



Biology Department

Bio 1030: Human Anatomy and Physiology 1
section 3
3 units

Bio 1030L: Human Anatomy and Physiology 1 lab
sections 3a, 3b, 3c
1 unit

Fall 2025

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| Lecture location & time: Latter Hall 1 MWF 11 am - 11:55 am * Note that Dr. Flietstra's A&P class meets at the same time in Latter 101. Choi's classroom is "Latter 1" which is downstairs. | Instructor title and name: Dr. Yoojin Choi |
| Laboratory location & time: Sator Hall 117 section 3A: Thu 7:45 am – 10:45 am section 3B: Thu 11 am – 2 pm section 3C: Thu 2:30 pm – 5:30 pm | Office Phone: (619) 849-2654 |
| Final Exam: Wed Dec 17 10:30 am * PLNU's official Final Exam Schedule | Email: ychoi@pointloma.edu |
| Office location and hours: Rohr Science 116 - 1st floor Rohr Science in the Biology Department Suite <ul style="list-style-type: none">We will use When2Meet and figure out which times work best for all of us. However, stop by anytime and see if my door is open, which means you're welcome to come in and chat. 😊I want you to succeed in this course! Take ownership of your learning, and I will help to the best of my ability. If you have questions, shoot me an email. I can email back or set up a meeting – either Zoom or in person. | |

PLNU Mission

To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Course Description: Bio 1030

The first course of a two-semester sequence which examines the human body from an integrated perspective. Topics include an introduction to chemistry and cell function, tissue types, skeletal system, muscular system, and nervous system. 3 units

Co-requisite: Bio 1030L

This anatomy and physiology laboratory is a co-requisite for Bio 1030. Students enrolled in Bio 1030 must be enrolled in Bio 1030L, and vice versa. If Bio 1030 is dropped, Bio 1030L must also be dropped. Offered every year. Letter graded. Your grade for Bio 1030 and Bio 1030L will be calculated together and the same grade applied to both; see [Grading](#) below. 1 unit

Pre-requisite or Co-requisite: Che 1003 or Che 1052

The [college catalog](#) specifically states that a **pre-** or **co-requisite** for this course is one semester of college level chemistry (such as **Che 1003** or **Che 1052**). If you are unsure about whether you meet this requirement, please talk to me. Students who do not have evidence of prior completion or current enrollment in an appropriate chemistry class will be de-enrolled from this course.

Course Learning Outcomes

1. You will be able to describe cell structure and function, and explain the underlying chemical principles that determine cellular anatomy and physiology.
2. You will be able to identify body tissues, their functions, and common locations.
3. You will be able to identify the bones of the human body and their major structures.
4. You will be able to identify key muscles of the human and of the cat; and the attachments, innervation, and associated movements of the human muscles.
5. You will understand the basic anatomy and physiology of bones, skeletal muscle, and the central nervous system.
6. You will be able to describe the symptoms and mechanisms of representative diseases and injuries, and explain how such pathophysiology relates to normal anatomy and physiology.

Required Texts and Materials

For each lecture there is an assigned reading (see [Tentative Lecture Schedule](#) below). Read the textbook both before and after the lecture. The following textbook is used both semesters of the Human Anatomy and Physiology sequence (Bio 1030 & 1040) by all professors; the dissection kit is also used both semesters.

- Betts, DeSaix and Johnson, *Anatomy and Physiology* (2nd ed.), OpenStax, 2022. ISBN-13: 978-1-71149-406-7

<https://openstax.org/details/books/anatomy-and-physiology-2e>

Download the free PDF on your devices now. Do not count on online access during class.

Or you can get a hardcopy through the website, Amazon, or the bookstore. Many prefer the hardcopy particularly in lab.

The following materials are required for work in various laboratories:

- Dissecting kit (available at bookstore)
- Safety glasses (available at bookstore)
- Old shirt or lab coat for dissecting work

All course materials are posted on Canvas, and grades are kept on Canvas. Check Canvas and PLNU email at least once daily. Adjust Canvas notification settings to what suits your needs, so that you will stay on top of your tasks without getting inundated with alerts.

Recommended Materials

These two items are for sale at the bookstore and may be helpful this semester and next semester. No specific assignments come from these sources, but many past students have testimonials of their usefulness as extra study tools.

- Krieger, *A Visual Analogy Guide to Human Anatomy & Physiology*, Morton
- Hansen, *Netter's Anatomy Coloring Book*, Elsevier

I also recommend that you use an iPad app like Essential Anatomy or an online tool like Visible Body, particularly for bones, bone structures, and muscles.

Spiritual Care

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. I welcome your questions and prayer requests. "Office Hours" are drop-in time for students to have conversations about all topics, not just academics.

