



Department of Biology

BIO 1040 Human Anatomy and Physiology 2

3 units Lecture

1 Unit Lab

Spring 2025

Meeting days:

Lecture: M, W, F

Lab: T, W

Brandon Sawyer, PhD

Professor of Kinesiology and Biology

Associate Dean of Operations College of Health Sciences

Department Chair of Kinesiology and Health Sciences

email: bsawyer@pointloma.edu

Meeting times:

Lecture: 1:30-2:25pm

Lab sections w/ Dr. Whitley

2A: Tues-6-9pm

2B: Wed 6-9pm

Dr. Whitley's email:

dwhitley@pointloma.edu

Office location and hours:

Kinesiology #5 (Located within the Kinesiology offices Just south of the gym between Kines classrooms 1 and 2)

***Office hours:**

By Appointment: [Click Here to Sign Up](#)

Meeting location: Lecture: Latter 1 Lab: Sator 117	Email: bsawyer@pointloma.edu
Final Exam: Wednesday May 7th, 1:30 -4pm	

*If you have any questions about the material in this course, feel free to set up an appointment for my office hours as listed above. I do get meetings scheduled during these office hours so I am not always available at these times. I will also be in my office at other, unscheduled times. If my office hours don't work for your schedule, e-mail me and we can set up an appointment to meet.

My Commitment to you

I am here to help you in whatever way you need. Feel free to come to me with questions about the course, your life, your future, your career, or anything else that comes up. **You all matter greatly to me.

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.

Foundational Explorations 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.

Course Description: Bio 1040

The second semester of a sequence which examines the human body from an integrated perspective emphasizing the interrelationship of structure and function.

Topics include sensory and autonomic nervous system, endocrine system and reproduction, cardiovascular system, immune system, respiratory system, digestive system, and urinary system. 3 units

Co-requisite: Bio 1040L

This anatomy and physiology laboratory is a co-requisite for Bio 1040. Students enrolled in Bio 1040 must be enrolled in Bio 1040L, and vice versa. If Bio 1040 is dropped, Bio 1040L must also be dropped. Offered every year. Letter graded. Your grade for Bio 1040 and Bio 1040L will be calculated together and the same grade applied to both. 1 unit

Pre-requisite or Co-requisite:

Successful completion (with a passing grade) of **Bio 1030** and **Che 1003** or **Che 1052** (or their equivalent) is a **prerequisite** to admission to this course. If you failed either one of these, you are not eligible to enroll in Bio 1040. This course is the second of a two-semester sequence where the structure and function of various systems of the body are studied in an integrated fashion. If you did not take Biology 1030 at PLNU, you should see me to be sure that your background is appropriate for this course.

Student Learning Outcomes:

1. Students will be able to identify the anatomy of, and blood flow through, the mammalian heart.
2. Students will be able to identify major blood vessels of the human and the cat, and the regions supplied by these blood vessels.
3. Students will demonstrate an understanding of the basic anatomy and physiology of the sensory and autonomic nervous systems, endocrine system, cardiovascular system, immune system, respiratory system, digestive system, and urinary system.
4. Students 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 RECOMMENDED STUDY RESOURCES

For each lecture there is an assigned reading. It is recommended that you read through these pages both prior to and following the related lecture. The textbook for this class will be used both semesters of the Human Anatomy and Physiology sequence (Bio 1030 & Bio 1040); the dissection kit and iClicker2 are also used both semesters.

Lecture Materials

1. Betts, DeSaix and Johnson, *Anatomy and Physiology* (2nd ed.), OpenStax, 2022.

This is available as a free etext or pdf at

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

Or you can order a hardcopy of the text by clicking the link on the above page, through the bookstore, or through Amazon.

ISBN-10: 1938168135

ISBN-13: 978-1-938168-13-0

2. iClicker 2

Laboratory Materials

1. Dissecting kit (available at bookstore, only for face to face)
2. Old shirt or Lab coat for dissecting work
3. Safety Glasses or Safety Goggles. [*This is a new 2023 mandate for the department for all dissection activities*].

Recommended Materials

These two items are for sale at the bookstore and may be helpful for learning the anatomical material this semester and next semester.

1. Krieger, *A Visual Analogy Guide to Human Anatomy & Physiology*, Morton, 2013
2. Hansen, *Netter's Anatomy Coloring Book*, Elsevier, 2010.

COURSE CREDIT HOUR INFORMATION

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 3 unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirement can

be provided upon request. (Based on 37.5 hours of student engagement per credit hour.)

LEARNING OPPORTUNITIES AND ASSIGNMENTS

Reading:

Reading the assigned pages in the textbook is essential for success in this course. The pages assigned for each section are noted in the class schedule and should be read before the class that we are covering that section. Reading before class will give you context for the lecture and classroom participation. This will ensure you are giving yourself the best chance for success in this course.

