POINT 1902 LOMA NAZARENE UNIVERSITY	Biology 1040: Human Anatomy and Physiology II section 2 3 units Bio 1040L: Human Anatomy and Physiology II lab Lab sections 2a & 2b & 2c 1 unit
Spring 2024	

Lecture time & location: Taylor Hall 106 MWF 1:30 – 2:25 pm	**Instructor title and name:** Dr. Yoojin Choi
Laboratory time & location: Sator 117 section 2a: Thu 7:45 – 10:45 am section 2b: Thu 10:55 am – 1:55 pm section 2c: Thu 2:30 – 5:30 pm	**Phone:** (619) 849-2654
Final Exam: Mon Apr 29 1:30 – 3:30 pm	**Email:** ychoi@pointloma.edu

Office location and hours: Rohr Science 188 (Schedule is posted by the door.)

M 10:30 – 11:30am W 8:30 – 9:30am W 12:30 – 1:15pm F 12:30 – 1:15pm

These "office hours" or drop-in hours are the times I am committing to sit in my office and wait for you to drop in, but you're welcome to come in and chat if my door is open at other times. If you prefer a designated meeting time, email me to set up an in-person meeting or a Zoom meeting. I work from home on Tuesdays, so if that's your preferred day, please email for a Zoom meeting. I want to be available to meet with you and help you succeed in this course!

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 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 A&P laboratory is a Bio 1040 co-requisite. 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-requisites: Bio 1030 and Che 1003 or Che 1052

A passing grade in Bio 1030 and Che 1003 or Che 1052 (or their equivalent) is a prerequisite for 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.

Course Learning Outcomes

1. You will be able to identify the anatomy of, and blood flow through, the mammalian heart.
2. You will be able to identify major blood vessels of the human and the cat, and the regions supplied by these blood vessels.
3. You will understand 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. 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.

* See Appendix 2 for alignment with program learning outcomes of PLNU TUG programs that require Bio 1030 & 1040.

Required Texts and Materials

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 will be used both semesters of the Human Anatomy and Physiology sequence (Bio 1030 & Bio 1040); the dissection kit is also used both semesters.

- Betts, DeSaix and Johnson, *Anatomy and Physiology* (2nd ed.), OpenStax, 2022. ISBN-13: 978-1711494067 available as a free e-text or PDF at https://openstax.org/details/books/anatomy-and-physiology-2e

You should download the free PDF on your devices now. Do not count on online access during class.
You can buy a hardcopy online or at the bookstore. Many students prefer the hardcopy, particularly in lab.

The following materials are required for various laboratory activities:

- Dissecting kit (available at bookstore)
- Safety glasses (also used in chemistry classes)
- 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 daily.

Recommended Materials

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

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

Visible Body Courseware: used in the College of Health Sciences. Visible Body is a for-pay subscription service. Use the code **PLNU-ALI** for a discounted rate of $39.99 per year. ($52 for 2yr access, and $72 for 3yr access) If you find it useful and/or your future courses require it, you can extend your subscription at the end of the first year.

Spiritual Care

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 you have questions or prayer requests and you feel comfortable talking to me, you are welcome to do so. "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.

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 learn together in community.

You are expected to come to class prepared, which requires you to read, study, and learn *before* class. Of course, you're expected to keep reading, studying, and practicing after class, too. There will be a lot of interactive learning in both lecture and lab. I expect you to pull your weight and collaborate actively. Let us all help in each other's learning.

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.*

Taking Notes in Class:

Lecture outlines are provided on Canvas. Print, bring to class in an organized manner (e.g. three-ring binder), and take notes. For each class I will also make the PowerPoint presentation available on Canvas so you can have it in color as well. I will try my best to video-capture every lecture and upload the recordings on Canvas, as a studying tool for everyone and in case someone has to miss class.

- *Helpful Tip: Use different colored pens to take notes. E.g. pre-class skimming notes in pencil vs in-class notes in black 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 2-3 hours for every credit hour. Since Bio 1030 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 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 not only ***memorize*** but that you also ***understand*** the material. For example, many students' favorite technique for active memorizing is making and using flashcards. Make them yourself. Test yourself often. Shuffle the cards. Sort into 'done' vs 'work on' piles. Have someone else test you with their flashcards.

To understand the material, model in-class activities of quizzing each other and teaching each other; 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; etc. Note that the best active studying involves working together in community.

Additional Tools for Success:

Weekly Review Session will be offered by an experienced peer leader. Ryan Learning Center also provides Tutorial Services for individual and group tutoring. Peer tutors have been assigned to this course.