If you have questions, a desire to meet with the chaplain or have prayer requests you can also contact the [Office of Spiritual Life and Formation](#).

Language and Belonging

PLNU faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality.

If you (or someone you know) have experienced other forms of discrimination, you can find more information on reporting and resources at www.pointloma.edu/nondiscrimination.

Dr. Choi's Teaching and Learning Philosophy

You are the main player in your learning, not a spectator of my teaching. The responsibility to learn is yours. For learning to happen, you must take an active role in the process. However, you are not alone in the process: I am here to work with you. Extending the sports analogy, I'm your coach and your

classmates are teammates, and we will learn together in community. I expect each of you to pull your weight and collaborate actively. Let us all help in each other's growth.

You are expected to come to class prepared, which requires you to read and learn *before* class. Of course, you're expected to keep studying and practicing after class, too. There will be a lot of interactive learning in both lecture and lab. Just like you can't prepare for a sports game only by looking at other people play, you cannot learn academically only by looking at the textbook or the provided notes. You have to practice and actively engage. Course structures exist to help you in that process.

Learning Opportunities and Expectations

Reading Before Class:

Reading the assigned pages in the textbook is essential for success in this course. The assigned pages are noted in the [class schedule](#), and you should read the pages before class to give you context for the lecture and boost your confidence for classroom participation. This will ensure you are giving yourself the best chance for success in this course. Also, note on the [Lecture Schedule](#) below that there are things you need to learn on your own outside of class time.

- *Helpful Tip: To prioritize more important content, refer to the lecture outline as you read the textbook.*

Taking Notes in Class:

Lecture outlines are provided on Canvas. Print and bring to class in an organized manner (e.g. three-ring binder), or access on a tablet device (in airplane mode), and take notes. I will try my best to video-capture every lecture and upload the recordings on Canvas as a studying tool.

- *Helpful Tip: Use different colored pens to take notes. E.g. pre-class skimming notes in pencil vs in-class notes in pen; main theme in red vs other notes in black; your questions in blue vs my comments in black.*

Studying:

It is highly recommended that you study at least 2 hours for every credit hour or unit. Since Bio 1030 is a 4-unit course, you should be studying a minimum of 8 hours outside of class every single week—and not just the week prior to an exam. This studying should also be spread out during each week, not only before quizzes.

Note that “studying” is a separate section from “reading.” Studying needs to be **active**. If you need to re-read the textbook, of course you should. However, *simply* re-reading the textbook or watching recorded lectures is passive. Make sure that you both **memorize** and also **understand** the material. For example, many students' favorite technique for active memorizing is making and using flashcards. Make physical flashcards. Test yourself often. Shuffle the cards. Sort into 'done' vs 'work on' piles. Have someone else test you with their flashcards.

To understand and apply the material, quiz each other and teach each other. We model these activities in class, so do it outside class too. Write your understanding of a topic and swap it with a classmate to see how it can be phrased differently; make a practice quiz and swap it with a classmate for authentic practice; stand at a whiteboard and give a mini lecture on a topic, etc. Note that the best active methods of studying involve working together in community.

Additional Tools for Success:

Weekly Review Sessions will be offered by an experienced peer leader on Wednesday nights 8-10pm in Latter 1, starting in Week 2. It's a first-come-first serve opportunity for all 200+ students taking Bio 1030. You don't have to arrive by 8pm and you don't have to stay the whole time. More information will be given in class.

Ryan Learning Center also provides individual and group tutoring, and peer tutors have been assigned to this course.

- Tutorial Services provides a range of academic support for all undergraduate students. The services offered include: Tutoring sessions with faculty-recommended PLNU tutors, online Live Help, department Review Sessions, and Academic Coaching (pending availability) program. For more information about the Tutorial Center's services and available resources, please check our website or email us:
 - tutorialservices@pointloma.edu
 - <https://www.pointloma.edu/offices/tutorial-services>

Assessment and Grading

Based on 1250 total points

Your grade for Bio 1030 and Bio 1030L will be calculated together and the same grade will be applied to both.

