

# BIO 235 Human Anatomy and Physiology II – Spring 2023

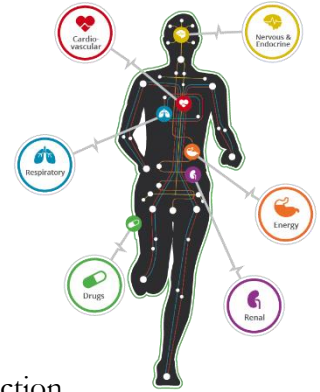
Instructor: Dr. Ian N. Cost

Office: Science 239

Office Phone: 610.921.7728

Email: [icost@albright.edu](mailto:icost@albright.edu)

Office Hours: Monday 11-12:50 and Tuesday 10:30-12:50 or by appointment



## Course Description:

This course is designed to fill two semesters of learning human anatomy and physiology. The main objective of the first semester of this class is to understand the underlying structures of human anatomy and its physiology. Anatomy and physiology are very closely associated as the structures (anatomy) of a body are influenced by or reflective of their function (physiology).

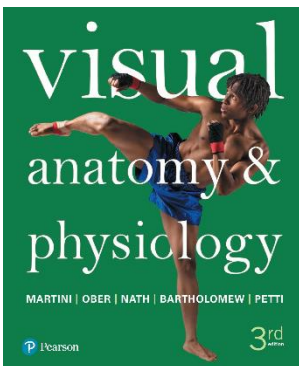
## Student Goals and Class Objectives:

1. To learn, comprehend, and use proper anatomical terminology. This will include learning the roots of words to better understand how anatomical terminology is used in medical and science careers.
2. To gain familiarity with basic human physiology.
3. To understand the basic details of physiology from cells to tissues to organ systems to organisms. We will work together to understand how cellular processes inform organ processes. We will form a working knowledge of how body systems work independently and together.
4. To form a knowledge base with which we will be able to discuss clinical implications of physiology.

## Texts:

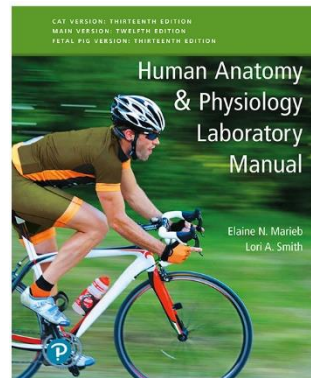
### Required

Martini, F.H., Ober, W.C., Nath, J.L., Bartholomew, E.F., and Petti, K.F. 2018. *Visual Anatomy & Physiology*, 3rd Edition Pearson Education Inc.



### Required

Marieb, E.N. and L.A. Smith. 2019. *Human Anatomy & Physiology Laboratory Manual*, 13th edition (cat version). Pearson Education Inc.



## Open Office:

Open office times are dedicated times during which I do not have set meetings where I am available on a first come first serve basis to talk with students. You are invited to come by my office for any reason. Some examples of topics during office hours include career advice, research questions, college advice, saying hello, asking for a pop tart because you missed breakfast, seeking recommendation letters, coursework, and course material. One need not think of the “perfect question” to come to open office hours. If students need to speak with me outside of the times listed above send an email and make an appointment at any time.

## Course Center:

These hours will take place in a classroom in the science building. These are dedicated times where students will be able to meet with one another, tutors, and myself, in groups or alone. During this time students will also be afforded an organized space in which they are encouraged to study, ask questions about course material, and work on group work. While this is an open format space, we do wish to maintain this time as a course-work specific time. If one

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wanted to ask questions pertaining to something other than coursework, please make an appointment or drop by office hours.

### **Attendance:**

Class attendance requirements are outlined in the Department of Biology Attendance Policy posted [here](#). As outlined in this policy, it is your responsibility to make contact prior to absences for illness and within 24 hours regarding unforeseen emergencies. Athletic or other non-illness related absences should be communicated at the student's earliest convenience. All student athletes should provide a schedule of conflicting dates within **the first two weeks of classes** so that we can make plans regarding these absences. Unexcused absences from class will count as a **5% reduction from the class participation grade per absence**. Unexcused absences from lab will count as a **2% reduction from the lab participation grade per absence**. Missing class time will result in partial deductions if the time is excessive (>15 mins).

### **Class Discussions and Professionalism:**

Class discussions will be conducted on various topics throughout the semester. Class discussions will be conducted respectfully and professionally. We will use proper terminology to discuss topics. Each student is expected to be respectful of their peers and to hold everyone, including me, responsible for properly addressing students by their chosen names, pronouns, and respective titles and using proper terminology in discussions. If any student wishes to discuss class discussion, content, or any other aspect of class with me they are welcome and encouraged to do so. If you feel uncomfortable speaking with me for any reason, I encourage you to contact the [Office of the Dean of Students](#) with your concerns.

