



Medical Physiology (BSCI112)

Term: Summer Session IIc 2026

Course Dates: July 13-31, 2026

Credits: 3

Face-to-Face Lecture Times: M-F 9:30am-12:30pm

Classroom: PLS 1158

Lab room: BPS 0275

Instructor: Dr. Caitlin Fox

Pronouns: She/Her

Email: cmfox@umd.edu

Office: BPS 2231

Office Hours:

In person: Tu & Th 1-2pm

On zoom: F 2-3pm

Teaching Assistant: Lucas Murphy

Pronouns: He/Him

Email: lukemurphy012@gmail.com

Course Description

Medical physiology offers a comprehensive introduction to human physiology, designed specifically for students eager to explore careers in medicine. Students will learn the basics of human anatomy, explore the physiology of select organ systems, delve into critical topics in human health, and gain insights into careers in health from industry professionals. Through hands-on activities in a lab environment, students will have the opportunity explore physiology by performing organ dissections, measuring vital signs, assembling skeletons, typing blood, and other activities. This course aims to inspire curiosity and provide a solid foundation for future studies in human physiology and health.

Learning Outcomes

After successfully completing this course, you will be able to:

- Describe the fundamental functions and components of the major organ systems
- Explain the physiology of individual organs and how organ systems interact with each other
- Demonstrate proficiency with basic laboratory techniques, such as focusing a compound microscope and performing dissections
- Collect and interpret physiological data, such as pulse, electrocardiograms, and blood pressure
- Identify and evaluate potential career paths in health and medicine

Required Resources

- Course website: elms.umd.edu
 - Course materials will be posted on ELMS/Canvas, including PowerPoint slides, grades, and assignment instructions
- Textbook: *OpenStax Anatomy & Physiology, 2e*
 - Digital textbook available for free online: <https://openstax.org/details/books/anatomy-and-physiology-2e>
 - If you prefer a printed textbook, you may purchase one at the above link

Course structure

This course will be offered in person on the University of Maryland, College Park. There will be 15 class sessions. Each class session will consist of some combination of the following components:

- Interactive lectures where students are expected to attend, take notes ask questions, and participate in small group discussions
- Lab activities where students work in groups to explore anatomy through models and dissection, examine microscopic structures, take physiological measurements, and interpret data
- Guest speaker presentation on careers in medicine and healthcare
- Group work on graded projects
- Assessments of student knowledge

Attendance is mandatory and will be recorded for each class session. Students should plan to attend every session on time. Regular attendance and participation in this class is the best way to grasp the concepts and principles being discussed.

Given the accelerated nature of this summer course, there will be no opportunities to make up missed class sessions. Absent students will be responsible for getting notes from a classmate, utilizing course resources to learn any content missed due to absences, and attending office hours with the instructor to ask questions.

Questions? Your instructor is here to help!

You can ask Dr. Fox:

- Questions before, during, and after class
- During office hours, to be held weekly in person and on zoom – students are encouraged to come often!
- Via email (responds within 24 hours on weekdays, M-F)

Assignments

NO LATE ASSIGNMENTS will be accepted, as the answers to assignments will be posted following the due date. Make-up exams will only be given for University approved reasons. Details of University Policy can be found here: <http://www.ugst.umd.edu/courserelatedpolicies.html>.

Re-grade policy

Any request for re-grading must be submitted to the course instructor within three days of grade release.

Assignments and exams (350 points)

Worksheets (10 worksheets x 15 points = 150 points total)

These will be untimed assignments completed during class. Most class sessions will have an associated worksheet; completion of the worksheet will serve as the student's attendance record for that class and help summarize the day's content. Students may consult with course materials and the course instructor. These are individual assignments that should be completed without assistance from the internet, AI, or classmates.

Group projects (2 projects x 50 points each = 100 points total)

There will be two group projects. Students will complete some work for these projects in class and the rest will be completed at home. Each group will decide on a division of labor at the start of the project and then each individual will be responsible for their portion of the work; failure to contribute fully to the group project will result in loss of credit.

Lab report (20 points)

In lab, you will take several physiological measurements related to cardiovascular health, including pulse, blood pressure, and an electrocardiogram. In your lab group, you'll design an experiment to test a factor that you believe might impact these physiological measures. After lab, you'll write a lab report on the data you collect from this experiment and the conclusions you can draw from that data.

Guest speaker questions and participation (6 guest speakers x 5 points each = 30 points)

Several guest speakers in a variety of health and research-related professions will visit our class. Each student should come up with a list of questions they have for each speaker and participate in the discussion with the speaker.

Final exam (1 exam x 100 points = 100 points)

There will be one cumulative exam at the conclusion of the course. The exam will be closed-note. No outside materials, phones, or electronic devices will be permitted during exams. Unapproved material or devices will result in an automatic honor referral.