Lecture points: 910 points

- 1) Participation and Collaboration = 60 points
- 2) Friday Quizzes (10 points/quiz x 6 quizzes) = 60 points
- 3) Small Assignments = 110 points
- 4) Learning Outcome Reflection = 30 points
- 5) Unit Exams (100 points/exam x 5 exams) = 500 points
- 6) Cumulative Final Exam = 150 points

Laboratory points: 340 points

- 1) 7 lab quizzes, lowest dropped (10 points/quiz) = 60 points
- 2) 2 big lab quizzes (14 points + 16 points) = 30 points
- 3) 3 lab worksheets (25 points/worksheet) = 75 points
- 4) Skeleton Practical exam = 75 points
- 5) Muscle Practical exam = 100 points

Your letter grade will be determined from your cumulative percent score as follows. There is no “rounding up”:

| | | | | | |
|------------|------------|------------|------------|------------|------------|
| A: | 93.0—100% | B-: | 80.0—82.99 | D+: | 67.0—69.99 |
| A-: | 90.0—92.99 | C+: | 77.0—79.99 | D: | 63.0—66.99 |
| B+: | 87.0—89.99 | C: | 73.0—76.99 | D-: | 60.0—62.99 |
| B: | 83.0—86.99 | C-: | 70.0—72.99 | F: | ≤ 59.99 |

- To model professionalism, I strive for honest and timely feedback, and transparency and fairness in grading. Scores for individual assessments and assessments are posted on Canvas. Please ask about grades as soon as you have a question, rather than waiting until the end of the semester. The course follows a straightforward point system, so there should be no need for “negotiating” over letter grades at the end of the semester.
- Physical copies of grades are kept for one year from the end of the semester.

Lecture Grading (910 points total)

Participation and Collaboration:

We are expected to respect each other, have an openness of mind toward new points of view, and have curiosity for learning new material. You are expected to participate actively in all class activities in collaboration with classmates from diverse backgrounds.

Your active participation in class is critical to our collective understanding and growth. Make sure you prepare for every class in order to participate well. Simply attending class does not earn you 5 out of 5 points for a given recorded class. See [Appendix 1](#) (Participation and Collaboration Rubric) to understand how you will be graded. Note that you can come to class and still get a 2 or 3 out of 5 points.

Participation and Collaboration will be recorded every lecture class (MWF), then 12 random records will be entered into Canvas Grades (5 pts x 12 = 60 pts). Note that the first six will be entered before the midpoint and included in your midterm grade, and the remaining six will be entered at the end of the semester. If you are absent for a class meeting that happens to be selected, a zero will be entered. If the absence is excused due an official University obligation (requiring prior official notification), you will receive a 3 out of 5. You can make up the two points by participating on Canvas; see below. There are no other forms of excused absences. I would appreciate a courtesy email about absences for illness, doctor's appointments, family circumstances, etc; but you are not required to, and these are not considered excused absences. You can make up the five points by participating on Canvas; see below. I also respect individual differences in comfort levels about speaking up in person, so if you choose not to speak up in front of the whole class in person and receive a 4 for a class you attended (See [Appendix 1](#) Participation and Collaboration Rubric), you can participate online to make up for that point.

Online Participation as makeup: Because it would be unfair to lose points for the above three reasons, there is an opportunity to make up lost points. Study with the lecture recording within three days of absence, then participate on the Canvas Discussion "Online Participation" within three days of absence. If you are making up for not speaking in class, you may do this any time before the due date for each Canvas Discussion board. Valid forms of participation include (1) asking a question about the material, (2) answering another student's question from any of the past postings, (3) posing a question then reporting your own findings, or (4) posting a helpful comment. If you opt for (3) or (4), you must cite the source. See Canvas for more details.

Consider the Online Participation equivalent to in-person participation – except with a time delay. Having to think about what to ask has learning benefits; and explaining your answers to each other's questions in writing is a great practice for quizzes and exams. You should not copy and paste from any source on these explanations, because that defeats the purpose of having you think about the answer in preparation for quizzes and exams. See [Artificial Intelligence \(AI\) Policy](#) below.

I hope you can tell from the length of this section that I truly care about active participation from individual students and about collaboration between students. You are an active agent in your own learning, and we are learning together in community.

Friday Quizzes:

Research shows that frequent quizzing is an effective learning tool. There will be frequent quizzing throughout the semester, so expect one every class. The quizzes are there to help you keep up with the material regularly/daily. Not every quiz will count toward your semester grade. I may decide to count some of these pop quizzes as a Small Assignment (see below) or extra credit, but some may only be for additional practice.

Every Friday unless there is an exam, you will take a 10-point quiz. Multiple-choice questions and/or short- answer questions will be given, in the same style as exams. Don't worry if you happen to

miss a quiz or do poorly on a couple; only your six best scores out of all Friday Quizzes will count toward the semester grade. Missed quizzes cannot be made up. Quizzes and exams are taken on paper.

Small Assignments:

Several small assignments will be given throughout the semester as encouragement to read before class, for formative assessment (to provide constructive feedback), and to help you keep up with the material. They may include in-class activities and homework assignments. Not every in-class activity such as a pop quiz is included in your semester grade, but assume that any in-class activity can be included and do your best.

