perfect score (cannot score higher than perfect on any one exam). Detailed descriptions and grading rubrics for each of these options will be posted in canvas.

- 5 points of extra credit can be earned from accuracy of answers on attendance pop quizzes.
- 1 point of extra credit can be earned by helping the course instructor learn your name.
- 4 points of extra credit can be earned through development of unique study materials or application activities for the class.
- 1 point of extra credit can be earned from an oral presentation of a clinical correlation during office hours.

## GRADING SCALE

Any discrepancies with the gradebook should be pointed out to the instructor immediately. There is no curve for this course and final grades will not be rounded up. More detailed information regarding current UF grading policies can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>. *Any requests for additional extra credit or special exceptions to these grading policies will be respectfully ignored.*

Minus grades are not assigned for this course. A minimum grade of C is required for all General Education courses, such as this one. Should points need to be altered during the term (not likely, but things like hurricanes and pandemics can really muck things up), these percentages will still be used to calculate grades (i.e., 90% = A).

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

## Weekly Course Schedule

### WEEKLY SCHEDULE

The following table represents current plans for the term. Any changes to this plan will be posted in CANVAS as an announcement.

Read the syllabus, look at all pages of the orientation module in canvas, and take the course orientation quiz before coming to class on day one. Earning a 100% on the syllabus quiz will give you access to all course contents (lecture and lab slides, etc.).

Homework for each chapter is due every Friday at 11:59pm EST. You must register for MasteringA&P (instructions posted in CANVAS) to access the homework.

Specific pages to read from the textbook are posted in CANVAS for each chapter.

Week	Dates	Lecture Schedule (Chapters/Topics)
1	Jan 08 – Jan 12	Ch. 1-4 Highlights
2	Jan 15 – Jan 19	<i>Mon is a holiday...no class or labs</i> Ch. 5 – Membrane Dynamics
3	Jan 22 – Jan 26	Ch. Continued Ch. 6 – Communication, Integration, Homeostasis
4	Jan 29 – Feb 02	<b>Exam 1: Chapters 1-4 highlights, 5, 6 – Mon, Jan 29, 9:35am, TUR L011</b> Ch. 7 – Introduction to The Endocrine System
5	Feb 05 – Feb 09	Ch. 8 – Neurons, Cellular and Network Properties
6	Feb 12 – Feb 16	Ch. 9 – Central Nervous System Ch. 10 – Sensory Physiology
7	Feb 19 – Feb 23	Ch. 11 – The Efferent Division
8	Feb 26 – Mar 01	Ch. 12 – Muscles

9	Mar 04 – Mar 08	Ch. 13 – Integration of Muscles with Nervous System <b>Exam 2: Chapters 7-15 – Friday, Mar 08, 9:35am, TUR L011</b>
10	Mar 11 – Mar 15	<i>Spring Break – no classes</i>
11	Mar 18 – Mar 22	Ch. 14 – Cardiovascular Physiology
12	Mar 25 – Mar 29	Ch. 15 – Blood Flow and Control of Blood Pressure
13	Apr 01 – Apr 05	Ch. 17 – Mechanics of Breathing
14	Apr 08 – Apr 12	Ch. 18 – Gas Exchange and Transport
15	Apr 15 – Apr 19	Ch. 19 – The Kidneys
16	Apr 22 – Apr 26	Ch. 20 – Fluid and Electrolyte Balance <i>Thurs/Fri are reading days</i>
Finals Week		<b>Exam 3 – Tues, Apr 30, 10:00am-12:00pm, TUR L011</b>

## SUCCESS AND STUDY TIPS

The following tips have been provided by both your course instructor as well as students who've been successful in the course.

### STUDY TIPS:

- **Read from the text BEFORE attending the lectures.** *Do not take notes, underline, highlight, or attempt to memorize anything...JUST READ and enjoy!*
- **Snowball your notes.** Begin studying lecture material immediately after the first day. Then, after the second lecture, begin your studies with day one notes. Continue this all the way up to the exam.
- **Study from lectures notes...not the text.** If there is something in the textbook that was NOT covered in lectures, you are not expected to know it. There is a lot in the text that we don't have time to cover.
- **Google novel images.** For example, if there is a picture of the brainstem in your lecture notes, Google "brainstem images" and see if you can identify the structures from the lecture on a different image.
- **Google diseases.** For example, if we are studying bone tissue, Google "bone disease." Click on any link and just read a paragraph to see if you can understand based on what you now know about bone tissue anatomy. If you don't understand it, that's okay...did you recognize any words?
- **Study with others!** This does not mean review ppt slides together...you can do that on your own. When you study with others, do something more productive, like working on the sample test questions, googling things to discuss, or even creating practice exam questions for yourselves.
- **Study from the Learning Objectives for each chapter.** It is highly recommended that as you study (especially with others), you follow along with the learning objectives for each chapter. Many students share google docs and split up the work to make comprehensive study guides.

### SUCCESS TIPS:

- **Stay on top of your schedule.** This course moves at a FAST pace...and you can easily get overwhelmed if you procrastinate. Complete the homework as you go and study for the exam on a daily basis.
- **Stay organized.** Keep track of all important due dates and move through each day in a uniform manner so that you are always aware of what you have done and what is left to be completed.
- **Utilize office hours.** Office hours are a time for you to engage with the instructor as well as classmates. You can ask clarification questions, listen to questions from others, and discuss related clinical topics.
- **Join the class group me.** Your instructor posts updates there, it's a nice way to build a fun learning community, and your instructor prefers to answer quick questions THERE rather than discussion boards in canvas. A link will be posted in canvas announcements.
- **Set up canvas notifications** so that you receive and read all class announcements.
- **Avoid Smokin' Notes**...seriously...don't get me started on how bad these are for *LEARNING*. Take your own notes...swap notes with friends in class for comparison...but for goodness sake, don't spend extra money on notes for this class.
- **Have a positive attitude!** *THIS STUFF IS COOL!*

### PERSONAL NOTE FROM DOC. A

Finally, Physiology is all about the human body. That includes subjects like differences and similarities from one individual to the next and identifying and correcting myths about how the body functions. I am committed to using this course content to help students become comfortable, competent, and caring when discussing controversial issues related to the body and dismantling systems which put some students at a greater disadvantage than others. These attributes can help us all advocate for ourselves and others. If you have ideas for me along these lines or feel uncomfortable at any point, please reach out to me—I'd love to hear your perspectives and have a conversation. Also, it is important to me that you feel welcome and safe in this class; and that you are comfortable communicating with me, your TA, and your classmates. If your preferred name is not what shows on the official UF roll, please let me know—I can show you how to change it. I would like to acknowledge the name and pronouns that reflect your identity.

Welcome to Human Physiology...it's going to be a great semester!