Laptop/Electronic Devices Policy:

Please take out your laptop only when asked to do so. Electronic devices interfere with your learning and can be a distraction to your neighbors. Numerous studies (some highlighted here) have confirmed that classroom laptop use can be detrimental to learning. For this reason, I do not allow the use of laptops or phones in the classroom.

1. You may think that you can multitask, but studies show you can't.
2. As already mentioned, using your laptop in class can be less than neighborly. Your classmates' grades can also suffer due to the distracting pull of the laptop.
3. Writing by hand is a more effective way of learning than is 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 integrate material during the writing process. Typing may be easy and fast, but by making the brain passive, it discourages learning.
4. This study suggests that cellphone use in class can lower one's grade by half a letter grade.

However, I also recognize the value of having the lecture outline as you take notes in class. Many students have told me that they cannot afford to print the many pages of the lecture outline. You may use a device that allows you to "ink" on the notes. Handwriting either on paper or on your device is better for your learning than typing. For your sake and to avoid distracting other students, put it on airplane mode and do not use it for other purposes during class.

Assessment and Grading

Based on 1250 total points

Your grade for Bio 1040 and Bio 1040L will be calculated together and the same grade will be applied to both.

Lecture points: **890 points**

1) Participation and Collaboration (60 points in person + 20 points online) = 80 points
2) In-class quizzes (15 points/quiz x 6 quizzes) = 90 points
3) Non-cumulative exams (100 points/exam x 5 exams) = 500 points
4) Cumulative Final Exam = 150 points
5) various small assignments = 50 points
6) End-of-Year Reflection = 20 points

Laboratory points: **360 points**

1) 11 lab quizzes (10 points/quiz + 10 points) = 120 points
2) 7 lab worksheets (20 points/worksheet) = 140 points
3) Circulatory System Lab Practical = 100 points

Your letter grade will be determined from your cumulative percent score as follows:

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 are posted on Canvas Grades. Please ask about grades as soon as you have a question. Do not wait until the end of the semester. The course follows a straightforward point system, so there is 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 Points (890 total)

1) 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 simply attending class does not merit 5 out of 5pts.

Participation and Collaboration will be recorded every class on a sheet of printed roster, then six random records will be entered into Canvas Grades at the end of the first quad (5 pts x 6 = 30 pts). Again, six random records will be entered into Canvas Grades at the end of the second quad (5 pts x 6 = 30 pts). If you are absent for a class meeting that happens to be selected, a zero will be entered. If the absence is excused due to an official University obligation (requiring prior notification from the administration and the student), you will receive a 3 out of 5. You can make up the "lost" points by participating on Canvas in the "Muddiest Point" Discussion boards. See below.

In addition to in-person participation and collaboration, *online* participation and collaboration is *required*, and graded out of 10pts total per quad. Post questions and answer others' questions on the Canvas Discussion "Muddiest Point Quad1" & "Muddiest Point Quad2" (links on Canvas). Minimum requirement: at least one question (must be done by 4th week) and one answer (anytime before the end of the Quad). Further instructions on Canvas.

There are several reasons for including online participation, which I implemented long before the COVID online switch. Having to think about what to ask has learning benefits, so everyone is required to ask at least one question. Explaining your answers to each other in writing is a great practice for exams, so everyone is required to answer at least once. Do not use AI; it defeats the purpose. This student-to-student conversation has been very useful for many past students (e.g. get extra help with questions, feel like they're not alone in not knowing something, use as a study guide).

I also respect individual differences in comfort levels about speaking up in person, so if you choose to not speak up in front of the whole class in person, you can participate online instead. Extra online participation will make up for in-person participation. If you earn anything less than 5 out of 5 from in-class Participation and Collaboration for *any* reason, you can earn back those points by participating online. See Canvas for further information.

I hope you can tell from the large amount of information in 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.

2) In-class Quizzes:

Research shows that frequent quizzing is an effective learning tool. Every Friday unless there is an exam, you will take a 15-point quiz including multiple-choice questions and short-answer questions, 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 will count toward the semester grade. The rest is for additional practice. **Quizzes must be taken in class and cannot be made up.**

3) Lecture Exams:

A 100pt unit exam will be given on the dates indicated in the Tentative Lecture Schedule. Exams can only be rescheduled with advance notice and with an official University obligation (requiring prior notification from the administration and the student). Each exam has 40 multiple-choice questions (80 pts total) and some questions requiring written answers (20 pts). Exams must be taken in class or at the EAC. A late penalty of 10% (minus 10pts from the score) per calendar day will be applied in case an exam is missed and a makeup exam is given.

