

IB 132L - Mammalian Physiology Lab - 2024 Syllabus

Laboratory Section Instructor/Coordinator

Dr. Tamara Mau, tmau@berkeley.edu, Dr. George Brooks, gbrooks@berkeley.edu

Room/Building

3048 Valley Life Science Building (VLSB) - all sections

Graduate Student Instructors For Laboratory Sections

[Section 1](#) (Monday 9-12) & [Section 2](#) (Monday 2-5):

Nicole Cho, nicole.haejin.cho@berkeley.edu

-Office hours: Monday 1-2 PM, 3048 VLSB

[Section 3](#) (Tuesday 2-5) & [Section 6](#) (Thursday 2-5):

Robert Leija, rgleija@berkeley.edu

-Office hours: Tuesday 1:00-2:00, 3048 VLSB

[Section 4](#) (Wednesday 9-12) & [Section 5](#) (Wednesday 2-5):

José Adan Arevalo, josearevalo@berkeley.edu

-Office hours: Wednesday 12:30-1:30 PM

Lab manual:

The Lab Manual is available in two formats. You have the choice of purchasing a hard-copy lab manual or downloading PDF files on a week by week basis from bCourses, whichever fits your learning style and allows you to mark up/highlight the text with key information. For Hard-copy lab manuals, pre-order from Copy Central from 2411 Telegraph Ave, and pick up the next day. It costs ~\$20 + tax. Digital copies of the lab manual will also be available on a week by week basis in bCourses.

Here is the direct link to purchase a hard copy lab manual:

<https://copycentral.redshelf.com/app/ecom/book/2525114/ib-132lmammalian-physiology-lab-2525114-none-cho>

Text Book:

Vander's HUMAN PHYSIOLOGY, any Edition, McGraw Hill

Any edition of Vander's Human Physiology may be used in lab. For pre-labs we will also provide short PDF excerpts of relevant sections from the above textbook, linked within the corresponding Lab Modules.

Overview:

There are a total of eight (8) labs, which serve as a basis for students to conduct two (2) independent investigations. Check out the [lab schedule](#) for details.

For the labs, you will be grouped with 3 other classmates in your section to complete group assignments. You will also work with this group on an independent investigation, which you will design, implement, analyze, write up, and present in a class symposium (the groups will be shuffled for the second half of the semester).

Pre-labs and pre-lab quizzes:

Each week we will assign a pre-lab quiz that draws on materials from the lab manual and background reading (available in the respective lab module on bCourses), due by the start of each lab. Pre-lab quizzes are typically assigned through bCourses, are open book, and have no time limit. The goal of these quizzes is to help you build understanding of the anatomy, vocabulary, physiological principles and mechanisms (how the body system works) of that week's system. Now having studied these core elements, this will help you prepare for doing the lab activities and follow up worksheet questions.

Peer review:

You will review your classmates' written work throughout the semester. This is an integral part of the scientific process and a great skill to develop. Over the course of the semester, you will learn what is useful feedback, develop critical reasoning skills, improve your knowledge of physiology, and benefit from working as a learning community. The bonus is that this benefit is returned to you as improvements in your own scientific writing abilities.

Assignments:

You will complete both individual and group assignments. Please see the lab schedule for due dates - typically at the start of your next lab period. Late assignments will be marked down 10% per day late.

Office Hours:

You are encouraged to attend office hours to discuss/ask questions about the lab material. Lab instructors will hold office hours in the physiology lab (3048 VLSB). *You may attend any of the lab instructor office hours, even if they are not your section instructor.* Times are listed under each GSI above, and on the class door. You may also schedule an office hour with any of the GSIs by appointment if you can't make the posted times.

DSP Students:

In accordance with the University and the Disabled Students Program, this course adheres to the principles of equity and inclusion. Please reach out to your GSI early in the semester, or as soon as you receive your DSP accommodations, so that we can plan any necessary accommodations.

Student Technology Resources:

UC Berkeley provides technology support for undergraduate and graduate students, including [free software](#), [device lending](#), and the [student tech helpdesk](#). The [Student Technology Equity Program \(STEP\)](#) continues to provide need-based, long-term loans for laptops, Wi-Fi hotspots, and other tech hardware to students on a rolling basis throughout the academic year.

