

Human Physiology I

BIPN 100, Fall 2021

Mon Wed Fri, 2:00-2:50 pm

GH 242

Instructor: **Dr. James Cooke**

Office: 3080C York Hall

email: j2cooke@ucsd.edu (if you email me, please include “BIPN 100” in the subject)

Office hours: TBD

Materials:

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

*Your digital course materials are provided by the UC San Diego Bookstore through Canvas and are free for the first two weeks of classes. After two weeks, your student account will be charged a special reduced price unless you opt out. If you decide to opt out you must complete the process by **October 9th, 2021** and you will be responsible for sourcing the materials elsewhere.*

For any questions about billing please contact textbooks@ucsd.edu.

For any questions about using your eBook please reference [RedShelf Solve](#).

To opt-out:

- Click the RedShelf link in Canvas
- Click View Course Materials
- Scroll down to the gray opt-out button and follow the prompts to opt out.

*You will have until Saturday, **October 9th** to complete this process and you will be responsible for getting access to the materials elsewhere.*

Evaluation:	Pre-lecture assignments (due Mondays at noon)	11%
	Surveys	4%
	Midterm 1	25%
	Midterm 2	25%
	Final Exam	35%

Accommodations for exams:

IF your final exam score is higher than BOTH midterms, I will make the final exam worth 85% and the midterms worth nothing. See “student D” and “E” examples below.

If one of your midterm exam scores (eg: midterm 1) are lower than the final exam, I will take the 25% and allot it the following way:

If your other midterm score (eg: midterm 2) is higher than your final exam score, I will take 10% of the lower midterm and place it on the higher midterm (eg: midterm 2) to make that

midterm worth 35% of your grade. The remaining 15% will be added to your final exam score, which will be worth 50% of your grade. See “Student B” and “C” below.

If the other midterm score is also lower than your final exam score, then both midterms are lower than the final and the final is worth 85%.

Consider the examples of 5 students below:

Student	MT1 score (%)	MT2 score (%)	Final exam score (%)	Then...	Final /85; %
A	74	81	71	MT1 25%; MT2 25%; final exam 35%	63.6 / 85, or 75%
B	65	77	74	MT1 0%; MT2 35%; final exam 50%	63.95 / 85, or 75%
C	84	0	70	MT1 35%; MT2 0%; final exam 50%	64.4 / 85, or 76%
D	55	63	82	MT1 0%; MT2 0%; final exam 85%	69.7 / 85, or 82%
E	0	0	70	MT1 0%; MT2 0%; final exam 85%	59.5 / 85, 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 hasn’t even taken a midterm at all!

Participation: There will be no (zero) points awarded for in-class participation this quarter.

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 asap after class. Can’t make it to class? No problem - watch the podcast. But I strongly recommend that you take in-class exercises (worksheets, questions, etc) seriously.

Pre-lecture assignments: There will be pre-lecture assignments each week (due on Monday at noon). Most of these assignments are a way for us to get an idea of your knowledge about the content for the upcoming week. You are not expected to know the correct answer to (most of) them, but we want you to give a genuine effort without consulting your textbook (or the internet ;)). You will be graded based on your effort, not correctness. The questions themselves are almost entirely definition-based. The first assignment is due Monday September 27 (**Monday of Week 1**)! The lowest assignment score of the quarter will be dropped.

Surveys: there will be one survey at the beginning of the year asking about your levels of anxiety on tests; one each after the midterms to see how they went; and one at the end of the course (1% each).

Discussion Sections: are voluntary. You can attend any section you like. However, in the event that the room is at (or over) capacity, preference will be given to students registered for that particular section. Sections are scheduled to be in person, at the location and time provided by the registrar. The current model is that you will practice old exam questions and get any help you may need from your IAs. Sections will begin **week 2**.

Midterm exams: Are in person at the time and location provided by the registrar. Can't make it to the midterm (for any reason)? No problem, we've accommodated for that (see "Accommodations for exams" above).

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. The teaching team and I are obligated to report all incidents of cheating to the Academic Integrity Office.

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

Teaching Team, Sections and Office Hours

Who	email	What	Where	When
Jessica Roginsky	jroginsk@ucsd.edu	Discussion Section	Center Hall 220 Mande B-104	Fri 1 - 1:50 Fri 3 - 3:50
		Office hours		
Nicole Marcus	namarcus@ucsd.edu	Discussion Section	Center 220 Sequo 148	Fri 8 - 8:50 am Fri 1 - 1:50
		Office hours		
Michelle Chow	mwchow@ucsd.edu	Discussion Section	Center 217A	Mon 5 - 5:50
		Office hours		
Sindhu Daggupati	sdaggupa@ucsd.edu	Discussion Section	HSS 2150	Fri 11 - noon
		Office hours		
Anisha Jain	anjain@ucsd.edu	Discussion Section	Center 207	Mon 8 - 8:50 am
		Office hours		
Kelly Lam	k3lam@ucsd.edu	Discussion Section	Center 217A	Mon 6 - 6:50
		Office hours		
Nicholas Pacia	npacia@ucsd.edu	Discussion Section	Center 217A	Mon 7 - 7:50 pm
		Office hours		
George Wen	gwen@ucsd.edu	Discussion Section	Center 217A	Mon 9 - 9:50 am
		Office hours		

Tentative Schedule BIPN100, Fall 2021

Week	Date	Topic
1	Sept 27 - Oct 1	membranes and membrane transport Resting membrane potential
2	Oct 4 - 8	action potentials: channels and their function action potentials: refractory periods and propagation
3	Oct 11 - 15	Synaptic transmission: vesicular release; receptors; termination; EPSPs and IPSPs; post-synaptic summation
4	Oct 18 - 22	Spinal cord organization Sensory systems
4	Oct 20, 8:00-10:00 pm	Midterm #1, up to Spinal cord organization
5	Oct 25 - 29	Autonomic nervous system Endocrinology: Feedback loops, hormones, receptors, HPA axis
6	Nov 1 - 5	Skeletal muscle: excitation-contraction coupling, cross-bridges and power strokes, recruitment, contraction, metabolism
7	Nov 8 - 12	Smooth muscle contraction and regulation Cardiac muscle: EC coupling; Action potentials
7	Nov 10, 8:00-10:00 pm	Midterm #2, focusing on Sensory systems to skeletal muscle
8	Nov 15 - 19	Cardiac muscle: Action potentials of pacemaker cells inotropy, chronotropy, dromotropy Cardiac muscle: EKGs; Wigger's diagram; P/V loops
9	Nov 22 - 26	Blood flow, pressure and resistance Capillary exchange; Regulation of blood pressure Renal physiology: filtration and reabsorption
10	Nov 29 - Dec 3	Renal physiology: secretion, excretion Measuring renal flow rates Endocrine control of renal function
11	Dec 8, 3:00 - 6:00 pm	Final exam: Comprehensive, but more on Weeks 7-10