4) Lecture Final Exam:

The Final Exam is cumulative and worth 150 points (which is only 12.5% of the final grade). According to the University's Final Exam Schedule, ours is scheduled for Monday, Apr 29 at 1:30pm. The Final Exam cannot be rescheduled except in extenuating circumstances. The exam must be taken in class or at the EAC.

5) Small Assignments:

Several small assignments (each one approximately 5 pts) will be given throughout the semester as encouragement to read before class, for formative assessment, and to provide constructive feedback. They may include at-home pre-class reading quizzes on Canvas, short presentations, worksheets, etc. See Canvas for further information. Canvas is set to deduct 10% every 24 hours from the second an assignment is late.

6) End of Semester Reflection:

At the end of the semester, you will be asked to reflect on how you grew as a student through A&P and then reflect on how you grew as a person through the connections between A&P and all your other college experiences this academic year. See Canvas for further information.

Lab Grading (360 points total) and Other Information About Lab

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 25pts subtracted from their lab practical score for each missed dissection period. If you anticipate missing 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 a Tue or Wed instructor to fit you in) and should not be viewed as an automatic privilege.

Laboratory Handouts:

Prepare for lab by reading the handout ahead of time (Canvas). Note which handouts and which pages require printing.

1) Laboratory Quizzes:

As indicated on the Laboratory Schedule, quizzes will be administered at the start of most labs. The topic of the quiz is indicated in the schedule. If you are late for lab, you will have less or no time to take the quiz. Lab quizzes are not dropped. Lab quizzes cannot be made up unless it is due to an official University obligation (requiring prior notification from the administration and the student).

2) Laboratory Worksheets:

Seven of the lab handouts require that you complete a worksheet during the lab period and submit it. The 20-point worksheet will be due at the end of the lab 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 can—and should—discuss the assignment with your classmates, but you cannot copy their answers. Students who hand in identical answers will not be given any credit for that assignment. **You must submit all your lab worksheets on full-size printouts.**

3) Circulatory (Cardiovascular) System Practical:

The circulatory system laboratory practical is scheduled for **Tuesday, February 27** (not on Thu). 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 circulatory system labs. The circulatory system laboratory practical will be 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:**
    - **Mandatory: Safety glasses and dissection kits**
    - 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.
- 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.

PLNU Policies / Other Academic Issues

CONTENT/TRIGGER 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 1040 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 a cadaver in lab. The experience of being triggered versus intellectually challenged are different. The main difference is that an individual must have experienced trauma to experience being triggered, whereas an intellectual challenge has nothing to do with trauma. If you encounter a topic that is intellectually challenging or triggering 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 Human Anatomy and Physiology and I will support you throughout your learning in this course.

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.

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.

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.

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.

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 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 drop date or, after that date, receive the appropriate grade for their work and participation.

PLNU POLICY ON SEXUAL MISCONDUCT AND DISCRIMINATION

Point Loma Nazarene University 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 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.

Tentative Lecture Schedule

Topic 1	Nervous System	Topic 5	Respiratory System
Topic 2	Endocrine System	Topic 6	Digestive System
Topic 3	Cardiovascular System	Topic 7	Urinary System
Topic 4	Immune System	Topic 8	Diabetes Mellitus

