

PHYS 5210 Winter 2026

Anatomy & Physiology for Medical Physicists

We, the people of the Faculty of Science at Carleton University, acknowledge that our campus is located on the traditional, unceded territories of the Algonquin Anishinabeg people. Miigwetch for your hospitality and stewardship of this territory and the teachings that come from it. We are grateful for this land, the air that we breathe, and the water that sustains us all as well as for the animals, plants and other living beings: these enable us to research, teach, mentor, support, study, and learn. We recognize our responsibility to our natural environment and to reconciliation with Indigenous peoples.

Course Instructor:

Avery Berman (avery.berman@carleton.ca)

Office Location: Herzberg 2420

Class Location: Please check Carleton Central for the room location.

Best ways to be in touch: in class or via email

Class Times: Mon, Wed 2:35–3:55 PM

Student Hours: By appointment

Prerequisites: enrolment in medical physics or permission of the department

Course TA:

n/a

Topics Covered and Learning Outcomes

Lecture	Date	Topic/Content	Readings/Prep for Class (class notes + selected chapters from Saladin)
1	Jan 19*	Intro, anatomical directions, terminology, organs, anat. regions, tissues	Ch. 1, 3, 4
2	Jan 21	Musculoskeletal system	Ch. 6, 7
3	Jan 26	Nervous system	Ch. 8, 9
4	Jan 28	Circulation – The heart	Ch. 13
5	Feb 2/4	Cancer (guest lecture)	Ch. 5, 6, 7
6	Feb 4/2	Circulation – Blood vessels	Ch. 13
7	Feb 9	Endocrine & lymphatic systems	Ch. 11, 14
8	Feb 11	Respiratory system	Ch. 15
	Feb 16, 18	Reading break	
9	Feb 23	Gastrointestinal & urinary systems	Ch. 16, 17
10	Feb 25	Reproductive systems	Ch. 19
11	Mar 2	Student-led sectional anatomy	
12	Mar 4	Student-led sectional anatomy	

***Note: classes start the third week of the semester**

Important dates and deadlines can be found here:

<https://students.carleton.ca/academic-dates/>, including class suspension for fall and winter breaks, and statutory holidays.

Course-level learning outcomes:

Become familiar with the structure and function of the major organ systems and be able to navigate major anatomical medical images (CT, MRI, and, to some extent, planar radiographs).

Assessments

Student-led Sectional Anatomy

A key component of this course is the development of your understanding of sectional/radiographic anatomy. That is, understanding how to relate what may be observed in medical imaging to the underlying anatomy. Therefore, at the end of the course, each student will lead an overview of sectional/radiographic anatomy of a specific set of anatomical sites (e.g., head, chest, extremities, etc.). The topics to be covered will be determined at the beginning of class.

Grade Breakdown

This is a pass/fail course. To pass the course, students must attend all lectures and give a lecture on a subset of topics in sectional anatomy.

Learning Material(s) and Other Course/Lab-Related Resources

Students are *not* required to purchase textbooks or other learning materials for this course.

Learning Material	Options for Purchasing	Approximate Cost
K. Saladin, "Essentials of Anatomy & Physiology", McGraw-Hill, any edition (2025, ISBN = 978-1-265-41376-7).	I will be sharing lecture slides mostly derived from this textbook	Rent for ~62.57 USD for 6 months

Other references

Marieb and Keller, "Essentials of Human Anatomy & Physiology". Pearson. Get any edition.
Breedlove, "Sectional Anatomy for Imaging Professionals" (or an earlier edition from Kelley and Petersen)

Online resources

Zygote body browser: <http://www.zygotebody.com/>

Neuroanatomy: <http://www.atlasbrain.com/>

Resources that may be useful for sectional anatomy

The Visible Human Project: <http://vhp.med.umich.edu/tools2.html>

eContour: <https://econtour.org>

Several textbooks on sectional anatomy are available through the Carleton library

Academic Accommodations and Regulations

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the *Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances*, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline).

Statement on Chat GPT/Generative AI usage:

The use of generative AI is discouraged since it could potentially be considered plagiarism, which is a violation of the Carleton Academic Integrity Policy (see later).

Statement on Academic Integrity

Students are expected to uphold the values of academic integrity, which include fairness, honesty, trust, and responsibility. Examples of actions that compromise these values include but are not limited to plagiarism, accessing unauthorized sites for assignments or tests, unauthorized collaboration on assignments or exams, and using artificial intelligence tools such as ChatGPT when your assessment instructions say it is not permitted.

Misconduct in scholarly activity will not be tolerated and will result in consequences as outlined in [Carleton University's Academic Integrity Policy](#). A list of standard sanctions in the Faculty of Science can be found [here](#).

Additional details about this process can be found on [the Faculty of Science Academic Integrity website](#).

Students are expected to familiarize themselves with and abide by [Carleton University's Academic Integrity Policy](#).

Student Rights & Responsibilities

Students are expected to act responsibly and engage respectfully with other students and members of the Carleton and the broader community. See the [7 Rights and Responsibilities Policy](#) for details regarding the expectations of non-academic behaviour of students. Those who participate with another student in the commission of an infraction of this Policy will also be held liable for their actions.

Student Concerns

If a concern arises regarding this course, **your first point of contact is me**: Email or drop in during student hours and I will do my best to address your concern. If I am unable to address your concern, the next points of contact are (in this order):

Note: You can also bring your concerns to [Ombuds services](#).