Taking Notes:

Using your printed note packet from the bookstore you can take notes on the pages. For each class I will also make the PowerPoint presentation available on Canvas so you can have it in color as well. If you would like to record the lectures to aid in the accuracy of your notes feel free to do so.

Studying:

It is highly recommended that you study at least 2-3 hours for every credit hour. Since Bio 1040 is a four-credit course, **you should be studying 8—12 hours every single week**—and not just the week prior to an exam. This studying should also be spread out during each week, not simply occurring before Friday's quiz. While studying includes reading the assigned text, you should concentrate on the lecture material presented in class. Make sure that you not only **memorize** the information, but that you also **understand** the material.

**Tutors have been assigned to this class and they are available for individual and group tutoring.

Classroom Participation/Attendance:

We will use the iClicker 2 device on all class days. I will ask you questions that you will either work on as a group or individually. You will input your answers into the clickers and send them to me. You will receive points based on your participation, not based on answering the question correctly. There are 30 total class days (where participation points are available) and you receive 2 points for each day you participate in the class

via clicker responses. You must answer all clicker questions for the day to get the points. The total number of participation points is 40 (each day is worth 2 points and only 20 days are needed to get full credit). This gives you some grace for missing class.

Reading Quizzes:

On **all Mondays (except the first week and TBL days)** of this semester you will complete a simple 5 point assignment. The assignments consist of quiz questions based on the reading for the week. These assignments are intended to get you familiar with the material for the week. Each quiz will cover material from the textbook reading assignment for that Monday, Wednesday, and Friday. Each assignment will be available until class time on Monday.

Feel free to take notes while you take these quizzes, but please **DO NOT** copy down questions and their answers, and **DO NOT** share answers with other members of the class. These quizzes are intended to help you and your classmates learn the material, so please do not undermine this goal by cheating.

Lecture Quizzes:

On the Fridays that do not have an exam, a **15-point canvas quiz** due Friday night by 11:59 PM. These quizzes will consist of multiple choice, true and false, short answer and hybrid questions. **Canvas quizzes are best taken using Chrome as your browser.** The material to be covered by each quiz will be announced on the Wednesday before the quiz. Although there are 9 quizzes throughout the semester only 8 of these will be counted towards your score. The lowest quiz grade will be dropped. There are no make-up quizzes and no late quizzes. If you complete the quiz late you will receive a 0 on the quiz.

Exams:

The dates on which exams will be administered are indicated in the lecture schedule below. Exams can only be rescheduled with advance notice and with a valid reason, such as illness (requiring a signed statement from a physician) or a school-related activity (requiring prior notification from the administration and the student). **The final cannot be rescheduled.**

1. Lecture exams will cover the material given in class up through the Monday preceding each exam.
2. Each exam will be composed of multiple-choice, true and false, and hybrid questions.

3. All exams will be administered through Canvas using Honorlock.
4. We will briefly go over tough questions on the exams in class or lab after all students have taken the exam. Use this opportunity to find out what areas you do not understand and need to further study. Remember, the **final is cumulative for the semester, not the whole year.**

Team Based Learning (TBL):

TBL is an innovative teaching method that has proven to improve learning. You will all be placed into teams at the beginning of the semester. We will have 5 TBL days in which you will study a lesson online before class, take a short quiz by yourself (iRAT) on that material when you arrive to class, and then take the same quiz with your team (tRAT). We will follow up for the rest of the class with some exercises based on that material that you just learned.

Laboratory

Attendance:

Attendance is mandatory. You are expected to stay for the **entire scheduled laboratory period** unless dismissed by the instructor. 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 attend a dissection lab 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 during a particular week you *might* be able to attend another lab section during that same week. Such a switch requires the **prior** permission of the lab instructor and should not be viewed as an automatic privilege.

Laboratory Handouts:

Prepare for the laboratory exercise by reading the materials supplied ahead of time. Laboratory exercises will be posted on Canvas (canvas.pointloma.edu) at least one week prior to the lab. When downloading documents from Canvas it often works better to use *Chrome* rather than *Internet Explorer or Firefox*. If possible, save a tree by printing these lab hand-outs as double-sided copies.

Laboratory Quizzes:

As indicated on the lab schedule, quizzes will be administered at the start of most laboratory sections. If you are late for lab, you will not be given the opportunity to take

any missed quiz. I will drop the lowest 10 point lab quiz from your final score. I will not drop either the 14 or 16 point quiz.

Circulatory System Practical:

The muscle laboratory practical is scheduled for all laboratory sections (regardless of normally scheduled day and time) on a **Tuesday (see lab schedule below)**. The laboratory practical will be administered in the one-hour blocks during normal school hours. Prior to the exam, you will be asked to indicate which time(s) are amenable to your schedule. If you anticipate conflicts, please do your best to clear them prior to the muscle labs.

Laboratory Assignments:

Laboratory assignments will be due at the end of the lab period. You **cannot** hand in a laboratory write-up 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 can—and should—discuss the assignment with your classmates, but you cannot copy their answers. Students who hand in identical assignments will not be given any credit for that particular assignment.