### **Diversity, Equality, and Inclusion in this Course:**

Much of recorded science is subjective and has been historically based on the ideas and hypotheses of a collection of privileged voices. The readings in this course are based in part on the work done by this small and privileged group of individuals that were, and mostly still are, white men. We will discuss research and work done by scientists that have subsequently, some quite recently, been recognized as leaders in the field of human anatomy, physiology, and functional morphology that do not identify as white men. Should you come across any contributions to this field that you think we ought to incorporate into our coursework or simply wish to discuss the merits of in light of this topic, please feel free to contact me in person, via email, or anonymously (by leaving a note either under my office door or in the building secretary's office on the third floor).

My expectations are that we will be a learning community that appreciates the successes, struggles, and skill sets that we each bring to this class and that we will learn from one another. This course will be a learning environment that is comfortable for students to explore human anatomy and physiology. It is within that goal that this course will support and enrich student learning by using diverse learning styles in classroom discussions, promoting individualized thinking styles, honoring each student's perspectives and experience, and by being respectful of all members of our learning community.

### **Exams and Grading:**

Deadlines are given below in the course calendar but will also be communicated in class. If an accommodation, illness, or other event causes a student to require a flexible deadline for any assignment, then the student must reach out prior to the due date (sudden illnesses – COVID, accidents, etc. – should be communicated as soon as reasonably possible). Flexible deadline requests are entirely the responsibility of the student; reach out to me with the length of extension you need so that we can discuss how to make sure your work is completed in a timely manner.

**If a student is interested in an honors module for this course I ask that they please contact me within the first two weeks of class so that we can plan appropriately.**

### **Class Exams:**

All assessments of knowledge in anatomy are, practically speaking, cumulative. Tests may consist of short answer, multiple choice, and essay questions. Test material will consider only classroom material. These will be further

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discussed during class time. **100 pts. each**

## Final Exam:

As stated above, anatomy is a cumulative topic. The final exam, therefore, will be cumulative and cover the entire semester's worth of information. All topics of human anatomy will be eligible for the final and questions will include practical applications of anatomy to real-life situations. **100 pts.**

## Class and Lab Participation:

Attending class is important for fully understanding any subject. In addition to attending and participating in typical classes, we will also do some activities, as spacing and time permit to show how anatomy works. Laboratory dissections in human anatomy are one of the main ways of learning anatomy. Dissections will be intense in their rigor and will require the attention and efforts of everyone in the lab group. More will be discussed during the laboratory period. **3 pts. each class/lab**

## Lecture Case Studies:

Case studies will be assigned for each general topic. These will be clinical questions that require knowledge from current and previously learned topics covered in class. These will be due on the review dates and may help students to properly prepare for exams and essays presented during exams. **10 pts. each (50 pts.)**

## Lab Notebook:

Lab notebooks can be kept using a running log via Microsoft Teams. This class has a course page dedicated to it on that app and all students are members of the class. A separate handout will be provided detailing how to use this page and the notebooks for the students. **100 pts.**

## Clinical Packages:

The laboratory period will be broken into systemic physiological learning and clinical scenarios. Each section will be assessed equally. **100 pt. clinical packages (x2)**

## Grading:

The point breakdown for the course will be as follows:

Class Exams:	- worth 400 points
Final Exam	- worth 100 points
Class and Lab Participation:	- worth 150 points
Lecture Case studies:	- worth 50 points
Lab Notebook:	- worth 100 points
Clinical Packages:	- <u>worth 200 points</u>
	<b>Total 1000 points</b>

Notes on Classwork Assignments:

- Lab Notebooks can be kept electronically for this course, but should also be kept physically, to prevent loss of data.

## Grading Scale for Final Grades in This Class:

>98	A+	93-98	A	90-92	A-
87-89	B+	83-86	B	80-82	B-
77-79	C+	73-76	C	70-72	C-
67-69	D+	63-66	D	60-62	D-
		<60	F		

## Academic and Health Support Services:

### Academic Learning Center:

The ALC offers various resources to assist Albright students with their academic success at no charge. The ALC offers course-specific peer tutoring for many general education classes at the 100-200 level. You can schedule to

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meet with a peer tutor in person or online by selecting the '[ALC Subject Tutor Schedule](#)'. Peer tutoring takes place in the ALC Subject Area Tutoring Lab located in the outdoor tunnel near Jake's Place. The ALC also offers one-on-one academic coaching for upper class students on study skills, time management, note-taking, and learning strategies. (The Office of Student Success offers academic coaching for first-year students.) To schedule an academic coaching meeting with a staff member in the ALC, contact by phone at 610-921-7662 or [by email](#). The ALC main office in Teel Hall 309A.