Most homework assignments are due on Canvas. Late homework is accepted, but Canvas is set up to take 10% off for being late, starting from the second it is late and taking 10% off more every 24 hours. See Canvas for more details.

Learning Outcome Reflection:

At the end of the semester, you will be asked to reflect on what you learned in Bio 1030 in relation to both content knowledge ([Course Learning Outcomes](#)) and study skills. Thinking about your own learning (metacognition) is an important intellectual ability that we need to practice. See Canvas for more details.

Unit Exams:

A non-cumulative “unit” exam worth 100 points will be given according to the [“Tentative Lecture Schedule”](#) below. All exams are given on Fridays. Exams can only be rescheduled for an official University obligation (requiring prior official notification), upon student request.

Each exam has 40 multiple-choice questions (80 pts total) and 20 points worth of short answer/essay questions. Quizzes and exams are taken on paper.

Cumulative Final Exam:

The Final Exam is cumulative and worth 150 points (which is only 12% of the final grade). According to the University’s [Final Exam Schedule](#), ours is scheduled for Wednesday, December 17 at 10:30am.

Lab Grading (340 points total)

Attendance:

Attendance in laboratory is mandatory. You are expected to stay for the **entire scheduled laboratory period**. If you do not attend or fail to complete the scheduled laboratory, you will not receive any credit for that particular lab. This penalty also applies to the dissection labs; individuals who do not fully participate in the dissection labs will have 25 points subtracted from their lab practical score for each laboratory dissection period missed. If participation in a school-sponsored activity or illness prevents you from attending your scheduled lab section, you *might* be able to attend another lab section during that same week. Such a switch requires **prior** permission (because I may need to ask another instructor to fit you in) and should not be viewed as an automatic privilege.

Laboratory Quizzes:

As indicated on the "[Laboratory Schedule](#)" below, quizzes will be administered at the start of most labs. The topic of the quiz is indicated in the schedule. Note that two lab quizzes are worth more than the others (14-point and 16-point quizzes to prepare for the Muscle Practical) and will not be dropped. If you are late for lab, you will have less or no time to take the quiz. Missed quizzes cannot be made up.

Laboratory Worksheets:

Prepare for the laboratory by reading the materials ahead of time. Laboratory PDFs containing instructions on what to bring to lab, background information, procedures, and worksheet will be posted on Canvas at least one week prior to the lab. Canvas posting will specify which pages to print and bring to each lab, such as the worksheet portion of the lab.

Some labs require that you complete a worksheet in class. In that case, the 25-point worksheet will be due at the end of the lab class period. You **cannot** submit a worksheet for a lab you did not attend. It is important that you recognize that these laboratory write-ups must **reflect your own work**, and not someone else's. You should discuss the questions with your classmates, but you cannot copy their answers. Students who hand in identical answers will not be given any credit for that assignment. Using AI to answer the questions is discouraged, and it will probably be to your disadvantage as the worksheet questions are tailored to our specific course material. You must submit all your lab worksheets on a full-size printed handout.

Skeleton Practical:

A "practical" is an exam in which you demonstrate knowledge by doing something. In the Skeleton Practical, you will write down names of bones and bone structures while moving around the lab. More information will be given in lab prior to the practical. The Skeleton Practical is given during the normal lab time and is worth 75 points.

Muscle Practical:

The Muscle Practical is scheduled for **all** laboratory sections on **Tuesday, November 18**. (Thu Nov 20 lab is canceled instead.) The Muscle Practical will be administered in one-hour blocks during school hours. There will be a sign-up process prior to the exam. The Muscle Practical is worth 100 points.

Laboratory Safety and Clean-Up:

- No food (including gum) or water in the laboratory.
- Keep all backpacks and other personal materials completely under the lab bench, such that no one could possibly trip over these items. (The cubbies are for cat storage.)
- **Enclosed shoes are mandatory. Open-toed shoes, clogs, or sandals are not permitted. You also cannot wear shoes that expose the top of the foot.**
- **On dissection days:**
 - **Students must wear safety glasses and clothing that covers as much skin as you can from your shoulders to your toes. This is for your safety.**
 - Wear a lab coat or old clothing that you do not mind getting dirty. Tie long hair and remove or tuck in any loose-hanging accessories (e.g. lanyard, necklace, hoodie strings, bracelets). Bring a writing utensil that you don't mind getting dirty from the cat preservatives. This is to protect you and your belongings.
- At the end of each laboratory period make sure that your table and the equipment you've used have been **cleaned and returned** to its appropriate place. Points are deducted for messes not cleaned up.

