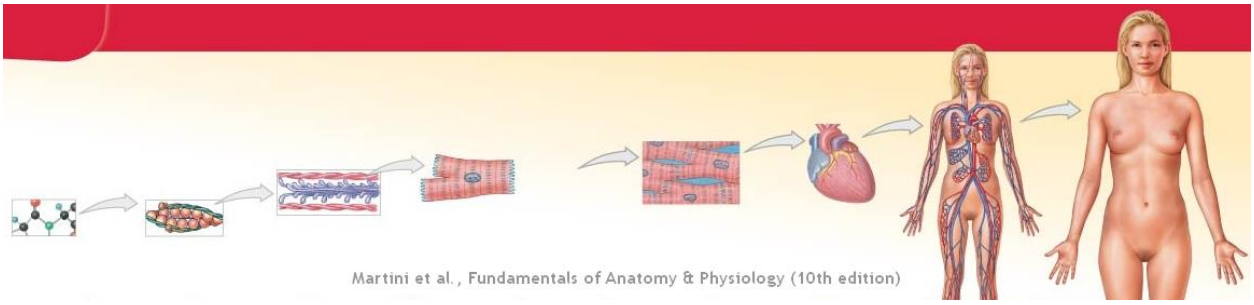
Syllabus for Biology 241: Anatomy & Physiology



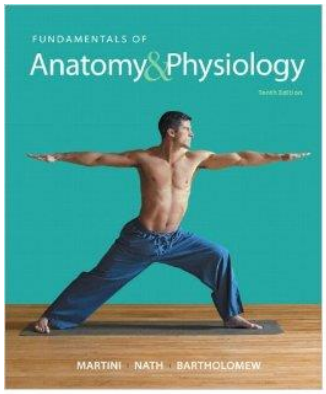
Overview

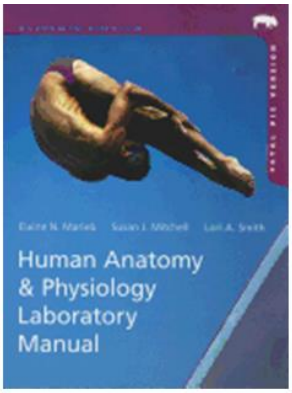
BIOL 241 is the first half of a two-quarter series in human anatomy and physiology. While the two quarters overlap and reinforce each other, BIOL 241 focuses mostly on the integumentary, skeletal, muscular, and nervous systems, while BIOL 242 focuses mostly on other systems (endocrine, circulatory, respiratory, lymphatic, digestive, urinary, and reproductive). BIOL 241 and 242 are designed for students who intend to work in health sciences-related fields and will include clinically relevant examples whenever possible.

Website

All important course information – updates to this syllabus, assignments, grades, etc. – will be posted to Canvas: https://canvas.southseattle.edu/courses/1066501. I will also send messages to individuals via Canvas's messaging system. If you are not already familiar with Canvas, you may want to work your way through SSC's Canvas Student Orientation: https://southseattle.instructure.com/courses/800181.

Basic requirements





- Prerequisite: BIOL 160 or CHEM 121.
- Class sessions: Saturdays, 8:00am to 1:0pm, January 10 to March 21, in room 308 of Rainier Hall.
- Textbook: *Fundamentals of Human Anatomy & Physiology* by Frederic H. Martini et al. You should have access to either a hard copy or an online version ("e-book"). The 10th edition ("10th Martini") is the current and best version of this textbook; while you may use an older edition, be warned that my materials will refer to 10th-edition figure and question numbers, and that these figures and questions may be different or missing in older editions.
- Lab manual: *Human Anatomy & Physiology Lab Manual* by Elaine N. Marieb et al. I strongly recommend using an electronic or physical copy of the 11th edition rather than a previous edition. You will also need to purchase access to the website MasteringAandP.com, which includes the PhysioEx laboratory simulations. This access, which you can use for both BIOL 241

and 242, costs about $70 as a stand-alone purchase. The Course ID to enter is: MAPCROWTHER34101.
- A lab notebook. This can be any blank notebook or 3-ring binder where you can record notes and drawings from laboratory exercises.
- Consistent access to the Internet and a printer.

Skills and outcomes

By the end of this course, you should be able to:
- Study skillfully (read before class, actively participate during class, and review after class)
- Identify gross and microscopic components of the integumentary, skeletal, muscular, and nervous systems
- Explain the how structures (anatomy) of these components support their functions (physiology) at the cellular and tissue/organ level
- Provide examples of how the integumentary, skeletal, muscular, and nervous systems maintain homeostasis
- Predict and interpret outcomes of experiments in which the integumentary, skeletal, muscular, or nervous system is perturbed
- Infer possible anatomical/physiological problems underlying medical symptoms

Schedule

Dates of in-class quizzes and tests will not change. Other aspects of the schedule may be adjusted as the quarter progresses.