### Writing Center:

You are encouraged to visit the Writing Center early and often throughout the semester to help build a strong foundation for writing in this course and in all of your courses. In-person and online sessions are available. The center's peer tutors and director will work with you at any stage of the writing process, from developing and organizing ideas to revising and editing drafts. Rather than editing your work for you, writing tutors will actively engage you in meaningful conversations about your writing and help you learn new strategies. Tutors are also available to discuss approaches to managing the college reading workload and reading more effectively. The center is located in Jake's Place near the mailroom and can be reached at 610-921-7540 (phone) or [by email](#). (Note: For Fall 2021, the Writing Center will be in Teel 309-B until the Campus Center construction is completed). For the current schedule or to make an appointment for an in-person or online session, use our [appointment system](#).

### Gingrich Library:

The [Gingrich Library](#) provides resources to assist Albright students with their class projects and research needs. Library materials include books, e-books, print and electronic journals, databases and DVDs. All students have complete access to the Gingrich Library catalog, electronic books, and its electronic databases from on-campus, in residence halls or off-campus. Reference librarians are available in the Center for Computing and Mathematics (CCM) to answer questions and help students use resources and find appropriate materials. Students are encouraged to [contact a librarian](#) at any stage of the research process. Real-time chat services are available through the library's portal at the library's main page. The portal to the library can be [reached from here](#).

### Office of Student Accessibility and Advocacy:

Consistent with the ADA and Section 504 of the Rehabilitation Act, Albright College welcomes students with disabilities into the college's educational programs. If you need impairment-related academic adjustments in this course, please contact the Student Accessibility and Advocacy office, by email at [SAA@albright.edu](mailto:SAA@albright.edu) or by phone at 610-921-7503. Our online application is available in the student health portal. SAA staff are available to help with the application if requested. The SAA office is in the Student Center Conference Room. Students should contact the office to schedule an appointment. Students who use accommodations should meet with course instructors privately and in a timely manner to discuss their Academic Accommodation Letter (AAL). *Please note that IEPs and 504 plans do not apply to college-level courses.* Student AALs may be printed from the student health portal. Students should contact the SAA office if they need assistance retrieving their letters.

### Academic Integrity:

The College policy on dishonesty as stated in the section "Academic Dishonesty Policy" in the current Albright College Catalog applies to all aspects of this course, including exams and papers. Academic dishonesty is taking credit for another person's work and attempting to pass it off as your own. It includes: 1) copying from another student during exams and quizzes; 2) allowing someone to copy from you or providing someone with a copy of your work that results in plagiarism; 3) Presenting someone else's ideas as your own without express permission and crediting them; 4) Plagiarizing (copying) material from books, articles, and electronic sources for direct use in your work; 5) using cheat sheets, notes, cell phones, etc. to gain outside information during a test or quiz. A student charged with academic dishonesty will be given written or oral notice of the charge, will receive an F on the assignment in question, and the case will be referred to the Provost. At the Instructors' discretion, the student may receive an F for the course. Repeat offenses, in one class or different classes can lead to more severe penalties (e.g. academic dismissal). Please familiarize yourself with this policy.

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## Classroom Recording Policy:

The audio or visual recording of class lectures, discussions, simulations, and other course-related activity by either students or instructors is governed by the College's class recording policy, available in the Catalog. Albright's policy on class recording balances the needs of students who are differently abled, the intellectual property concerns of its instructors, and the privacy of its students. Any audio or visual recording made by a student during a class, regardless of the recording device, requires the instructor's written consent prior to the class and the student's signed agreement with the terms of the College's policy. Prior to a student recording of any class activity, the student and the instructor must sign a recording agreement and file it with the Office of Student Accessibility and Advocacy (if the recording is an approved disability accommodation) or with the Academic Dean's office (if not an accommodation). Violations of this Class Recording Policy may be directed through academic dishonesty procedures or the Office of Community Standards, and could involve civil or criminal violations.

## Mental Health Matters:

The [Gable Health and Counseling Center](#) offers students the chance to meet with therapists at no charge. Students are encouraged to make appointments to receive confidential care for small and large issues. If you, or anyone close to you on campus, are suffering from any mental health issues, you are encouraged to reach out and use the services on campus to get the care you need. The office is open from Monday through Friday 8:30am - 4:30pm and appointments are scheduled from 10-6 M-TH and 9-5 on Fridays. Students can set up a meeting with a therapist on campus by walking to the Gable Health Center located on campus at 1829 Linden Street or by calling the Gable Health Center at 610-921-7532.