Grades

Assignment	Number of assignments	Points per assignment	Total points for this category	Percentage of total grade in course
Worksheets	10	15	150	
Group projects	2	50	100	
Lab report	1	20	20	
Guest speaker questions	6	5	30	
Final exam	1	100	100	
Total			400	100%

Final Grade Cutoffs									
A	90.0-100%	B	80.0-89.9%	C	70.0-79.9%	D	60.0-69.9%	F	<60%

Course Schedule

****This schedule is subject to change. Students will be informed of changes in a timely manner via Canvas announcements.****

Date	Topic	Reading	Assignments
Week 1: July 13-17			
Mon 7/13	Body language 101 Anatomical terminology, body cavities, and section planes	Chapter 1.6	Worksheet 1
Tues 7/14	A tour of the human body The major organ system and the tissues they're made of	Chapter 1.2 Chapter 4	Worksheet 2 Guest speaker questions 1
Wed 7/15	Bone zone Essential musculoskeletal anatomy and physiology <i>Guest speaker: Dr. Azeen Farahani</i>	Chapter 6 Chapter 10	Worksheet 3
Thurs 7/16	Wired for life Basic nervous system anatomy, how neurons transmit electrical signals, and neurological exams	Chapter 13 Chapter 16	Worksheet 4 Introduction to group project: Best organ campaign Guest speaker questions 2
Fri 7/17	Sight, sound, and balance Sensory systems of the body, using the eye and ear as exemplary sensory organs <i>Guest speaker: Kiley Golden</i>	Chapter 14.1	Worksheet 5 Best organ check-in
Week 2: July 20-24			
Mon 7/20	Blood basics Components of the blood and blood types	Chapter 18	Worksheet 6 Best organ check-in
Tues 7/21	Beat by beat Heart anatomy, blood flow through the heart, and electrical conduction in the heart	Chapter 19	Worksheet 7 Best organ check-in Guest speaker questions 3

Wed 7/22	<p>Measuring vital signs Pulse, blood pressure, and electrocardiograms</p> <p><i>Guest speaker: Faith Thomas and/or Lara Kachechian</i></p>	Anatomy of an ECG	<p>Lab report on vital signs</p> <p>Presentations: Best organ campaign</p> <p>Guest speaker questions 4</p>
Thurs 7/23	<p>Maintaining homeostasis How the body maintains homeostasis across multiple organ systems and the role this plays in health</p> <p><i>Guest speaker: Dr. Daniel Callow</i></p>	<p>Chapter 1.5 Chapter 6.7 Chapter 18.5 Chapter 26</p>	<p>Worksheet 8</p> <p>Introduction to group project: Jeopardy</p>
Fri 7/24	<p>It's not the stork Reproductive anatomy, the basics of embryonic development, and how the body changes during pregnancy</p>	<p>Chapter 27 Chapter 28</p>	<p>Worksheet 9</p> <p>Jeopardy check-in</p>
Week 3: July 27-31			
Mon 7/27	<p>Cancer biology The basics of cancer, most common types, and why it's hard to treat</p>	<p>Chapter 3.5 Chapter 4.6 Chapter 21.7</p>	<p>Worksheet 10</p> <p>Jeopardy check-in</p>
Tues 7/28	<p>Setting the record straight Addressing common misconceptions in human health and anatomy</p>		<p>Jeopardy check-in</p> <p>Guest speaker questions 5</p>
Wed 7/29	<p>Peer review of Jeopardy games</p> <p><i>Guest speaker: Nehemia Abiy</i></p>		<p>Submit Jeopardy group project</p> <p>Guest speaker questions 6</p>
Thurs 7/30	<p>Review of course content Review major topics of the medical physiology and play jeopardy</p> <p><i>Guest Speaker: Aaliyah Flores</i></p>		
Fri 7/31	<p>Final exam</p>		

Academic integrity

The University's Code of Academic Integrity is designed to ensure that the principles of academic honesty and integrity are upheld. In accordance with this code, the University of Maryland does not tolerate academic dishonesty. Please ensure that you fully understand this code and its implications because all acts of academic dishonesty will be dealt with in accordance with the provisions of this code. All students are expected to adhere to this Code. It is your responsibility to read it and know what it says, so you can start your professional life on the right path. **As future professionals, your commitment to high ethical standards and honesty begins with your time at the University of Maryland.**

It is important to note that course assistance websites, such as CourseHero, or AI-generated content are not permitted sources, unless the instructor explicitly gives permission. Material taken or copied from these sites can be deemed unauthorized material and a violation of academic integrity. These sites offer information that might be inaccurate or biased and most importantly, relying on restricted sources will hamper your learning process, particularly the critical thinking steps necessary for college-level assignments.

Additionally, students may naturally choose to use online forums for course-wide discussions (e.g., Group lists or chats) to discuss concepts in the course. However, collaboration on graded assignments is strictly prohibited unless otherwise stated. Examples of prohibited collaboration include: asking classmates for answers on quizzes or exams, asking for access to other students' assignments, etc. Please visit the [Office of Undergraduate Studies' full list of campus-wide policies](#) and reach out if you have questions.

