

# Comparative Physiology

## BIPN 106, Winter 2016

Mon, Wed and Fri, 9:00-9:50 am, Solis 104

Instructor: **Dr. James Cooke**

Office: 3205 Natural Sciences Building, for now...

email: [j2cooke@ucsd.edu](mailto:j2cooke@ucsd.edu) (if you email me, please include "BIPN 106" in the subject)

Office hours: Monday 10:00(ish) to 11:00(ish). Room 3209 NSB.

### Required Materials:

- Textbook: Animal Physiology by Eckert, 5th ed (older versions are okay, but page numbers will likely be different)
- iClicker: it is your responsibility to register your clicker on our TED website.

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

### Teaching Team, Sections and Office Hours

Who		What	Where	When
Steven Horton	<a href="mailto:smhorton@ucsd.edu">smhorton@ucsd.edu</a>	Section	Centre 203	Tues 6:00-7:00 p
		Section	Centre 218	The 7:00-8:00 p
		Office hour	open lounge above Peet's	Thurs 6:00 - 7:00 pm
Lindsay DeRight Goldasich	<a href="mailto:lderight@ucsd.edu">lderight@ucsd.edu</a>	Section	HSS 1305	Mon noon - 1:00
		Section	Centre 222	Wed 1:00 -2:00
		Section	CSB 005	Fri 4:00-5:00
		Office hour	1165 Muir Bio	Fri 10:00 - 11:00

### 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%.

**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](http://academicintegrity.ucsd.edu)). When in doubt, just ask a member of the teaching team.

**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 11:59 pm on Monday night. You can take each quiz twice, and I will record the higher of the two grades.

**Midterm Group Exams:** our class will be using group exams as a way to both assess and increase our knowledge of the course material. In brief: you will write a midterm exam and hand it in. You will then get into groups and re-write some of the original exam questions in a group setting, which you will then hand in. If your group exam is higher than your individual exam score, then the group exam will be worth 15% and the individual will be worth 85%. If your group exam score is lower than your individual exam score, I will toss the group exam score and only the individual exam score will count.

**Grades** will follow the scheme below:

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.

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

## Tentative Schedule BIPN106, Winter 2016

Date	Topic
Jan 4, 6, 8	Introduction; phylogeny; environmental pressures circulatory systems: open vs closed
Jan 11, 13, 15	circulatory systems: different systems; different pumps circulatory systems: regulation gas exchange: gas transfer principles
Jan 20, 22	gas exchange: blood-gas transport gas exchange: organs; counter-current vs cross-current flow
Jan 25, 27, 29	gas exchange: carrying O <sub>2</sub> and CO <sub>2</sub> gas exchange: special challenges - altitude and diving
<b>THURS Jan 28 7:00 to 9:00 PM</b>	<b>Midterm 1 in Solis 104</b>
Feb 1, 3, 5	osmoregulation: aquatic and terrestrial environmental pressures osmoregulation: urine formation
Feb 8, 10, 12	osmoregulation regulation: kidney function osmoregulation: other mechanisms of regulating ions and H <sub>2</sub> O
Feb 17, 19	osmoregulation: acid - base regulation osmoregulation: nitrogenous waste
Feb 22, 24, 26	Digestion: strategies for obtaining nutrients Digestion: absorption of nutrients
<b>THURS Feb 25 7:00 to 9:00 PM</b>	<b>Midterm 2 in Solis 104</b>
Feb 29(!), Mar 2, 4	Thermoregulation: environmental differences Thermoregulation: heat transfer
March 7, 9, 11	Thermoregulation: endotherms vs ectotherms Thermoregulation: adaptations to special circumstances
<b>Wed March 16 8:00 to 11:00 am</b>	<b>Final exam: Comprehensive</b>

**Discussion Sections:** are voluntary. I will be providing practice problems, which will be used for the IAs to guide students through some of the course material.