Technology Policy

On occasion, we will use laptop computers in the lab. During lecture, however, internet-accessing devices interfere with your education and distract your neighbors. Numerous studies (some highlighted here) have confirmed that classroom laptop and phone use can be detrimental to learning. Students do not learn as well when they type their notes as opposed to hand-writing. Easy access to the internet is distracting. For these reasons, I do not allow the use of laptops, phones, or other internet-accessing electronic devices in the classroom. An exception to the “no device” rule is writing on your tablet device (like Apple Pen). Do NOT use your phone to “take notes”.

1. Laptops and other electronic devices enable more than just note-taking, introducing numerous distractions (web-surfing, homework for other classes, social media, etc.) for you and your neighbors. You may think that you can multitask, but studies show you can't.
http://www.slate.com/articles/health_and_science/science/2013/05/multitasking_while_studyi ng_divided_attention_and_technological_gadgets.html
2. Using your laptop in class is bad for those around you. Your classmates' grades can also suffer due to the distracting pull of the laptop.
<https://www.sciencedirect.com/science/article/pii/S0360131512002254>
3. Writing is a more effective way of learning material than typing. With typing, each letter is pretty much the same thing for the brain. Writing, however, uses different muscle groups with each word and encourages the brain to think during the writing process. Typing may be easy and fast, but by making the brain passive, it discourages learning.
 - <https://www.npr.org/2016/04/17/474525392/attention-students-put-your-laptops-away>
 - <https://www.npr.org/sections/health-shots/2024/05/11/1250529661/handwriting-cursive-typing-schools-learning-brain>
4. Using electronic devices in class also impairs long-term retention, with one study suggesting that cellphone use in class can lower one's grade by half a letter grade.
<https://www.insidehighered.com/news/2018/07/27/class-cellphone-and-laptop-use-lowers-exam-scores-new-study-shows>

Final Examination Policy

Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the Traditional Undergraduate Records: [Final Exam Schedule](#). If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

Artificial intelligence (AI) policy

You are allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro 1.5, GrammarlyGo, Perplexity, etc.) in this course. In fact, we will engage it actively in class. Any work that utilizes AI-based tools must be clearly identified as such, including the specific tool(s) used. Please use the following sources to guide your citations when using AI. Both APA (American Psychological Association) and AMA (American Medical Association) styles of citation are acceptable in this course. Be consistent in your citation style within a given assignment.

- APA Style: [How to Cite ChatGPT](#)
- AMA Style: [AMA Software and AI](#)

Recording Notification

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel. Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

Content Warning

I acknowledge that each of you comes to PLNU with your own unique life experiences. This contributes to the way you perceive various types of information. In Bio 1030, all the class content, including that which may be intellectually or emotionally challenging, has been intentionally curated to achieve the learning goals for this course. The decision to include such material is not taken lightly. These topics include several diseases which may have affected you, family members or friends. We will also examine human cadavers in lab. If you encounter a topic that is challenging for you, it can manifest in feelings of discomfort and being upset. In response, I encourage you to come talk to me about it. Class topics are discussed for the purpose of expanding your intellectual engagement in Human Anatomy and Physiology, and I will support you throughout your learning in this course.

Attendance And Participation Policy

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university withdrawal date or, after that date, receive an "F" grade. See [Appendix 2](#) for details.

Academic Honesty Policy

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

The laboratory portion of the course has two practical exams. Since these exams are administered in the lab, they cannot be given to the entire class at once but must instead be given to smaller groups of students at separate times. Any discussion of the content of the exam between a student who has taken the practical exam with another student who has yet to take the exam will be considered to be cheating on the part of both students, and dealt with as described above.

Sexual Misconduct and Discrimination

PLNU faculty are committed to helping create a safe learning environment for all students. If you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that help and support are available through the Title IX Office at <https://www.pointloma.edu/title-ix>. Please be aware that under Title IX of the Education Amendments of 1972, it is required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at counselingservices@pointloma.edu or find a list of campus pastors at <https://www.pointloma.edu/title-ix>.

If you (or someone you know) have experienced other forms of discrimination or bias, you can find more information on reporting and resources at www.pointloma.edu/bias.

Academic Accommodations Policy

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2533). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. Professors are able to view a student's approved accommodations through Accommodate.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester about the implementation of their AP in that particular course. Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any accommodations.

State Authorization

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on State Authorization to view which states allow online (distance education) outside of California.

Copyright Policy

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

General Education Mission

PLNU provides a foundational course of study in the liberal arts informed by the life, death, and resurrection of Jesus Christ. In keeping with the Wesleyan tradition, the curriculum equips students with a broad range of knowledge and skills within and across disciplines to enrich major study, lifelong learning, and vocational service as Christ-like participants in the world's diverse societies and culture.