Dates	**Textbook Chapters (Topics)**	**Lab Exercises (Topics)**	**In-Class Quizzes/Tests**
Jan. 5-10	1 (Introduction)	1 (Language of Anatomy); 3 (The Microscope)	None
Jan. 11-17	2 (Chemical Level); 3 (Cellular Level)	4 (The Cell)	Quiz 1
Jan. 18-24	4 (Tissue Level); 5 (Integumentary System)	6 (Histology)	Quiz 2
Jan. 25-31	6 (Bones); 7 (Axial Skeleton)	7 (Integumentary System); 8 (Overview of Skeleton)	Quiz 3
Feb. 1-7	8 (Appendicular Skeleton); 9 (Joints)	Review for lab test; 9 (Axial Skeleton)	Lecture Test 1
Feb. 8-14	10 (Muscle Tissue); 11 (Muscular Systems)	10 (Appendicular Skeleton); 11 (Articulations, Body Movements)	Lab Test 1
Feb. 15-21	12 (Neural Tissue)	12 (Microscopic Anatomy and Organization of Skeletal Muscle); 13 (Gross Anatomy of Muscular System)	Quiz 4
Feb. 22-28	13 (Spinal Stuff)	19 (Spinal Cord, Spinal Nerves); 17 (Gross Anatomy of Brain and Cranial Nerves)	Lecture Test 2
Mar. 1-7	14 (Brain & Cranial Nerves)	21 (Human Reflex Physiology); 22 (General Sensation)	Quiz 5

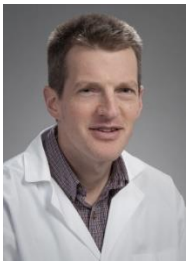
Mar. 8-14	15 (Sensory Pathways, Somatic NS); 16 (Autonomic NS, Higher-Order Functions)	No new material	Lab Test 2
Mar. 15-21	No new material (unless we fall behind)	No new material	Lecture Test 4

Homework assignments will generally be due on Tuesday evenings at 8pm and on Saturday mornings at 8am.

Here's how we will generally spend our class time together on Saturdays:

(1) *Quiz or Test (0.3 to 1.5 hours)*
(2) 1st lab exercise (1 to 2 hours)
(3) Lecture discussions/activities (0.5 to 1 hour)
(4) 2nd lab exercise (1 to 2 hours)

Instructor and office hours



I, Greg Crowther, am excited to be your tour guide on this journey through the human body. I am fascinated by anatomy and physiology both as a scientist and as a long-distance runner. (My Ph.D. research was on energy metabolism in exercising leg muscles.) My office is in room 220B of Rainier Hall, where the phone number is 206-934-6722. In general, the best ways to reach me are via Canvas messages/comments and via email: greg.crowther@seattlecolleges.edu. (Responses may come from my gmail account: gregorio.del.laboratorio@gmail.com.)

I will hold online office hours at the following times (determined by class votes on January 10th): Mondays from 9pm to 10pm and Fridays from 11am to 12pm. To interact with me during online office hours, go to the course website and use Canvas's Chat function or send me a private message. I will respond to questions in the order that I receive them, as quickly as I can.

Disability accommodations

I am happy to accommodate students' needs stemming from documented disabilities or medical conditions. For me to make such accommodations, you will need to provide me with a letter from South Seattle College's Disability Services. Please see the Disability Services website (southseattle.edu/disability-support/) for details.

Graded assignments

Laboratory exercises will come with instructions on what to include in your lab notebook. Lab notebooks will be collected and graded twice during the quarter.

Homework assignments will be collected about twice per week via the course website (URL above). Late assignments will be penalized 20% per day. For example, 4 points will be deducted from a 10-point assignment submitted 24-48 hours late.

Quizzes are low-stakes checkups; they are not worth a lot of points, but should motivate you to keep up with the material and should let you know how you're doing.

Quizzes and tests will generally include both multiple-choice and short-answer/fill-in-the-blank questions.

Tests will be cumulative, to encourage longer-term retention of the material, but will emphasize material covered since the previous exam. You may be asked to interpret graphs and apply your knowledge of anatomy and physiology to scenarios that were not discussed previously.

Quizzes and tests cannot be made up after being missed. If you miss a quiz/test, you will receive a 0 for it. However, your lowest quiz score and your lowest test score will be dropped. Do NOT plan to skip a particular exam/quiz that you are able to take -- save your droppable 0s for unavoidable absences.

