Human Physiology I

BIPN 100, Winter 2024

Tues Thur, 2:30-3:50 pm
Peterson 108

Instructor: **Jim Cooke**
email: j2cooke@ucsd.edu
Office hours: TBD

Materials:

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

Evaluation:

Pre-lecture quizzes	5%
Biweekly tests:	
Highest test score	30%
Second-highest test score	20%
Third-highest test score	10%
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. If you are not able to make it to class and watch the podcasts, I strongly recommend that you take the in-class exercises (worksheets, questions, etc) seriously.

Biweekly tests: Frequent testing (with feedback) can lead to robust learning gains, among other benefits. Therefore, we will have multiple tests this quarter. Tests will be in person, in class on Thursday of Weeks 3, 5, 7 and 9. There are 4 tests in total. We will drop the lowest test score of the quarter, so you can miss one test for any reason and it will not count against you - you do not need to let Jim know. Need to miss a second test? You'll need a doctor's note.

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. Date and time are set by the registrar. There are no alternative dates/times for the final. Can't make it to the final? You need to submit evidence (ie: doctor's note) to Jim asap. If you have coursework of a passing grade, you will get a grade of "incomplete" and take the exam some time during the following quarter. If your course work is not of passing quality, you are not eligible for a grade of "incomplete", and will instead receive a zero on the final exam.

Additional accommodation: if you have taken (ie: received a grade greater than zero) three of the tests AND your final exam grade is higher than your third lowest test score, we will toss your lowest two test scores and make the final exam count for the additional 10%. In this case, your top test would be worth 30%, your second-highest test worth 20%, and your final exam worth 45%.

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 each week (due on Sunday at 11:59 pm). Each week, I will assign some reading from your textbook and there will be a quiz that goes along with the pre-reading. Both the assigned reading and quiz will be located in the "pre-lecture" folder for that particular week on our Canvas site. Quizzes will be posted by midweek the preceding week. You can take each quiz twice, and I will record the higher of the two grades. I also drop the lowest TWO quiz scores of the quarter. The first assignment is due Sunday Jan 14 (**Sunday leading into Week 2**)!

Discussion Sections: are voluntary and remote, apparently. You can attend any section you like. Sections will begin **week 2.** During section, our team of super-awesome IAs will lead you through some old exam questions to help you prepare for the tests in our class.

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	• demonstrate your knowledge and abilities without outside aids or looking at the answers of others during exams.	• evaluate your knowledge of course concepts objectively and honestly. • admit if a mistake has been made, and correct the mistake.
Responsibility	• show up to class on time, ready to think critically about, and engage meaningfully with, course material.	• 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	• use language in the classroom that is inclusive and respectful of myself and your peers.	• help facilitate respectful dialogue amongst students. • engage with students in a respectful manner.
Fairness	• contribute meaningfully to group discussions, so as not to take advantage of others.	• Create and grade assessments in a manner that is objective and reasonable. • Treat all groups equally.

Trustworthiness	• not post any of our course content (slides, practice problems, pre-reading quiz problems) on the internet	• respond to emails in a timely fashion, **IF** the answer to any question is not in the syllabus
Courage	• say or do something when you see actions that undermine the above values.	• 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.

Teaching Team, Sections and Office Hours

Who	email	What	Where	When
Hung-Hsiu (Nancy) Lin	hul009@ucsd.edu	Discussion section		
		Office hours		
Dharani Rathore	drathore@ucsd.edu	Discussion section		
		Office hours		
Justin Robinson	jkrobins@ucsd.edu	Discussion section		
		Office hours		

Tentative Schedule BIPN100, Winter 2024

Week	Date	Topic
1	Jan 9 - 11	membranes and membrane transport Resting membrane potential
2	Jan 16 - 18	action potentials: channels and their function action potentials: refractory periods and propagation
3	Jan 23 - 25	Synaptic transmission: vesicular release; receptors; EPSPs and IPSPs; post-synaptic summation
3	**Jan 25, in class**	**Test #1, covering material from Weeks 1 and 2**
4	Jan 30 - Feb 1	Spinal cord organization Sensory systems
5	Feb 6 - 8	Autonomic nervous system Endocrinology: Feedback loops, hormones, receptors, HPA axis
5	**Feb 8, in class**	**Test #2, covering material from Weeks 3 and 4**
6	Feb 13 - 15	Skeletal muscle: excitation-contraction coupling; cross-bridges and power strokes; recruitment; contraction; metabolism
7	Feb 20 - 22	Smooth muscle contraction and regulation
7	**Feb 23, in class**	**Test #3, covering material from Weeks 5 and 6**
8	Feb 27 - Mar 1	Cardiac muscle: EC coupling; Action potentials Cardiac muscle: Action potentials of pacemaker cells inotropy, chronotropy, dromotropy
9	Mar 5 - 7	Cardiac muscle: EKGs; Wigger's diagram; P/V loops Blood flow, pressure and resistance Capillary exchange; Regulation of blood pressure Renal physiology: filtration and reabsorption
9	**March 7, in class**	**Test #4, covering material from Weeks 7 and 8**
10	Mar 12 - 14	Renal physiology: secretion, excretion Measuring renal flow rates Endocrine control of renal function
11	**Mar 21, 3:00 - 6:00 pm**	**Final exam: Comprehensive**