General Education Learning Outcomes

General Education Learning Outcome (GELO's) are not assessed in the course.

Lecture and Lab Schedules

| | |
|---------|---------------------------------|
| Topic 1 | Chemistry and Cell Biology |
| Topic 2 | Histology |
| Topic 3 | Skeletal Anatomy and Physiology |
| Topic 4 | Muscular Anatomy and Physiology |
| Topic 5 | Nervous System |

| Tentative Lecture Schedule | | | | |
|----------------------------|--|--|------------------|-------------------------------|
| 1 | Sep 1 (M) | HOLIDAY: LABOR DAY | | |
| | Sep 3 (W) | Introduction to Anatomy and Physiology Elements and Atoms | chp. 1 chp. 2 | pp. 7-31 pp. 39-46 |
| | On Your Own: Anatomical Terms | | | |
| | Sep 5 (F) | Chemical Bonds and Reactions; pH | chp. 2 | pp. 47-61 |
| 2 | Sep 8 (M) | Solutions, Cytoplasm, Diffusion & Osmosis | chp. 2 chp. 3 | pp. 55-56 pp. 85-88, 97-98 |
| | Sep 10 (W) | Organic Chemistry; Membrane Proteins | chp. 2 chp. 3 | pp. 61-74 pp. 83-85 |
| | Sep 12 (F) | Cell Membranes, Vesicles; Organelles | chp. 3 chp. 4 | pp. 82-96 p. 131-133 |
| | | | | |
| 3 | Sep 15 (M) | Nucleus and DNA; Transcription and Translation | chp. 3 | pp. 98-107 |
| | Sep 17 (W) | Genetic Inheritance | chp. 28 | pp. 1256-1265 |
| | Sep 19 (F) | Exam 1 | | |
| | | <i>Covers lecture & on your own material 9/3—9/15</i> | | |
| 4 | Sep 22 (M) | Genetic Inheritance | chp. 28 | pp. 1256-1265 |
| | Sep 24 (W) | Histology; Epithelial Tissue | chp. 4 | pp. 126-140 |
| | Sep 26 (F) | Connective Tissue | chp. 4 | pp. 140-147 |
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| 5 | Sep 29 (M) | Serous Membrane Integumentary System | chp. 1 chp. 5 | pp. 26-28 pp. 163-170 |
| | Oct 1 (W) | Integumentary System | chp. 5 | pp. 171-183 |
| | Oct 3 (F) | Bone Classifications & Histology | chp. 6 | pp. 191-205 |
| | | | | |
| 6 | Oct 6 (M) | Bone Development and Homeostasis | chp. 6 | pp. 206-220 |
| | Oct 8 (W) | Articulations | chp. 8 | pp. 313-332 |
| | Oct 10 (F) | Exam 2 | | |
| | | <i>Covers lecture & on your own material 9/17—10/6</i> | | |
| 7 | Oct 13 (M) | Synovial Joints | chp. 9 | pp. 320-325 |
| | Oct 15 (W) | Specific Synovial Joints; Joint Disorders | chp. 9 | pp. 323-327, 332-344 |
| | Oct 17 (F) | Gross Muscle Anatomy | chp. 11 | pp. 395-403 |
| | On Your Own: Gluteal and Posterior Hip Muscles | | | |

