

Department of Biological Sciences
BIO 221: Fundamentals of Human Anatomy and Physiology Laboratory I Syllabus
SS I 2022

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COURSE DESCRIPTION

Welcome to the Fundamentals of Human Anatomy and Physiology Laboratory I (BIO 221 or A&P I Lab)! This is a separately graded, one-credit course conducted in conjunction with the BIO 220 Fundamentals of Human Anatomy and Physiology (A&P I); and part of the BIO 220-223 (A&P I and II) sequence. **Concurrent enrollment or prior credit in BIO 220 is required** to take part in BIO 221. In person attendance is required for this course.

The overall goal of the A&P I and II series is to promote the knowledge and understanding of the structures, organization, function, and coordination of the human body from the chemical level, through cells, tissues, and organ systems. The concept of homeostasis, or the maintenance of a dynamic, steady state in the body, will be a recurrent theme in both lectures and labs. Together, the A&P I and II series provides the fundamentals necessary for the understanding of human anatomy and physiology, and it stresses the interrelationships between the structures of the human body and their functions.

Specifically, the A&P I lab focuses on the structures and functions of the following human systems: tissues, integumentary system, muscular system, skeletal system, and central and peripheral nervous systems.

During each lab, you will explore anatomical structures by labeling models and dissected organs, as well as by identifying histological tissues. You will also analyze experiments that illustrate physiological mechanisms you have learned about in lecture. Through these activities, you will be able to reinforce the theoretical knowledge of anatomical and physiological processes, while developing a better understanding of how the scientific method is applied.

Keep in mind

We cannot disregard that many of our current concepts of the body and our understanding of what it means to be "normal" or "healthy" are all socially constructed, even when they are backed by scientific evidence and discussed at the cellular level. Much of the research on what is considered the "norm" in anatomy and physiology might have been obtained from small populations that do not represent the whole diversity of human form and function. Although we will not focus on discussing these issues in this lab, being aware of them will help us push the understanding of human A&P forward in the future.

STUDENT LEARNING OUTCOMES

#	Learning Outcome	Practiced	Assessed
1	Use standard terminology to describe and identify anatomical structures and physiological processes.	Identification of wish list structures in models, histological slides, or dissected organs. Correct use of terminology during experiments.	Quizzes, lab practicals, and lab assignments.
2	Integrate and apply knowledge of human anatomy and physiology to interpret real world scenarios.	Analysis of laboratory experiments and evaluation of pathologies.	Quizzes, and lab assignments.
3	Create properly captioned tables of experimental data.	Analysis of laboratory experiments.	Lab assignments.
4	Create properly captioned figures of experimental data.	Analysis of laboratory experiments.	Homework assignment.
5	Demonstrate proper use of laboratory equipment	Analysis of laboratory experiments.	Laboratory assignments.

MATERIALS FOR THE A&P I AND II SEQUENCE

Note: you will use the same materials for BIO 221 and BIO 223

- Lt access: we use a cloud-based learning interface known as "Lt" for the delivery of lab activities/cloud-based lab manual. It is available for purchase at the [URI bookstore](#) (listed as ADInstruments BIO 221-Content License Access (Rhody Access Program)) for \$37.10. The bookstore will pre-pay for your access, and you MUST PAY the bookstore. **You will receive an invitation from kuraCloud/Lt to join the BIO 221 course before the first day of labs.** If you are new to using Lt, you will be asked to create an account. **Make sure you choose a password that you can remember** as you will have to use it regularly to log in for lab activities. For more info on how to sign into Lt once you have received your e-mail invite, please go to: <https://www.adinstruments.com/support/videos/basics-lt-student>.
- Anatomical Atlas (required): Atlas of Anatomy for Allied Health. Ward. 3rd Edition. Bluedoor Publishing. ISBN: 9781599847184.
- Personal Protective Equipment (PPE): PPEs will be required during all wet, dissection and labs involving synthetic cadavers. You will be sent home if you do not bring the necessary PPEs for lab, so make sure you bring them along on the days indicated by the tentative course schedule.
 - Lab Coat: You will not need it until the last lab of the semester. The bookstore sells disposable lab coats. One lab coat can be used for the whole summer, and then discarded at the end. If you are using a lab coat for any other lab, you **can** use it for the A&P labs too. Just remember: do NOT wash your lab coat at home! The chemicals in the lab should not be mixed with your regular laundry!
 - Safety glasses and gloves: we will have these available for you in the lab, but you are welcome to bring your own.

- **Anatomical Wish Lists:** If you wish to pass this course, you must learn the terms on the Wish Lists! These are available on Brightspace, but you can also get a printout of all the semester's Wish Lists at the Bookstore.
- **Brightspace:** we will be using URI's learning management system (Brightspace) as a home for all things A&P I: Lab PowerPoints, TO DO lists/deadlines, anatomical wish lists, updated schedules, links to pre-labs, grades, etc. We encourage you to visit the site and become familiarized with its resources. Make sure you visit it at least once a week to prepare for lab. To access Brightspace, go to <https://brightspace.uri.edu/>. To log onto Brightspace, you will need to consolidate your URI passwords if you have not done so already. Follow [this link](#) to consolidate your URI passwords (<https://web.uri.edu/brightspace/files/Brightspace-SSO-Login-Guide.pdf>).