Finally, on each exam or assignment you must write out and sign the following pledge: ***"I pledge on my honor that I have not given or received any unauthorized assistance on this exam/assignment."*** If you ever feel pressured to comply with someone else's academic integrity violation, please reach out to me straight away. Also, ***if you are ever unclear*** about acceptable levels of collaboration, ***please ask!*** To help you avoid unintentional violations, ***the following table*** lists levels of collaboration that are acceptable for each graded exercise. Each assignment will contain more specific information regarding acceptable levels of collaboration.

Resources and Accommodations

Accessibility and Disability Services

The University of Maryland is committed to creating and maintaining a welcoming and inclusive educational, working, and living environment for people of all abilities. The University of Maryland is also committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of the University, or be subjected to discrimination. The [Accessibility & Disability Service \(ADS\)](#) provides reasonable accommodations to qualified individuals to provide equal access to services, programs and activities. ADS cannot assist retroactively, so it is generally best to request accommodations several weeks before the semester begins or as soon as a disability becomes known. Any student who needs accommodations should contact me as soon as possible so that I have sufficient time to make arrangements.

For assistance in obtaining an accommodation, contact Accessibility and Disability Service at 301-314-7682, or email them at adsfrontdesk@umd.edu. Information about [sharing your accommodations with instructors, note taking assistance](#) and more is available from the [Counseling Center](#).

Inclusive learning environment

Positive class community and climate is important for everyone's personal and academic success in the course. Students will be invited to share their thoughts in class; a diversity of opinions is welcome. Respectful communication is expected, even when expressing differing perspectives. Supporting one's statements with research findings is encouraged. In accordance with free speech statutes, speech that contains threats of violence is prohibited.

Names/Pronouns and self-identification

The University of Maryland recognizes the importance of a diverse student body, and we are committed to fostering inclusive and equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to both in terms of your name and your pronouns (he/him, she/her, they/them, etc.) or use ELMS to do so. Please note that the pronouns someone indicates are not necessarily indicative of their gender identity. Visit trans.umd.edu to learn more.

Additionally, how you identify in terms of your gender, race, class, sexuality, religion, and dis/ability, among all aspects of your identity, is your choice whether to disclose (e.g., should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed. I will do my best to address and refer to all students accordingly, and I ask you to do the same for all of your fellow Terps.

Student Resources and Services

Taking personal responsibility for your own learning means acknowledging when your performance does not match your goals and doing something about it. I hope you will come talk to me so that I can help you find the right approach to success in this course, and I encourage you to visit [UMD's Student Academic Support Services website](#) to learn more about the wide range of campus resources available to you.

In particular, everyone can use some help sharpening their communication skills (and improving their grade) by visiting [UMD's Writing Center](#) and schedule an appointment with the campus Writing Center.

You should also know there are a wide range of resources to support you with whatever you might need ([UMD's Student Resources and Services website](#) may help). If you feel it would be helpful to have someone to talk to, visit [UMD's Counseling Center](#) or [one of the many other mental health resources on campus](#).

Notice of Mandatory Reporting

Notice of mandatory reporting of sexual assault, sexual harassment, interpersonal violence, and stalking: As a faculty member, I am designated as a "Responsible University Employee," and I must report all disclosures of sexual assault, sexual harassment, interpersonal violence, and stalking to UMD's Title IX Coordinator per University Policy on Sexual Harassment and Other Sexual Misconduct.

If you wish to speak with someone confidentially, please contact one of UMD's confidential resources, such as [CARE to Stop Violence](#) (located on the Ground Floor of the Health Center) at 301-741-3442 or the [Counseling Center](#) (located at the Shoemaker Building) at 301-314-7651.

You may also seek assistance or supportive measures from UMD's Title IX Coordinator, Angela Nastase, by calling 301-405-1142, or emailing titleIXcoordinator@umd.edu.

To view further information on the above, please visit the [Office of Civil Rights and Sexual Misconduct's](#) website at ocrsm.umd.edu.

Basic Needs Security

If you have difficulty affording groceries or accessing sufficient food to eat every day, or lack a safe and stable place to live, please visit [UMD's Division of Student Affairs website](#) for information about resources the campus offers you and let me know if I can help in any way.

Participation

- Given the interactive style of this class, attendance will be crucial to note-taking and thus your performance in this class. Attendance is particularly important also because class discussion will be a critical component for your learning.
- Each student is expected to make substantive contributions to the learning experience, and attendance is expected for every session.
- Students with a legitimate reason to miss a live session should communicate in advance with the instructor, except in the case of an emergency.
- Students who miss a live session are responsible for learning what they miss from that session.
- Additionally, students must complete all readings and assignments in a timely manner in order to fully participate in class.

Course Evaluation

Please submit a course evaluation through Student Feedback on Course Experiences in order to help faculty and administrators improve teaching and learning at Maryland. All information submitted to Course Experiences is confidential. Campus will notify you when Student Feedback on Course Experiences is open for you to complete your evaluations at the end of the semester. Please go directly to the [Student Feedback on Course Experiences](#) to complete your evaluations. By completing all of your evaluations each semester, you will have the privilege of accessing through Testudo the evaluation reports for the thousands of courses for which 70% or more students submitted their evaluations.

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