

Human Physiology I

BIPN 100, Spring 2016

Mon, Wed, Fri, 4:00-4:50 pm, GH 242

Instructor: **Dr. James Cooke**

Office: 4070A York Hall

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

Office hours: TBA

Required Materials:

- Textbook: Human Physiology by Silverthorn, 7th edition (older versions are okay, but page numbers will likely be different)
- iClicker: it is your responsibility to register your clicker on our TED website.

| | | |
|--------------------|--|-----|
| Evaluation: | Pre-Reading Quizzes | 5% |
| | In class participation (clickers, worksheets, ...) | 5% |
| | Midterm 1 | 20% |
| | Midterm 2 | 20% |
| | Final Exam | 50% |

TED website for BIPN 100:

- You can access your pre-reading assignments and quizzes.
- You can also access your grades.
- You can access lecture notes. I will do my best to post lecture notes before class, and we will definitely be posting the lecture slides after class is over. So for each lecture, there will be a "pre" and "post" set of notes.

Academic Honesty

Plagiarism or any form of cheating is not tolerated. Cheating can include (but is not limited to):

- 1) Taking an exam on someone else's behalf.
- 2) Copying someone else's exam.
- 3) Using your phone or other electronic device during an exam.
- 4) Smuggling course related information into an exam.
- 5) Sending an email that contains fabricated statements (i.e. "I'm sick" when you're not)
- 6) Using someone else's clicker.

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

Policy on missed midterm

If you miss a midterm with a valid excuse (ie: illness with doc's note), I'll take the relevant questions on the final (from same material of the missing midterm) and make them worth the missing 20%.

Pre-reading quizzes: 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-reading" folder for that particular week on our TED site. I will (try to) post the quizzes by midday Friday, and they will be due at noon on Monday. You can take each quiz twice, and I will record the higher of the two grades.

Discussion Sections: you will have practice exam questions during discussion sections. You will write an exam question from a previous quarter, then get into groups and answer the question with the aid of your peers. If you want to attend a section other than the one to which you are registered, priority will be given to students registered in each section.

Midterm Group Exams: we are going to try group exams for a portion of our midterms. Here's how it works: you write a midterm and hand it in (pretty typical so far!). You will get the opportunity to re-write one of the questions from the midterm a second time (I will take the higher of the two scores). You hand that in. You then get into a group of 3 to 5 people. In your groups, you will then answer another one of the midterm questions that you wrote (they are typically 1 page long, and take ~10 minutes each) a second time. If your group score is higher than your individual score for that question, I will make the group score worth 25% of that question and the individual score worth 75% for that question. For example: if you got a 7/10 the first time, and a 10/10 with your group, your final score for that question will be: $(7 \times 0.75) + (10 \times 0.25) = 7.75/10$.

If your group score is lower than your individual score, I will toss the group score and your individual score will be the only grade that is counted.

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 |

Please do not ask for a bump in grade because you are 1% below a cut-off. Five percent of your grade is participation, and five percent are from pre-reading quizzes that can be taken twice.

Teaching Team, Sections and Office Hours

| Who | | What | Where | When |
|----------------------|-------------------|-------------|-------|------|
| Richard Loi | rqlroi@ucsd.edu | Section | | |
| | | Office hour | | |
| Dallas Mindo-Panusis | dpanusis@ucsd.edu | Section | | |
| | | Office hour | | |
| Nik Afanasiev | nafanasi@ucsd.edu | Section | | |
| | | Office hour | | |
| Danielle Cheek | dcheek@ucsd.edu | Section | | |
| | | Office hour | | |
| Danielle Damico | ddamico@ucsd.edu | Section | | |
| | | Office hour | | |
| Ryan Spence | rspence@ucsd.edu | Section | | |
| | | Office hour | | |
| Shanel Xian | scxian@ucsd.edu | Section | | |
| | | Office hour | | |

Tentative Schedule BIPN100, Spring 2016

| Date | Topic |
|--------------------------------|--|
| Mar 28 - Apr 1 | Intro, membranes and membrane transport Resting membrane potentials and permeability |
| Apr 4 - 8 | action potentials: channels and their function action potentials: refractory periods and propagation |
| Apr 11 - 15 | Synaptic transmission organization of the nervous system Somatic NS: Motor and sensory pathways |
| Apr 18 - 22 | Spinal cord organization Sensory systems |
| Apr 20 8:00 to 10:00 PM | Midterm 1 in PETER 108 |
| Apr 25 - 29 | Autonomic nervous system Endocrinology: Feedback loops, hormones, receptors, HPA axis |
| May 2 - 6 | Skeletal muscle: excitation-contraction coupling, cross-bridges and power strokes, recruitment, contraction. |
| May 9 - 13 | Skeletal muscle: metabolism Smooth muscle contraction and regulation Cardiac muscle: excitation-contraction coupling |
| May 16 - 20 | Cardiac muscle: Action potentials of pacemaker and contractile cells Cardiac muscle: EKGs and Wigger's diagram |
| May 11 8:00 to 10:00 PM | Midterm 2 in PETER 108 |
| May 23 - 27 | P/V loops inotropy, chronotropy, dromotropy Blood flow, pressure and resistance Regulation of blood pressure |
| May 30 - June 3 | Capillary exchange Measuring renal flow rates Clearance and absorption Endocrine control of renal function |
| 8:00 to 11:00 am | Final exam: Comprehensive |