

Human Physiology I

BIPN 100, Fall 2023

Tues Thur, 11:00-12:20 pm

York Hall 2722 (ew)

Instructor: **Jim Cooke**

email: j2cooke@ucsd.edu

Office hours: Thur before class (9:45 - 10:45 am); 8025 HSS (Humanities and Social Sciences)

Materials:

- Textbook: Human Physiology by Silverthorn, 8th edition (older versions are okay, but page numbers will likely be different.)

Evaluation:	Pre-lecture quizzes on Canvas	2.5%
	In-class reflections	2.5%
	Midterm 1	30%
	Midterm 2	30%
	Final Exam	35%

Grades will follow the scheme below:

A+	≥ 90%	B-	70-73
A	85 - 89	C+	67-69
A-	80-84	C	64-66
B+	77-79	C-	60-63
B	74-76	D	50-59

No curving, no nonsense. The grade you receive is the grade you earned.

Podcasts: You can access the podcasts for our class at podcast.ucsd.edu. You'll need to log in to access them, but they'll be there after class.

Midterm exams: Are in person, in class on Thursday of Weeks 4 and 7. If you are unable to make one of the midterms (for any reason), you do not need to notify Jim. We have accommodations built into the course for all students that will take care of the points missed (below). HOWEVER: students must have a grade greater than zero on at least ONE of the midterms in order to qualify for the "accommodations for midterm exams". If students miss both midterms they should consider alternatives to remaining enrolled in BIPN 100, as a grade of "F" is inevitable.

Accommodations for midterm exams: IF your final exam score is higher than BOTH midterms, I will make the final exam worth 95% and the midterms worth nothing. See "student D" and "E" examples below.

If only one of your midterm exam scores (eg: midterm 1) are lower than the final exam, I will take the 30% and allot it the following way:

I will take 10% of the lower midterm and place it on the higher midterm (eg: midterm 2) to make that midterm worth 40% of your grade. The remaining 20% will be added to your final exam score, which will be worth 55% of your grade. See “Student B” and “C” below.

Consider the examples of 5 students below:

Student	MT1 score (%)	MT2 score (%)	Final exam score (%)	Then...	Final /95; %
A	74	81	71	MT1 30%; MT2 30%; final exam 35%	71.35 / 95, or 75%
B	65	77	74	MT1 0%; MT2 40%; final exam 55%	71.5 / 95, or 75%
C	84	0	70	MT1 40%; MT2 0%; final exam 55%	72.1 / 95, or 76%
D	55	63	82	MT1 0%; MT2 0%; final exam 95%	77.9 / 95, or 82%
E	0	25	70	MT1 0%; MT2 0%; final exam 95%	66.5 / 95, or 70%

Student A has both midterm scores higher than the final exam, so the distribution is the same as “normal” above. Students B and C have both had one midterm score higher than their final, and one midterm score lower. The lower midterm score is broken up between the higher MT score and the final. Student D’s midterm scores are both lower than their final, so the final accounts for all of their exam scores. Same is true for Student E, who didn’t take MT1 and just showed up to MT2 even though they were not prepared.

Regrade requests: if - after checking the answer key on canvas - you disagree with how a particular midterm question was graded, you can submit a formal regrade request. You must submit a hardcopy to Jim no later than our last class. Your note must refer to the answer provided in the answer key and articulate how your answer is similar to / the same as that provided. Jim will regrade your entire exam, and your score may go up or down. Jim will process regrade requests after final letter grades are calculated, but before they are posted (many folks will get an “A” without the regrades!).

Final exam: is mandatory and in person (senate policy can be found here: <https://senate.ucsd.edu/operating-procedures/educational-policies/courses/epc-policies-on-courses/policy-exams-including-midterms-final-exams-and-religious-accommodations-for-exams/>). Date and time are set by the registrar. Set your alarms.

Submitting your work: I feel like an idiot writing this, but you have to hand in your exams to be graded. You can hand them to an IA or Jim who will then place them in a box at the front of the room.

Pre-lecture quizzes: There will be pre-lecture quizzes at the beginning of class, every class. These quizzes are designed to get us thinking about the upcoming content for that days' class, and are not on material you have seen before. As a result, you will not know the answer for many/most of the questions. That is ok! Literature suggests that being tested on upcoming material helps you understand it better in the long run. Since we just want your best effort, the quizzes are not graded for accuracy/correctness. Each quiz will be on canvas, so please be sure to bring a device from which you can access canvas. Then we will ask you to submit a hard copy form each class with a reflection on what you learned that day. The first pre-lecture quiz is Tuesday of Week 1. Each quiz will take ~10 minutes to complete. I will drop the lowest four (4) scores of the quarter, so if you can't make it one day: don't panic!

Discussion Section: is voluntary. Section begins **week 2**. There's only one and it is remote.

Student-centered classroom: it is important to me that our classroom is space where we are able to engage with the material in a meaningful way. There is substantial literature indicating that using class time to answer questions and discuss the content with peers leads to improved outcomes (see: Menekse et al., 2013; Freeman et al., 2014). For that reason, we will spend some time each class answering questions and discussing the content in small groups.

Community Centers at UCSD: The community centers listed below are a great resource for our students to find some comfort and support. Many of them have spaces that you can use to host (for example) group study sessions. I encourage you to visit them in person (when safe!) And feel free to reach out to them at any point. You do not need to identify as a member of these community centers to use them. They are full of wonderful people who want you to succeed!

