

# Human Physiology I

## BIPN 100, Winter 2021

Mon Wed Fri, 9:00-9:50 pm

Instructor: **Dr. James Cooke**  
Office: 3080C York Hall (pre-pandemic)  
email: [j2cooke@ucsd.edu](mailto:j2cooke@ucsd.edu) (if you email me, please include “BIPN 100” in the subject)  
Office hours: Wed from 9-10 via zoom (link in the calendar of our canvas site).

### 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 **January 16th, 2021** and you will be responsible for sourcing the materials elsewhere.*

*For any questions about billing please contact [textbooks@ucsd.edu](mailto:textbooks@ucsd.edu).*

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

<b>Evaluation:</b>	Syllabus quiz (due Fri Jan 15 at 9:00 am)	1%
	pre-lecture quizzes (due Sundays at 11:59pm)	4%
	Bi-weekly tests, <b>starting Week 2!</b>	65%
	Final Exam	30%

### Online for winter quarter 2021

To provide maximal flexibility, I will be posting lectures as soon as they are ready, which is to say that our lectures will be posted “asynchronously” to our actual lecture times.

**Syllabus quiz:** there is a small quiz on canvas whose subject is ‘the syllabus’. The goal of this quiz is to help students understand some of the course policies. Students must complete the syllabus quiz by Friday January 15 at 9:00.

**Pre-lecture quizzes:** Each week (starting prior to week 2), 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” module for that particular week on our Canvas site. I will post the quizzes by midday Wed, and they will be due at 11:59 pm on Sunday. You can take each quiz twice, and I will record the higher of the two grades. Please note: the quiz questions are often multiple answer, and canvas has this weird thing that they dock points for wrong answers (I cannot change this setting).

Late submissions will receive a score of zero for that quiz. Taking the quiz a second time for fun after the submission date counts as late. The lowest quiz score of the quarter will be dropped.

**Discussion Sections:** are not mandatory. The discussion sections will all occur at the same time as they were originally planned. The current model is that the IAs will host discussion sections using Zoom, where you will practice old exam questions and get any help you may need. Sections will begin **week 2**.

### **Bi-weekly tests**

We will have tests every other Friday during our scheduled class time (9:00 - 10:00), **starting Week 2** (see the schedule below), for a total of four tests. I will drop the lowest test score of the quarter. This means you will have three tests count toward the 65% of your year, making each test worth 21.66% of your year. Some technical points about tests:

- Tests will be available on Canvas at 9:00 am in both pdf and Word form. Students may complete their tests using either (eg: filling in the Word doc, or using the pdf to write in your answers)
- Students will have 60 minutes to complete and upload their tests for all tests except test #1, in which they will have **30** minutes. The reason for this is that Test #1 will have half the amount of questions (it covers half the amount of material).
- Students will upload their completed test as a single pdf file to Gradescope.
- Submissions to Gradescope will be the responsibility of the students. This includes complete test answers, as well as answers that are legible. If we can't read it, we can't grade it.
- Students will have to assign page numbers for each question on their tests.
- All tests will be open-book (ie: notes and textbook are allowed).
- Practice downloading/uploading will be available prior to the first test.
- The lowest test score of the quarter will be dropped. This is done to accommodate students who might be sick, have a family emergency, etc.. There are no other accommodations for tests.

<b>Test #</b>	<b>Test date (Thursday of...)</b>	<b>Material covered</b>
1	Week 2 (Jan 15)	Week 1
2	Week 4. (Jan 29)	Weeks 2 and 3
3	Week 6 (Feb 12)	Weeks 4 and 5
4	Week 8. (Feb 26)	Weeks 6 and 7

**Regrades:** requests can be made via Gradescope. Students will refer to the answer key provided on canvas in their regrade requests. Jim will examine re-grade requests **after final grades** have been calculated IF: you don't already have a grade of "A" in the course; OR changing your grade to the one you (think you) deserve would actually change your letter grade. These re-grades will be processed before your final letter grade is submitted to the registrar's office. Regrade requests must be made by the last day of class (March 12) at 5:00 pm.

**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.

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

modified with permission from Dr. Tricia Bertram Gallant.

Please see the UCSD rules on Academic Integrity and Standards ([academicintegrity.ucsd.edu](http://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.

**Accommodations:** I am happy to make any/all accommodations possible to help students succeed in this course. Please let me know as soon as possible about any accommodations you may require.