Grades

Your final grade will be based on the following work, weighted as shown.

Tests (5; lowest 1 dropped)	400 points
Quizzes (5; lowest 1 dropped)	100 points
Homework assignments (none dropped)	100 points
Lab notebook checks (none dropped)	100 points
In-class activities (none dropped)	50 points
TOTAL	**750 points**

Please note that no "extra credit" is possible. To get a good grade in the course, you need to do well on the assignments listed above!

In general, assignments will not be graded on a curve. If one test turns out to be much harder than the others, I reserve the right to curve the scores for that test.

Final grades will be based on the percentage of total points earned, according to the following chart.

99% => 4.0	89% => 3.6	79% => 2.6	69% => 1.6
98% => 4.0	88% => 3.5	78% => 2.5	68% => 1.5
97% => 4.0	87% => 3.4	77% => 2.4	67% => 1.4
96% => 4.0	86% => 3.3	76% => 2.3	66% => 1.3
95% => 4.0	85% => 3.2	75% => 2.2	65% => 1.2
94% => 3.9	84% => 3.1	74% => 2.1	64% => 1.1
93% => 3.9	83% => 3.0	73% => 2.0	63% => 1.0
92% => 3.8	82% => 2.9	72% => 1.9	62% => 0.0
91% => 3.8	81% => 2.8	71% => 1.8	61% => 0.0
90% => 3.7	80% => 2.7	70% => 1.7	60% => 0.0

Collaboration, attribution, and academic honesty

For quizzes and tests, working with other students is NOT allowed (unless stated otherwise). For all other assignments, working together IS allowed (unless stated otherwise).

If you use a source other than the instructor, textbook, or lab manual – a website, a classmate, a library book, etc. – you must cite that source. Examples:

- You work with a classmate on a homework assignment:
  - *Note: Phil, Jane, and I discussed questions #2, #3, and #4.*
- You quote the exact words used by another source, using quotation marks:
  - *According to Wikipedia, cartilage cells "produce a large amount of extracellular matrix composed of collagen fibers, abundant ground substance rich in proteoglycan, and* elastin fibers" (source: http://en.wikipedia.org/wiki/Cartilage).
- You gather information from another source and put it in your own words:
  - *Cartilage contains high levels of the proteins collagen and elastin (source: http://en.wikipedia.org/wiki/Cartilage).*

If you have any questions about appropriate use of sources, please ask me. I do not hesitate to penalize students for plagiarism, but I strongly prefer that everyone simply follow good attribution practices.

Tips for success

- *Keep up with assignments.* Plan to do some work for this course most days of the week so that you do not fall behind.

- *Get help when you're starting to struggle, not after weeks of confusion.* Let's try to solve small problems before they become big problems.

- *Make full use of the class time available to you.* Yes, 5 hours is a long time, so step outside and take breaks as needed. But don't leave prematurely! Class time is the only time when you have access to the biological models/specimens, your classmates, and your instructor all at the same time.

- *Read over your notes soon after each class and "clean them up," clarifying any confusing points.* That way, when you return to these notes when studying for a test, you won't have to do a lot of last-minute deciphering. (This simple strategy helped me a LOT as an undergraduate.)

- *Work together!* This can be done both online (via Canvas Discussion posts and Chats) and in person. Form study groups and help each other out! Just be sure that your official, submitted work reflects your own understanding and isn't simply copied blindly from a classmate.

- *Practice metacognition.* Metacognition means "thinking about how you think." Try to figure out which approaches to the material work best for you. For example, with an assigned reading, should you plow straight through from beginning to end, look first at subject headers and vocabulary words before going back to fill in the details, or adopt some other method? Different styles may work best for different students!

- *Use limited time to maximize the points earned.* When your time is severely limited, think carefully about how to minimize the damage to your overall grade. For example, imagine that you only have time to complete a homework assignment on time OR prepare for a quiz. If this quiz is the last one, and all of the previous quizzes have gone well, you might want to focus on the homework, since your lowest quiz score will be dropped. On the other hand, if you need this

quiz to go well, note that you can study for it and then turn in the homework late, since a submission that is less than 24 hours late can still receive up to 80% of the points.

- *Respect each other and me.* Respectful behavior includes: listening carefully when spoken to; giving others the space to think and to ask and answer questions; refraining from harsh or persistent criticism; avoiding language, attire, or movements that are likely to annoy or distract others; restricting conversations to those relevant to the course material; maintaining control over one's emotions; and giving me adequate time to respond to requests.