Wk#	Date	Topic & review material	Textbook reading
1	Jan 8 (M)	Sensory Receptors; Spinal Reflexes *nervous system (452-457); neurons (459); spinal cord (509-510)*	chp. 14 pp. 539-542, 577-578
	On Your Own	Categorizations of Sensory Receptors Review Cranial Nerves	
	Jan 10(W)	Autonomic Nervous System *brain divisions (500-508); cranial nerves (522-525); spinal cord (509-510)*	chp. 15 pp. 589-620
	Jan 12 (F)	Chemical Senses: Gustation and Olfaction *cranial nerves (522-525)*	chp. 14 pp. 542-546
2	Jan 15 (M)	**Martin Luther King Day**	
	Jan 17 (W)	Visual System *cranial nerves (522-525); motor units (373-374)*	chp. 14 pp. 552-558
	Jan 19 (F)	Visual System *cranial nerves (522-525)*	chp. 14 pp. 552-558
3	Jan 22 (M)	Ear Anatomy and Function: Hearing *cranial nerves (522-525)*	chp. 14 pp. 546-551
	Jan 24 (W)	Inner Ear Function: Proprioception + Overview of Endocrine System *cranial nerves (522-525)* *exocytosis (90); glands (137-140)*	chp. 14 pp. 546-551 chp. 17 pp. 661-673
	Jan 26 (F)	**EXAM 1** *Covers lecture material, on your own material and cranial nerves 1/11—1/22*	
4	Jan 29 (M)	Overview of Endocrine System *exocytosis (90); glands (137-140)*	chp. 17 pp. 661-673
	Jan 31 (W)	Pituitary and Hypothalamus *diencephalon (504-506)*	chp. 17 pp. 673-680
	Feb 2 (F)	Other Endocrine Glands *Ca homeostasis (217-220); sympathetic nervous system (590-593)*	chp. 17 pp. 680-692
5	Feb 5 (M)	Male Reproductive System *steroids (67-68); pituitary and hypothalamus (673-674)*	chp. 3 pp. 107-121 chp. 27 pp. 1186-1196
	Feb 7 (W)	Female Reproductive System *steroids (67-68); pituitary and hypothalamus (673-674)*	chp. 27 pp. 1196-1212
	Feb 9 (F)	**EXAM 2** *Covers lecture material 1/24—2/7*	
6	Feb 12 (M)	Heart Anatomy and Histology *membrane junctions (132); serous membrane (129-130); skeletal muscle fibers (359-369)*	chp. 19 pp. 751-767
	Feb 14 (W)	Cardiac Cycle & Heart Electrical Properties *action potentials and skeletal muscle (473-475)*	chp. 19 pp. 772-787
	Feb 16 (F)	Regulation of Cardiac Output *autonomic nervous system (589-620)*	chp. 19 pp. 788-799

7	Feb 19 (M)	Blood Vessels *histology (139-140)*	chp. 20 pp. 810-820
	Feb 21 (W)	Blood Flow and Blood Pressure *reflex arc (599)*	chp. 20 pp. 821-830
	Feb 23 (F)	**EXAM 3** *Covers lecture material 2/12—2/21*	

8	Feb 26 (M)	**Free Day**	
	Feb 27 (Tue)	**Lab Practical Exam—all sections**	
	Feb 28 (W)	Blood *osmosis (86-87); bone marrow (194, 197)*	chp. 18 pp. 711-743
	Mar 1 (F)	Blood *bone marrow (194, 197)*	chp. 18 pp. 711-743

	March 4-8	**Spring Break**	

9	Mar 11 (M)	Lymphatic System *osmosis (86-87)*	chp. 20 pp. 830-832 chp. 21 pp. 894-905
	Mar 13 (W)	Innate Immunity *plasma membrane (82-84); phagocytosis (89); skin (164-167); hypothalamus (505-506)*	chp. 21 pp. 905-912
	Mar 15 (F)	Adaptive Immunity *blood grouping & typing (739-743)*	chp. 21 pp. 912-934

10	Mar 18 (M)	Respiratory System Anatomy & Volumes *epithelial tissues & glands (130-140); cartilage (145-146); olfaction (544-545); autonomic nervous system (589-620)*	chp. 22 pp. 947-961, 965-967
	On Your Own	Pulmonary Air Volumes and Capacities	
	Mar 20 (W)	Ventilation *inflammation (910-911); autonomic nervous system (589-620); pH (58-60); reflex arcs (599)*	chp. 22 pp. 961-970
	Mar 24 (F)	**Exam 4** *Covers lecture and on your own material 2/28-3/18*	

11	Mar 25 (M)	Gas Exchange, O_2 transport *hemoglobin (722)*	chp. 22 pp. 970-979
	Mar 27 (W)	CO_2, Respiratory Pathologies *pH (58-60)*	chp. 22 pp. 979-983
	Mar 29 (F)	**Easter Break**	

12	Apr 1 (M)	**Easter Break**	
	Apr 3 (W)	Digestive Processes; GI Anatomy *exocrine & endocrine glands (137-140); serous membranes (129-130)*	chp. 23 pp. 995-1047
	Apr 5 (F)	Accessory Digestive Organs and Digestion *exocrine & endocrine glands (137-140); enzymes (54); pH (58-60); organic molecules (61-74)*;	chp. 23 pp. 995-1047

13	Apr 8 (M)	Large Intestines; GI Pathologies *osmosis and tonicity (86-87)*	chp. 23 pp. 995-1047
	Apr 10 (W)	Urinary System Anatomy *membrane transport (84-90); capillaries (814-816)*	chp. 25 pp. 1109-1125
	Apr 12 (F)	**Exam 5** *Covers lecture material 3/20-4/8*	