EVALUATION FORMAT:

Your final lab grade will be based on:

Cheating and plagiarism assignment (Brightspace)	1 point
Lab safety module (Brightspace)	2 points
17 Lt lessons (2.29 points each, drop your 3 lowest)	32 points
6 Lab check-ups (1 point each)	6 points
4 Lab quizzes (8 points each, drop your lowest)	24 points
2 Lab practicals (15 points each)	30 points
Homework assignment on reaction times lab	5 points
13 Extra credit post lab assignments (+0.19 per assignment)	+2.5 points
TOTAL	100 + 2.5 points

Cheating and plagiarism quiz (1 point)

Complete this Brightspace module and quiz to make sure that 1) you understand our policies regarding cheating and plagiarism, and 2) that you are clear about the consequences of such behavior. You will be expected to complete this activity by the end of the first week of labs.

Lab safety module (2 points)

Complete this Brightspace module and activity to become familiarized with important safety features of our labs. You will be expected to complete this activity by the end of the first week of labs.

Lab lessons on Lt (2.29 points each. Drop your lowest 3= 32 points total)

During the labs, you will complete lessons on Lt with a lab partner. Embedded questions include identification, analysis, case studies, hypotheses, pathologies, etc. These activities will be worth a large portion of the course grade. Lt lab activities will open at the start of a lab period and must be committed by the start of the next lab (i.e. within 24 hours) to receive credit. They are meant to be completed during the lab period.

Lab Checkups (1 point each=6 points total)

During your lab rotations (stations), your TA will visit your station to ask you questions about what you have learned during the lab. Checkup points will be awarded during this

time if your answers are correct. If your performance during the checkup is not strong, you should spend extra lab time reviewing models/dissections.

Brightspace Quizzes (8 points each, drop your lowest grade= 24 points)

Quizzes are a way to make sure you are staying on top of the material, and they also help you prepare for practicals. Since self-quizzing after being exposed to new information helps you move new knowledge into long term memory, you will be allowed to retake quizzes 1, 2, and 4 a total of 3 times while they are open, and you will get to keep your highest grade. Please note: for self-quizzing to help with your study process, **you should not take the quiz with a word bank. You should work from memory.** Quizzes for multi-day taking will be open from Thursday at 8am until Tuesday at 8pm. You will have 15 minutes to complete each quiz attempt (1 minute per question), with a 5 minute grace period. Details of what will be covered on each quiz will be listed on Brightspace under each lab's learning objectives.

There will be 4 quizzes in this course, and **you will be allowed to drop your lowest quiz grade.** We are allowing you to drop a quiz without any questions asked as **we recognize that life happens and sometimes missing a quiz is necessary (because you are running late, feeling under the weather, or other non-URI approved excuse).** If you miss a lab quiz and you do not have a URI approved excuse, you will receive a zero on the quiz. There will be **no makeups for non-university approved excuses.** See [Chapter 8 of University Manual](#) for specific details of what is considered a University approved excuse.

Lab practicals (15 points each, 2 total =30 points)

During the summer session, you will take 2 lab practicals: a midterm and a final. You will be required to identify anatomical structures in models, histological slides, or dissected materials via fill in the blank. There will be a total of 25-30 questions. For dates and material covered on the practical, see the tentative schedule. Note that the material covered in the first practical will not appear on the second practical.

Homework Assignment (5 points)

You will be required to complete an assignment that will include generating figures and figure captions, as well as answering some questions using literature about the reflex and reaction times lab. This assignment will be delivered and submitted via Lt.

The penalties for late work are as follows:

- Late submission on the same day as lab: -10%
- Late submission on the day after lab: -20%
- Late submission 2 - 5 days after lab: -50%
- Work will not be accepted after 6 days

Extra credit post lab assignments on Lt (0.19 points each, 13 total= 2.5 points)

These are Lt activities that will help you review what you learned in lab. Completing them not only will help you practice, but they will also provide you with extra credit points towards your final grade! These will open at the end of lab and be due the subsequent Tuesday at 8AM.

Final Grades will be determined as follows:

Letter Grade	% Score
A	94-100
A-	90-93.5

B+	87-89.5
B	84-86.5
B-	80-83.5
C+	77-79.5
C	74-76.5
C-	70-73.5
D+	67-69.5
D	64-66.5
F	Below 63.5

Classroom protocol

Students are expected to come prepared to each lab, and to:

1. Abide by all lab safety guidelines and procedures. Students violating safety rules may be asked to leave the lab.
2. Remain masked (with nose and mouth covered) regardless of vaccination status for the duration of the campus mask mandate.
3. Remember that gloves are designed to protect you from contamination: **do NOT touch pens, notebooks, phones, and other surfaces with gloves.**
4. Treat the lab equipment with care and respect, as it is a shared resource and replacement is costly. You may only use the equipment, including the computers, as directed by the instructor. It is important that students do not alter the settings of the software, save anything on the computer, or browse the internet for non-lab related items.
5. Keep the models clean for everyone. Remember to remove any labeling stickers before you leave. **Pencils/pens should NEVER be used to point to structures on models.**
6. Leave the lab station in the condition in which you found it. Equipment should be cleaned and/or put away as appropriate, according to the instructor's directions.
7. Dispose of materials according to the instructor's directions. Hazardous waste must be disposed of in the hood in the appropriately labeled container. Your instructor will inform you when a material constitutes hazardous waste.
8. Wear personal protective equipment (gloves, lab coats and goggles) when handling hazardous material, as indicated by the instructor.
9. Minimize use of smart phones, tablets or computers for non-lab related work. If you need to text/need a break, feel free to do it outside of the lab. Students in violation of this rule may be asked to leave the laboratory.
10. **Leave food and drink items** -including chewing gum and water- **outside the lab.** There are no exceptions to this important safety rule. Additionally, students may not use the laboratory wastebaskets to dispose of any food or drink containers or packaging. The EPA can impose fines of \$40,000 per food/wrapper item found in the lab!
11. **Only use closed toed shoes. No open-toed shoes or sandals** are allowed in lab
→ you will be sent home!

Attendance and other class policies

In a laboratory course, **attendance is essential to your success**. An added bonus: lab material will boost your understanding of lecture material. While the anatomical figures in the text/Lt are very helpful, identifying structures on a 2-D figure is not the same as doing so on a 3-D model or through dissection; and nothing can replace the learning that takes

place when experiments are performed in a hands-on fashion. Arrive on time and stay until the end to maximize your learning.

Although weekly attendance is ideal, **we are aware that we are still in the midst of a pandemic**, and that sometimes life circumstances or illnesses may make it difficult for some students to be present in every lab. Because of that, we will allow you to:

- Drop your lowest quiz grade: no excuses needed/ no questions asked.
 - Makeup practical with a 10% deduction for non-University approved excuses. No penalty for University approved excuses or sickness.
 - Drop your lowest 3 Lt assignments: no excuses needed/ no questions asked.
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Students who are experiencing symptoms of illness should not come to class.

Reach out to your instructor to let them know you are not coming to lab and complete the lab's Lt activities remotely if you are feeling well enough to do so. Please stay in your home/room and notify URI Health Services via phone at 401-874-2246. If you are already on campus and start to feel ill, **go home/back to your room and self-isolate**. Notify URI Health Services via phone immediately at 401-874-2246.

If you miss a class or more, it is your responsibility to discuss your attendance with me (ideally in advance). You should also consider withdrawing from a course if you will be absent more than 3 times. **IMPORTANT: students missing >3 labs will not pass the lab.** This includes excused and unexcused absences. Those with excused absences may be eligible for a grade of "I" (Incomplete).

Make-up policy

It is your responsibility to contact the lab instructor/lab manager about excused absences. Make-up quizzes/practicals/assignments are only given with [URI approved excuses](#). Otherwise, please refer to our "no questions asked" drop policy described above.

Academic honesty

Assignments **should be presented individually unless the assignment distinctly indicates that it can be completed as a group**. Academic honesty rules will be fully enforced. The University of Rhode Island has a very strict policy on cheating and plagiarism (<https://web.uri.edu/studentconduct/academic-honesty-procedures/>). If you are caught cheating/plagiarizing, you will receive a ZERO for the assignment and a notation on your permanent school record.

Cheating and plagiarism are serious academic offenses, which are dealt with firmly by the College and University. Scholastic integrity presumes that students are honest in all academic work. **Cheating** is the failure to give credit for work not done independently (i.e., submitting a paper written by someone other than yourself), unauthorized communication during an examination, or the claiming of credit for work not done (i.e., falsifying information). **Plagiarism** is the failure to give credit for another person's written or oral statement, thereby falsely presuming that such work is originally and solely your own. For example, using material, directly or paraphrasing, from published sources (print or electronic) without appropriate citation. Do not forget: **Cite references. Include web addresses, authors, names of articles, date of publication, etc.** Need help? The [URI Writing Center](#) is here to help!

Please note: Students are responsible for being familiar with and adhering to the published “**Community Standards of Behavior: University Policies and Regulations**”, which can be accessed in the [University Student Handbook](#).

Biological Sciences Bereavement Statement

If you are grieving or have experienced the death of a loved one, the Biological Sciences Faculty, Staff, and Teaching Assistants understand and want to support you during this difficult time. If you have questions about missing class or your assignments, we encourage you to reach out to your Dean by [filling out this form](#) so they can notify all your instructors about your circumstances. The University Counseling Center can offer further support (401-874-2288, <https://web.uri.edu/counseling/crisis/>).

Special needs

Our teaching team values diversity and inclusion. **We are committed to a climate of mutual respect and full participation.** Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. **If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, please reach out to me or the lab manager as soon as possible.** Please contact the office of Disability, Access, and Inclusion (DAI), Office of Student Life, 330 Memorial Union, 401-874-2098 to discuss a range of options for removing barriers in the course, including accommodations. If you currently have accommodations provided by the DAI office, please submit them using [this form](#)