# Class Schedule:

**There are three class meetings per week. This schedule is subject to change based on class need and discussions.**

Class	Topic	Classwork/Exams	Text Readings
1/23	Introduction, Histology		Ch. 1
1/25	Histology and Glands		Ch. 5
1/27	Histology and Glands		Ch. 5
1/30	Tissue Repair		Ch. 5
2/1	Tissue Repair		Ch. 5
2/3	Bone Growth		Ch. 6
2/6	Bone Physiology		Ch. 6
2/8	Bone Physiology	<b>Case Study 1</b>	Ch. 6
2/10	<b>Introduction and Skeleton Exam</b>	<b>Exam (2-10)</b>	Chs. 1, 5, 6
2/13	Muscle Physiology		Ch. 9
2/15	Muscle Physiology		Ch. 12
2/17	Neural Physiology and Conduction		Ch. 11
2/20	Neural Physiology and Conduction		Ch. 11
2/22	Sensory and Motor Pathways		Ch. 13

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Class	Topic	Classwork/Exams	Text Readings
2/24	Autonomics		Ch. 14
2/27	Special Senses	<b>Case Study 2</b>	Ch. 15
3/1	<b>Muscle and Nerve Exam</b>	<b>Exam (3-1)</b>	Chs. 9, 11 – 15
3/6	Endocrine Hormones		Ch. 16
3/8	Cardiac Physiology		Ch. 18
3/10	Cardiac Physiology		Ch. 18
3/20	Blood Physiology		Ch. 17
3/22	Blood Physiology		Ch. 17
3/24	Immunity		Ch. 20
3/27	Immunity and Respiratory Physiology		Ch. 20, 21
3/29	Respiratory Physiology	<b>Case Study 3</b>	Chs. 16 – 18, 20, 21
3/31	<b>Hormones and Blood Exam</b>	<b>Exam (3-31)</b>	Chs. 16 – 18, 20, 21
4/3	Digestive Physiology		Ch. 22
4/5	Digestive Physiology		Ch. 22
4/7	Digestive Physiology		Ch. 22
4/10	Urinary Physiology		Ch. 24
4/12	Urinary Physiology		Ch. 24
4/14	Urinary Physiology		Ch. 24
4/17	Homeostasis of Fluids		Ch. 25
4/19	Homeostasis of Fluids	<b>Case Study 4</b>	Ch. 25
4/21	<b>Digestion and Urinary Exam</b>	<b>Exam (4-21)</b>	Ch. 22, 24, 25
4/24	Female Reproductive Physiology		Ch. 24
4/26	Female Reproductive Physiology		Ch. 26
4/28	Male Reproductive Physiology		Ch. 26
5/1	Male reproductive Organs		Ch. 26
5/3	Pregnancy		Ch. 26
5/5	Pregnancy and Growth	<b>Case Study 5</b>	Ch. 27
Final	<b>Final Exam</b>	<b>Final Exam</b>	Ch. 24, 26, 27

### Laboratory Information:

The laboratory exercises in this class will be explorations of anatomy. Class and lab discussions as well as formal assessments in the form of three exams will assess your learning in the laboratory setting. All students should

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participate to maximize their time in the laboratory and to facilitate their studying and familiarity with anatomical structures.

### Lab Safety:

Students are expected to **follow all lab safety rules at all times**, including arriving in lab with appropriate footwear. Students who are not wearing proper footwear will be sent away to procure acceptable footwear. At times we will be using sharp tools. Safe use of tools will be further explained in labs but includes properly securing tools when not in use and proper handling of tools. **Food, drinks, candy, gum, and other consumables including tobacco and vaporizer products are not permitted in laboratory spaces.** Any food, drink, or other consumables brought into lab must be disposed of. Failure to follow proper safety procedures may lead to dismissal from the lab, at the discretion of the instructor or the Environmental Health and Safety Officer. A handout on safe lab practices will be provided, which must be signed by the student prior to participation in the lab.

## Laboratory Schedule:

**This schedule is subject to change due to student interest and laboratory needs. All changes will be announced through Canvas ahead of the class meeting.**

Week	Topic	Chapters in Lab Manual
1/24	Intro, Histology, and Skin	Ex. 1, 4, 6, 7
1/31	Bone and Muscle physiology	Ex. 8, 14
2/7	Nerve introduction and review	Ex. 15, 17
2/14	Reflexes and Sensation	Ex. 21, 22
2/21	Visual systems	Ex. 23, 24
2/28	Hearing and Equilibrium	Ex. 25
3/7	<b>Case Studies (3-7)</b>	
3/21	Olfaction and Taste	Ex. 26
3/28	Blood Typing	Ex. 29
4/4	Blood Pressure and Pulse	Ex. 33
4/11	Respiratory physiology	Ex. 37
4/18	Urinalysis and Kidney Function	Ex. 41
4/25	Reproductive physiology	Ex. 43, 44
5/2	<b>Case Studies (5-2)</b>	