14	Apr 15 (M)	Urine Production *osmosis (86-87); capillaries (814-816)*	chp. 25 pp. 1119-1146
	Apr 17 (W)	Regulation of Urine and Body Fluid *posterior pituitary (675-676); adrenal cortex (688-689)*	chp. 25 pp. 1119-1146
	Apr 19 (F)	Regulation of MAP and Urine Volume	chp. 26 pp. 1119-1146

15	Apr 22 (M)	Water Balance; pH Balance *pH (58-60); control of respiration (967-969)*	chp. 26 pp. 1155-1179
	Apr 24 (W)	Pancreas and Diabetes Mellitus *pH (58-60); carbohydrates (62-65); oxygen transport (975-979); control of respiration (967-969); tubular reabsorption (1128-1133)*	chp. 17 pp. 693-697
	Apr 26 (F)	Catch-up and Review Day	

	Apr 29 (M)	**FINAL EXAM 1:30 – 3:30pm**	

Laboratory Schedule for Bio 1040, Spring 2024

Wk#	***Date***	***Lab Exercise***	***Quiz***
1	**Jan 11**	Reflexes, Sensory Receptors, and Cranial Nerves	Quiz 1: *cranial nerves*
2	**Jan 18**	**Optional (extra credit):** visual system activity	*No quiz*
3	**Jan 25**	Special Senses	Quiz 2: *reflexes, sensory receptors, and cranial nerves*
4	**Feb 1**	Circulatory System Anatomy: Sheep Heart Cat Veins	Quiz 3: *special senses + heart anatomy*
5	**Feb 8**	Circulatory System Anatomy: Cat Thoracic Arteries Human Heart Model	Quiz 4: *sheep heart & cat veins*
6	**Feb 15**	Circulatory System Anatomy: Cat Abdominal Arteries Cat Organs Human Cerebral Arteries	*Quiz 5: **14 pt** quiz* *cat thoracic arteries, human heart model & review (sheep heart and cat veins)*
7	**Feb 22**	Circulatory System Anatomy: Review	*Quiz 6: **16 pt** quiz* *cat organs & abdominal arteries, human arteries of neck and head, & review*
8	**Tue, Feb 27**	**Circulatory (Cardiovascular) Practical Exam Tuesday, February 27 for all sections** No lab on Thu	
	Mar. 4-8	**NO LAB—Spring Break**	
9	**Mar 14**	Cardiovascular Physiology	Quiz 7: *cardiovascular physiology*
10	**Mar 21**	Diagnostic Blood Tests	Quiz 8: *cardiovascular physiology + blood tests*
11	**Mar 28**	Respiratory Physiology & Blood Typing	Quiz 9: *blood tests + respiratory physiology & blood typing*
12	**Apr. 4**	**Optional** review sessions for Final Exam	
13	**Apr 11**	Osmosis and Tonicity	Quiz 10: *respiratory physiology & blood typing*
14	**Apr 18**	Urinalysis	Quiz 11: *osmosis and tonicity + urinalysis*
15	**Apr 25**	**Optional** review sessions for Final Exam	

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 toclass 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 materialsduring 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: Alignment with Program Learning Outcomes

The Human Anatomy and Physiology I & II sequence is offered through the Biology Department (Bio 1030 & 1040). Nursing, Applied Health Science, Health and Human Performance, Dietetics, and Nutrition programs require Bio 1030 & 1040, so the vast majority of students taking Bio 1030 & 1040 major in one of those programs. It does count as their Life Sciences FE option if a student were to change into a major that does not require the sequence. The following are one or two PLO(s) from each program that align(s) best with the Learning Outcomes of Bio 1030 & 1040:

Nursing:

- Inquire Faithfully: The student will demonstrate knowledge, skill, and behavior of the evidence-based practice of nursing which integrates growth in reasoning, analysis, decision-making, and the application of theory with the goal of advocating for others and/or self. This includes holistic nursing skills and the nursing process.

Applied Health Science:

- Describe the mechanisms (i.e. metabolic, physiologic, biomechanical, and developmental) by which physical activity aids in health care settings.

Health and Human Performance:

- Describe the mechanisms (i.e. metabolic, physiologic, biomechanical, and developmental) by which physical activity aids in health promotion, performance enhancement and disease prevention.

Dietetics:

- Apply critical thinking skills.

Nutrition:

- Demonstrate critical thinking skills and analytical abilities to identify and solve problems in nutritional science.
- Critically evaluate and interpret research for various life-cycle stages and develop practical approaches to address specific nutrition-related conditions and diseases within the life-span.