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| 8 | Oct 20 (M) | Muscle Histology and Cytology | chp. 10 | pp. 357-362, 381-386 | |
| | On Your Own: Anterior Thigh Muscles; Posterior Thigh Muscles | | | | |
| | Oct 22 (W) | Excitation and Sliding Filament Mechanism | chp. 10 | pp. 362-369 | |
| | On Your Own: Medial Thigh Muscles | | | | |
| | Oct 24 (F) | HOLIDAY: FALL BREAK | | | |
| 9 | Oct 27 (M) | Motor Units and Force Generation | chp. 10 | pp. 371-377 | |
| | On Your Own: Posterior Leg Muscles; Anterolateral Leg Muscles | | | | |
| | Oct 29 (W) | Walking | chp. 11 | pp. 432-439 | |
| | On Your Own: Posterior Shoulder Girdle Muscles; Anterior Shoulder Girdle Muscles | | | | |
| | Oct 31 (F) | Exam 3 Covers lecture & on your own material 10/8—10/27 (7 lec plus 3 pages of “On Your Own” muscles) | | | |
| 10 | Nov 3 (M) | Muscle Metabolism | chp. 10 chp. 24 | pp. 369-371 pp. 1063-1086 | |
| | On Your Own: Intrinsic Shoulder Muscles | | | | |
| | Nov 5 (W) | Skeletal Muscle Performance; Muscle Fiber Types | chp. 10 | pp. 377-381 | |
| | On Your Own: Anterior Arm Muscles; Posterior Arm Muscles | | | | |
| | Nov 7 (F) | Muscle Pathologies | | | |
| | On Your Own: Anterior Forearm Muscles; Posterior Forearm Muscles | | | | |
| 11 | Nov 10 (M) | Scapular Movement Shoulder (Arm) Movement Elbow (Forearm) Movement Wrist Movement | chp. 11 | pp. 421-429 | |
| | On Your Own: Anterolateral Abdominal Muscles; Neck Muscles | | | | |
| | Nov 12 (W) | Spinal Nerves | chp. 13 | pp. 518-526 | |
| | Nov 14 (F) | Exam 4 Covers lecture & on your own material 10/29—11/10 (5 lec plus all “On Your Own” muscles) | | | |
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| 12 | Nov 17 (M) | Neurohistology and Neurophysiology | chp. 12 | pp. 452-471 | |
| | Nov 18 (Tu) | Laboratory Exam 2: Muscle Practical—all sections | | | |
| | Nov 19 (W) | Action Potentials | chp. 12 | pp. 468-477 | |
| | Nov 21 (F) | Synapses and Neurotransmitters | chp. 12 | pp. 478-482 | |
| 13 | Nov 24 (M) | Central Nervous System: Brain | chp. 13 | pp. 493-508 | |
| | Nov 26-28 | HOLIDAY: THANKSGIVING BREAK | | | |
| 14 | Dec 1 (M) | CNS: Spinal Cord and Protection of the CNS | chp. 13 | pp. 509-510, 513-517 | |
| | Dec 3 (W) | Central Nervous System Disorders 1 | chp. 12 | pp. 482 (Disorders) | |
| | Dec 5 (F) | Exam 5 Covers lecture & on your own material 11/12—12/1 | | | |

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|----|------------|------------------------------------|---|
| 15 | Dec 8 (M) | Central Nervous System Disorders 2 | chp. 12 pp. 464-465(Disorders) chp. 13 pp. 510-511, 515, 517-518 (Disorders) |
| | Dec 10 (W) | Cranial Nerves | chp. 13 pp. 522-525 |
| | Dec 12 (F) | last quiz and wrap-up | |

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| | Dec 17 (W) | FINAL EXAM, 10:30a.m.—1:00p.m. | |
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Laboratory Schedule for Bio 1030, Fall 2025

| <i>Week of:</i> | <i>Thu</i> | <i>Lab Exercise</i> | <i>Quiz</i> |
|-----------------|----------------------------|--|--|
| Sep. 1 | 9/4 | Introduction Skeletal System: Appendicular Skeleton part 1 | Quiz1: syllabus |
| Sep. 8 | 9/11 | Basic Chemical Principles | Quiz2: bone terminology |
| Sep. 15 | 9/18 | Skeletal System: Axial Skeleton | Quiz3: basic chemical principles |
| Sep. 22 | 9/25 | Skeletal System: Appendicular Skeleton part 2 (optional – Exam 1 review) | Quiz4: axial skeleton |
| Sep. 29 | 10/2 | Skeletal System Review Lab | Quiz5: appendicular skeleton |
| Oct. 6 | 10/9 | Laboratory Exam 1: Skeleton Practical Muscle Anatomy | (no quiz) |
| Oct. 13 | 10/16 | Muscle Physiology & Function (optional – Exam 2 review) | Quiz6: muscle anatomy |
| Oct. 20 | NO LAB—FALL BREAK | | |
| Oct. 27 | 10/30 | Muscle Anatomy | Quiz7: muscle physiology & function |
| Nov. 3 | 11/6 | Muscle Anatomy | Quiz 8 (14 pt quiz): muscle anatomy |
| Nov. 10 | 11/13 | Muscle Anatomy | Quiz 9 (16 pt quiz): muscle anatomy |
| Nov. 17 | TUE 11/18 | Laboratory Exam 2: Muscle Practical Tuesday, November 19 for all sections | on Thu 11/21: optional – Exam 3 review |
| Nov. 24 | NO LAB—THANKSGIVING BREAK | | |
| Dec. 1 | 12/4 | Brain and Neurological Exams (optional – Exam 4 review) | Quiz10: brain anatomy (pre-lab quiz) |
| Dec. 8 | NO LAB | | |