**Grades** will follow the scheme below:

A+	90+	B-	70-73
A	85 - 90	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
Sunny Luo	<a href="mailto:y6luo@ucsd.edu">y6luo@ucsd.edu</a>	Discussion Section	Online! See calendar on canvas for link	Tues 4 - 5 Tues 5 - 6
		Office hours	Online!	
Mona Roshan	<a href="mailto:mroshan@ucsd.edu">mroshan@ucsd.edu</a>	Discussion Section	Online!	Wed 6 - 7 Wed 8 - 9 pm
		Office hours	Online!	Wed 7 - 8 pm
Julie Martinez	<a href="mailto:jum045@ucsd.edu">jum045@ucsd.edu</a>	Discussion Section	Online!	Wed 2 - 3
		Office hours	Online!	
Shiv Patel	<a href="mailto:shp093@ucsd.edu">shp093@ucsd.edu</a>	Discussion Section	Online!	Mon noon - 1
		Office hours	Online!	
Leya Ledvin	<a href="mailto:lledvin@ucsd.edu">lledvin@ucsd.edu</a>	Discussion Section	Online!	Mon 11 - noon
		Office hours	Online!	Wed 6 - 7 pm
Tri Nguyen	<a href="mailto:tbn004@ucsd.edu">tbn004@ucsd.edu</a>	Discussion Section	Online!	Tues 3 - 4
		Office hours	Online!	Tues 4 - 5
Aisha Nur	<a href="mailto:aknur@ucsd.edu">aknur@ucsd.edu</a>	Discussion Section	Online!	Wed 7 - 8
		Office hours	Online!	
Brandon Poff	<a href="mailto:bpoff@ucsd.edu">bpoff@ucsd.edu</a>	Discussion Section	Online!	Mon 1 - 2
		Office hours	Online!	

Who	email	What	Where	When
		Office hours	Online!	Tues 6:30 - 7:30 p
Clara Wong	<a href="mailto:cjw031@ucsd.edu">cjw031@ucsd.edu</a>	Discussion Section	Online!	Tues 6 - 7 pm
		Office hours	Online!	
Reema Temor	<a href="mailto:rtemor@ucsd.edu">rtemor@ucsd.edu</a>	Discussion section	Online!	Mon 10 - 11 am
		Office hours	Online!	

## Tentative Schedule BIPN100, Winter 2021

Week	Date	Topic
1	Jan 4 - 8	membranes and membrane transport Resting membrane potential
2	Jan 11 - 15	action potentials: channels and their function action potentials: refractory periods and propagation
<b>2</b>	<b>Jan 15, 9:00-9:30 am</b>	<b>Test #1, covering week 1 material</b>
3	Jan 20 - 22	Synaptic transmission: vesicular release; receptors; termination; EPSPs and IPSPs; post-synaptic summation
4	Jan 25 - 29	Spinal cord organization Sensory systems
<b>4</b>	<b>Jan 29, 9:00-10:00 am</b>	<b>Test #2, covering weeks 2 and 3 material</b>
5	Feb 1 - 5	Autonomic nervous system Endocrinology: Feedback loops, hormones, receptors, HPA axis
6	Feb 8 - 12	Skeletal muscle: excitation-contraction coupling, cross-bridges and power strokes, recruitment, contraction, metabolism
<b>6</b>	<b>Feb 12, 9:00-10:00 am</b>	<b>Test #3, covering weeks 4 and 5 material</b>
7	Feb 17 - 19	Smooth muscle contraction and regulation Cardiac muscle: EC coupling; Action potentials
8	Feb 22 - 26	Cardiac muscle: Action potentials of pacemaker cells inotropy, chronotropy, dromotropy Cardiac muscle: EKGs; Wigger's diagram; P/V loops
<b>8</b>	<b>Feb 26, 9:00-10:00 am</b>	<b>Test #4, covering weeks 6 and 7 material</b>
9	Mar 1 - 5	Blood flow, pressure and resistance Capillary exchange; Regulation of blood pressure Renal physiology: filtration and reabsorption
10	Mar 8 - 12	Renal physiology: secretion, excretion Measuring renal flow rates Endocrine control of renal function
<b>11</b>	<b>Mar 17, 8:00 -11:00</b>	<b>Final exam: Comprehensive, but more on Weeks 8-10</b>



170886

University of California, San Diego  
Consent to Act as a Research Subject

Investigating the Impact of Pedagogical Choices on University Student Learning and Engagement

***Who is conducting the study, why you have been asked to participate, how you were selected, and what is the approximate number of participants in the study?***

Gabriele Wienhausen, Director of the Teaching and Learning Commons, together with her education research colleagues is conducting a research study to find out more about how pedagogical choices affect student learning and experience in the classroom. You have been asked to participate in this study because you are a student in a class that is being studied or used as a control. There will be approximately 500,000 participants in this study.