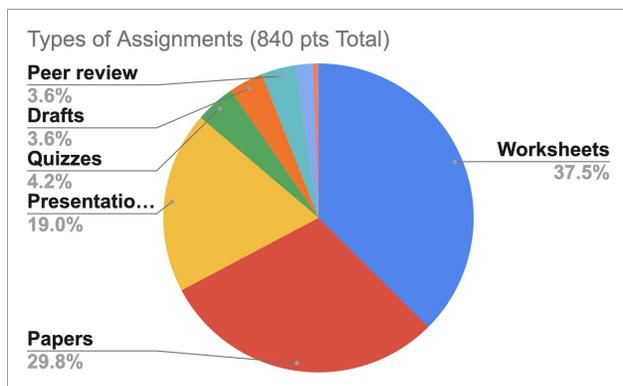
Grading Policies:

Letter grades will be determined at the end of the semester. The cutoffs for letter grades are typically **A**-≥90%, **B**-≥80%, **C**-≥70%, **D**-≥60%, and **F**<60% and may be lowered at the professor's discretion. *Points are earned by completing assignments and participating throughout the semester.* For students on the border of cutoffs faculty will review the student's individual participation and scores and determine which letter grade best represents their achievement in the course. Grades will not be rounded up for the sole purpose of getting to the next cutoff. A+ will be awarded to a limited number of students based on percentage and exceptional work in the class, at the professor's discretion.

Table of letter grade & %

Letter Grade	Percentage
A	93%-100%
A-	90%-92%
B+	87%-89%
B	83%-86%
B-	80%-82%
C+	77%-79%

C	73%-76%
C-	70%-72%
D+	67%-69%
D	63%-66%
D-	60%-62%
F	0%-59%



Assignment Type	Percent
Worksheets	37.5
Papers	29.8
Presentations	19.0
Quizzes	4.2
Drafts	3.6
Peer review	3.6
Participation	1.8
Stats pre-lab	0.6
Total	100%

Disclaimers:

Final grades will be submitted at the latest on Wednesday, May 15th, after which grades can only be changed due to a clerical or procedural error, not on a reassessment of student performance.

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Similarly, you own the copyright in your original papers and exam essays. If we are interested in posting your answers or papers on the course web site, we will ask for your written permission.

IB132L - Schedule of Assignments - Spring 2024

Week	Lab Dates	Lab	Assignment	Pts.	Due**
1	1/15 – 1/19	No Labs			
2	1/22 – 1/25	1. Membrane Diffusion Potentials	Group Worksheet Individual Worksheet Group Ideas (5 min)	20 20 -	Next class Next class Next class
3	1/29 – 2/1	2. Stimulating Skeletal Muscle	Group Worksheet Discuss Group Ideas Group Proposal Draft*	40 - 5	Next class In class Next class
4	2/5 – 2/8	3. Electromyography	Group Worksheet GSI Approval of Group Proposal Final Group Proposal	40 - 10	Next class In class Next class
5	2/12 – 2/15	Independent Investigation 1: Neuromuscular Physiology, day 1	Introduction & Methods Draft* Statistics Pre-lab Assignment	5 5	Next class Next class
6	2/19	HOLIDAY	Monday labs TBD Tu-Th		
6	2/20 – 2/22	4. Statistics	Individual Worksheet Peer Review of Intro. & Methods Results Draft*	35 2 5	Next class Midnight Next class
7	2/26 – 2/29	Independent Investigation 1: Neuromuscular Physiology, day 2	Discussion Draft* Peer review of Results	5 2	Next class Midnight
8	3/4 – 3/7	Symposium #1: Neuromuscular Physiology	Group Presentation Peer Review of Discussion Group Paper	70 2 100	In class Midnight Next class
9	3/11 – 3/14	5. The Frog Heart	Group Worksheet Peer Evaluation Survey	40 10	Next class Next class
INDIE INVESTIGATION PAPER DUE					
10	3/18 – 3/21	6. Pulmonary and Cardiovascular Physiology	Group Worksheet	40	Next class
11	3/25 – 3/29	No Lab	SPRING RECESS		
12	4/1 – 4/4	7. Human Electrocardiography (ECG) and Blood Pressure	Group Worksheet Group & Individual Ideas (5 min) Final Group Proposal	40 - 10	Next class In class Next class
13	4/8 – 4/11	8. Renal Control of Body Fluids	Group Worksheet	40	Next class
14	4/15 – 4/18	Independent Investigation 2: Cardiovascular Physiology, day 1	Individual Intro. & Methods Draft*	5	Next class
15	4/22 – 4/25	Independent Investigation 2: Cardiovascular Physiology, day 2	Individual Results/Discussion Draft* Peer review of Intro. & Methods	5 2	Next class Midnight
16	4/29 – 5/2 RRR week	Symposium #2: Cardiovascular Physiology	Group Presentation Peer Review Results/Discussion Individual Paper Peer evaluation Survey	70 2 150 10	In class Midnight Finals week Next day
17	5/6 – 5/10	No Lab (finals week)	FINAL PAPERS DUE		
*All drafts are worth 5 pts, all or nothing (to be peer evaluated).			Pre-labs (5 pts each x 8 labs, drop 1) Participation (10) + Exit tix (5)	35 15	
**Late assignments are penalized 10% per day.			TOTAL POINTS	840	