Appendix 1: Participation and Collaboration Rubric

adopted from Kendra Hearn, PhD (U of Michigan, Ann-Arbor)

| | 2 | 3 | 4 | 5** |
|---|---|---|--|--|
| Active Listening* | Student has incurred 2 or more instances of unprofessional or inattentive behavior during class. On multiple occasions, s/he uses technology for purposes not related to the course and/or in ways that are distracting to peers and/or the instructor. S/he often has side conversations that are distracting to those around him/her. S/he does not track the speaker with his/her eyes (e.g. head down on desk). | Students is typically professional and attentive during class. S/he has uses technology for purposes not related to the course and/or in a way that is distracting. S/he has occasional side conversations that are sometimes distracting to those around him/her. S/he rarely tracks the speaker with his/her eyes or use non-verbal cues to engage with the speaker. | Student is always professional and attentive during class. S/he uses technology for the purposes of the course and is not distracting. S/he limits side conversations; those in which she may engage are always about what is currently occurring in the class. S/he often tracks the speaker with his/her eyes. | Student is always professional and attentive during class. S/he uses technology for the purposes of the course and is not distracting or easily distracted. S/he doesn't have side conversations. S/he routinely tracks the speaker with his/her eyes, and uses non-verbal cues to engage with the speaker. S/he routinely uses techniques to ensure understanding, such as asking or answering questions. Student responds to iClicker prompts. |
| Contributions to Discussion and Activities | Student's contributions are disrespectful or shows unwillingness to learn, or s/he does not contribute. | Student's contributions are respectful and inclusive. S/he may, however, contribute rarely or contributes often but dominates the 'air' time. When s/he speaks, his/her comments may be tangential or confusing to the current direction of the group. | Student's contributions are respectful and inclusive. They position him/her as active learner of the topic. S/he watches his/her 'air' time by not dominating the discussion. | Student's contributions are respectful and inclusive. They position him/her as an active learner of the topic. S/he watches his/her 'air' time by not dominating the discussion. His/her comments and questions often improve the thinking of the group. |
| Preparedness | Student exhibits minimal preparedness in that it is apparent that s/he has read little or none of the materials prior to class as evidenced by no references to the required materials during discussion. S/he does not bring appropriate notes. | Student exhibits moderate preparedness in that it is apparent that s/he has read some of the materials prior to class as evidenced by nominal references to the required materials and bringing appropriate notes. | Student exhibits sufficient preparedness in that it is apparent that s/he has read the materials prior to class by citing references to those materials during class. S/he brings appropriate notes to class. | Student exhibits good preparedness in that it is apparent that s/he has read all materials prior to class by accurately citing references to those materials during discussions and bringing annotated notes to class. It is clearly apparent that s/he has given depth of thought to the topic as his/her comments, questions, and ability to respond to questions. |

* Merely attending class does not merit 5 out of 5 points.

** Asking questions is a type of contribution.

Appendix 2: PLNU Academic Policies

❖ The Course Drop and Course Withdrawal Policy

- Course Drop
 - Dropping a course means the student should no longer attend. The drop action results in the course being removed from the transcript.
 - The course drop deadline is at the end of Week 2 (Sep 12 in Fall 2025).
- Course Withdrawal
 - Students may still withdraw from a class(es) through the withdrawal deadline. Students who withdraw from a class(es) will have a “W” on their transcript for the respective course(s).
 - The course withdrawal deadline is at the end of Week 10 (Nov 7 in Fall 2025).
- ❖ Academic Behavior Policy <https://pointloma-public.courseleaf.com/tug-catalog/academic-general-policies/#academicbehavior>
- ❖ Academic Honesty <https://pointloma-public.courseleaf.com/tug-catalog/academic-general-policies/#academichonesty>
- ❖ Academic Standing <https://pointloma-public.courseleaf.com/tug-catalog/academic-general-policies/#academicstanding>
- ❖ Class Attendance <https://pointloma-public.courseleaf.com/tug-catalog/academic-general-policies/#classattendance>
- ❖ Course Drop dates
 - updated to be in alignment with the 100% refund date
 - see <https://www.pointloma.edu/offices/records/traditional-undergraduate-records>
 - Fall 2025: Last day to add AND drop semester courses - Friday, September 12
- ❖ Grading: [W] Withdrawn <https://pointloma-public.courseleaf.com/tug-catalog/academic-general-policies/#grading>
- ❖ Non-Registered Individuals <https://pointloma-public.courseleaf.com/tug-catalog/academic-general-policies/#nonregistered>
- ❖ Ombudsperson - Student Advocacy <https://pointloma-public.courseleaf.com/tug-catalog/academic-general-policies/#ombudsperson>
- ❖ Withdrawal from a Course
 - <https://pointloma-public.courseleaf.com/tug-catalog/academic-general-policies/#withdrawal>