Center	Contact	Center	Contact
ASIAN PACIFIC ISLANDER MIDDLE EASTERN DESI AMERICAN PROGRAMS & SERVICES	https://apimeda.ucsd.edu/index.html	LGBT RESOURCE CENTER	https://lgbt.ucsd.edu/
BLACK RESOURCE CENTER	https://brc.ucsd.edu/	RAZA RESOURCE CENTRO	https://raza.ucsd.edu/index.html
CROSS CULTURAL CENTER	https://ccc.ucsd.edu/index.html	WOMEN'S CENTER	https://women.ucsd.edu/
INTERTRIBAL RESOURCE CENTER	https://itrc.ucsd.edu/index.html	STUDENT VETERANS RESOURCE CENTER	https://svrc.ucsd.edu/

Values: I want our classroom to be a place where we are free to explore the material in a manner that is respectful and engaging. We should feel free to make mistakes and ask challenging questions of each other. To that end, I've included a table below that outlines

what students can expect from the teaching team, and what we should be able to expect from them.

	It is expected that students will:	The students can expect that we will:
Honesty	<ul style="list-style-type: none"> demonstrate your knowledge and abilities without outside aids or looking at the answers of others during exams. 	<ul style="list-style-type: none"> evaluate your knowledge of course concepts objectively and honestly. admit if a mistake has been made, and correct the mistake.
Responsibility	<ul style="list-style-type: none"> show up to class on time, ready to think critically about, and engage meaningfully with, course material. 	<ul style="list-style-type: none"> use student-centered approaches in the classroom that have been shown to increase retention of course material, improve grades, and lower failure rates for all students, especially first-generation students and under-represented minorities (Eddy and Hogan, 2014). Start class on time.
Respect	<ul style="list-style-type: none"> use language in the classroom that is inclusive and respectful of myself and your peers. 	<ul style="list-style-type: none"> help facilitate respectful dialogue amongst students. engage with students in a respectful manner.
Fairness	<ul style="list-style-type: none"> contribute meaningfully to group discussions, so as not to take advantage of others. 	<ul style="list-style-type: none"> Create and grade assessments in a manner that is objective and reasonable. Treat all groups equally.
Trustworthiness	<ul style="list-style-type: none"> not post any of our course content (slides, practice problems, pre-reading quiz problems) on the internet 	<ul style="list-style-type: none"> respond to emails in a timely fashion, IF the answer to any question is not in the syllabus
Courage	<ul style="list-style-type: none"> say or do something when you see actions that undermine the above values. 	<ul style="list-style-type: none"> happily receive constructive criticism about our teaching at any time. say or do something when we see actions that undermine the above values.

modified with permission from Dr. Tricia Bertram Gallant.

Please see the UCSD rules on Academic Integrity and Standards (academicintegrity.ucsd.edu). When in doubt, just ask a member of the teaching team.

Teaching Team and Office Hours

Who	email	What	Where	When
Hung-Hsiu (Nancy) Lin	hul009@ucsd.edu	Office hours		
Astha Bisht	abisht@ucsd.edu	Office hours		
Carly Chang	cac007@ucsd.edu	Office hours		
Minjoo Kim	mik003@ucsd.edu	Office hours		

Tentative Schedule BIPN100, Fall 2023

Week	Date	Topic
0 (?)	Sept 28	Introductions; membranes
1	Oct 3 - 5	membrane potentials; reversal potentials; Resting membrane potential
2	Oct 10 - 12	action potentials: channels and their function action potentials: refractory periods and propagation
3	Oct 17 - 19	Synaptic transmission: vesicular release; receptors; termination; EPSPs and IPSPs; post-synaptic summation
4	Oct 24 - 26	Spinal cord organization Sensory systems
4	Oct 26, in class	Midterm #1, up to and including spinal cord organization
5	Oct 31 - Nov 2	Autonomic nervous system Endocrinology: Feedback loops, hormones, receptors, HPA axis
6	Nov 7 - 9	Skeletal muscle: excitation-contraction coupling, cross-bridges and power strokes, recruitment, contraction, metabolism
7	Nov 14 - 16	Smooth muscle contraction and regulation
7	Nov 16, in class	Midterm #2, focusing on Sensory systems to skeletal muscle
8	Nov 21	Cardiac muscle: EC coupling; Action potentials Cardiac muscle: Action potentials of pacemaker cells inotropy, chronotropy, dromotropy
9	Nov 28 - 30	Cardiac muscle: EKGs; Wigger's diagram; P/V loops Blood flow, pressure and resistance Capillary exchange; Regulation of blood pressure
10	Dec 5 - 7	Renal physiology: filtration and reabsorption, secretion, excretion Measuring renal flow rates Endocrine control of renal function
11	Dec 13, 11:30 - 2:30	Final exam: Comprehensive, but more on Weeks 7-10

Reference letters: Medical (and sometimes graduate) schools often ask students to provide a letter of reference from a teacher, asking to report on their experiences with the student in class. I am happy to write a letter for students with whom I have a rapport based on interactions in class and office hours. If I know your name: that is a good sign. I will not engage in 'retroactive get-to-know-you' sessions after a class has ended.