Laboratory Safety and Clean-Up:

1. **No food (including gum) or water in the laboratory.**
2. **Keep all backpacks and other personal materials either on the lab bench (if there is room) or completely under the lab bench, such that no one could possibly trip over these items.**
3. **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, such as shown here:**

At the end of each laboratory period make sure that your table, and the equipment you've used, has been **cleaned and returned** to its appropriate place. Points are deducted for messes not cleaned up.

COURSE POINTS AND GRADING

Based on an expected 1290 total points

Your most up to date grade in the class will always be available for your viewing on canvas. As soon as I finish grading an assignment or exam I will post it to canvas.

Lecture points: **920 points**

1. 5 non-cumulative exams (100 points/exam) = 500 points
2. 9 quizzes (15 points/quiz) = 120 points (The lowest quiz grade is dropped)
3. 1 final, cumulative exam = 150 points
4. Classroom participation/Attendance (graded via iClicker Attendance) = 40 points
5. 9 Reading quizzes (5 points/assignment) = 45 points
6. Team Based Learning = 60 points

Laboratory points: **370 points**

1. 12 lab quizzes (10@10 points/quiz; 1@14 points, 1@16 points; lowest of the 10 point quizzes dropped) = 120 points
2. 8 lab exercises (7 x 20 points/exercise; 1 x 10 points) = 150 points
3. circulatory system practical exam = 100 points

Final grades will be posted within one week of the end of the class. Grades will be based on the following:

A	B	C	D	F
A 93.5-100	B+ 87.5-89.4	C+ 77.5-79.4	D+ 67.5-69.4	F Less than 59.4
A- 89.5-93.4	B 83.5-87.4	C 73.5-77.4	D 63.5-67.4	
	B- 79.5-83.4	C- 69.5-73.4	D- 59.5-63.4	

Course and PLNU Policies:

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 Schedules](#) site. 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.

ELECTRONIC DEVICES IN CLASS

Computers and mobile devices can become a distraction as they also can enable activities other than note-taking. These activities are not only a distraction to you, but they are also a distraction to the students around you. Therefore, no laptop computers are allowed to be used in class except for exams. I will allow you to take notes on a tablet using a stylus.

COMMUNICATION

Email will be the main form of communication used by the professor outside of class. Students are expected to check their @pointloma.edu email at least on a daily basis. If you know of issues with your @pointloma.edu account please notify the professor immediately. Any information I communicate via email I will expect you to know.

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.

INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Incompletes will only be assigned in extremely unusual circumstances.

PLNU 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.

PLNU 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.

PLNU ACADEMIC ACCOMMODATIONS POLICY

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. 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 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course and/or if they do not wish to utilize some or all of the elements of their AP in that course.

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.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all **synchronous** class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions (virtual or face-to-face), 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 drop date or, after that date, receive the appropriate grade for their work and participation. In some courses, a portion of the credit hour content will be delivered **asynchronously** and attendance will be determined by submitting the assignments by the posted due dates. See [Academic Policies](#) in the Undergraduate Academic Catalog. If absences exceed these limits but are due to university excused health issues, an exception will be granted.

Asynchronous Attendance/Participation Definition

A day of attendance in asynchronous content is determined as contributing a substantive note, assignment, discussion, or submission by the posted due date. Failure to meet these standards will result in an absence for that day. Instructors will determine how many asynchronous attendance days are required each week.

PLNU 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.

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.

If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Spiritual Development](#)

LANGUAGE AND BELONGING

Point Loma Nazarene University 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.

You may report an incident(s) using the [Bias Incident Reporting Form](#)

SEXUAL MISCONDUCT AND DISCRIMINATION

In support of a safe learning environment, 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 accommodations and resources are available through the Title IX Office at pointloma.edu/Title-IX. Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are 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 pointloma.edu/title-ix.

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 Human Anatomy and Physiology, all of 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 diseases, death, sex, using human cadavers, and animal specimens. If you encounter a topic that is intellectually challenging for you, it can manifest in feelings of discomfort and upset. In response, I encourage you to come talk to me or your friends or family about it. Class topics are discussed for the sole purpose of expanding your intellectual engagement in the area of anatomy and physiology, and I will support you throughout your learning in this course.

ARTIFICIAL INTELLIGENCE (AI) POLICY

You are allowed to use Artificial Intelligence (AI) tools (e.g, ChatGPT, iA Writer, Marmot, Botowski) to generate ideas, but you are not allowed to use AI tools to generate content (text, video, audio, images) that will end up in any work submitted to be graded for this course. If you have any doubts about using AI, please gain permission from the instructor.

USE OF TECHNOLOGY

In order to be successful in the online environment, you'll need to meet the minimum technology and system requirements; please refer to the [Technology and System Requirements](#) information. Additionally, students are required to have headphone speakers compatible with their computer available to use. If a student is in need of technological resources please contact student-tech-request@pointloma.edu.

Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your class work.