***Why is this study being done?***

The purpose of this study is to create knowledge that has the potential to improve the learning and educational experience of students at UC San Diego and beyond.

***What will happen to you in this study and which procedures are standard of care and which are experimental?***

If you agree to be in this study, the following will happen:

- Your data from this class including grades, homework and exam submissions, and survey responses will be included in the analysis to determine the effectiveness of the pedagogical techniques used in this course compared to other similar courses.

***How much time will each study procedure take, what is your total time commitment, and how long will the study last?***

Your participation involves only agreeing to let us use your data in our analysis. It will require no time on your part above the time you put into this course without agreeing to the study.

***What risks are associated with this study?***

Participation in this study may involve some added risks or discomforts. These include the following:

1. A potential for the loss of confidentiality. We will not share your personally identifying data with people outside our research team. Data will only be kept in anonymized form for research purposes. Course data will not be used for this research study until after final grades have been posted and will be rendered confidential by removing any identifiers before analysis. Your instructor will not know whether or not you are participating in this study until after final grades have been posted. Data from students who opt out of the study will be removed prior to data analysis. Research records will be kept confidential to the extent allowed by law. Research records may be reviewed by the UCSD Institutional Review Board.

Since this is an investigational study, there may be some unknown risks that are currently unforeseeable. You will be informed of any significant new findings.

***What are the alternatives to participating in this study?***

The alternatives to participation in this study are not to participate. If you choose to opt-out of participating in this research study, we will exclude your data from analysis. Whether you participate will have no impact on your experience or grade in the associated class as the professor will not know who is or is not participating in the study until after final grades are assigned.

***What benefits can be reasonably expected?***

There is no direct benefit to you for participating in the study. The investigator, however, may learn more about how to improve student learning, and society may benefit from this knowledge.

***Can you choose to not participate or withdraw from the study without penalty or loss of benefits?***

Participation in research is entirely voluntary. You may refuse to participate or withdraw or refuse to answer specific questions in an interview or on a questionnaire at any time without penalty or loss of benefits to which you are entitled. If you decide that you no longer wish to continue in this study before the end of the quarter, simply respond to the online opt-out form here: <https://goo.gl/forms/JSBRjEmkES6W6xYc2>. If you decide to opt out after the quarter has ended, you must contact Laurel Nelson ([laureln@ucsd.edu](mailto:laureln@ucsd.edu)) and give the quarter and the course from which you would like your data withdrawn.

You will be told if any important new information is found during the course of this study that may affect your wanting to continue.

***Can you be withdrawn from the study without your consent?***

The PI may remove you from the study without your consent if the PI feels it is in your best interest or the best interest of the study. You may also be withdrawn from the study if you do not follow the instructions given you by the study personnel.

***Will you be compensated for participating in this study?***

You will not be compensated for participating in this study.

***Are there any costs associated with participating in this study?***

There will be no cost to you for participating in this study.

***Who can you call if you have questions?***

Gabriele Wienhausen and/or her colleague has explained this study to you and answered your questions. If you have other questions or research-related problems,





you may reach Gabriele Wienhausen at [gwienhausen@ucsd.edu](mailto:gwienhausen@ucsd.edu) or (858) 534-3958.

You may call the Human Research Protections Program Office at 858-246-HRPP (858-246- 4777) to inquire about your rights as a research subject or to report research-related problems.

***Your Consent***

If you consent to participate in this study, no action is needed. If you DO NOT consent to participate in this study, or you choose to opt-out at any time during the quarter, please submit this form online at [https://docs.google.com/forms/d/e/1FAIpQLScs0Cznypp4SxQJOsFMgP9nFDjJ0zzYPIsBWsiP3\\_wiWkdjaA/viewform](https://docs.google.com/forms/d/e/1FAIpQLScs0Cznypp4SxQJOsFMgP9nFDjJ0zzYPIsBWsiP3_wiWkdjaA/viewform). Your instructor will not have access to the list of students who opted out until after grades are posted. Note that you must separately opt-out of the study for each course involved in this study.

I am not 18 years or older or I do not consent to anonymized research use of my data from the course specified below.

Course name: \_\_\_\_\_

Course section number: \_\_\_\_\_

Term: \_\_\_\_\_

Name: \_\_\_\_\_

PID: \_\_\_\_\_

