

COMPARATIVE PHYSIOLOGY

BIPN 106 Summer 2023

INSTRUCTOR:

Catalina Reyes, MSc., Ph.D.

Email: creyesgonzalez@ucsd.edu

Office: H&SS 1145A

Office hours: Monday 9 -10:50 AM

Wednesday 8:30-9:30 AM

Zoom meeting ID: [936 3087 0631](#) also found on the Canvas course calendar

CANVAS: coursefinder.ucsd.edu

Pre-recorded lectures, lecture slides, announcement, quizzes and grades will be posted here.

LECTURES:

IMPORTANT - On the first day of classes for summer session II, **Monday August 7**, we will meet over Zoom at 9 AM to go over the logistics of the course. This will be the only **SYNCHRONOUS** class.

Since most students that filled out the Google form chose the ASYNCHRONOUS lecture format, pre-recorded lectures will be posted in the Media Gallery folder on Canvas. I will hold office hours (**Mondays 9-10:50 AM and Wednesdays 8:30-9:30 AM**).

IMPORTANT – Lecture attendance

Active participation is important for your learning. Since lectures are asynchronous, attendance will be taken during office hours. To get full participation points you will need to attend 4 out of the 10 office hour time periods (Monday or Wednesday) for at least 30 minutes. These are the original lecture times so you shouldn't have any issues attending it.

Participation points will be **2%** of your grade.

LECTURE SLIDES will be available on CANVAS under the Module – Lecture slides. Use the lecture slides to take notes as you listen to the lecture recordings.

LECTURE RECORDINGS will be available on CANVAS under Playlists in **Media Gallery**.

DISCUSSION SECTIONS:

During the discussion sections you will have the opportunity to discuss lecture material, exams and go over problem sets with your IA.

Discussion sections will take place at the scheduled time on Zoom. Attendance is not mandatory, but if you attend 4 out of the 5 discussion sections you will get **1% BONUS in the final grade**.

Section A01 – Wednesday 12-1:50 PM - <https://ucsd.zoom.us/j/91397182418> also found on the Canvas course calendar.

INSTRUCTIONAL ASSISTANT: Suthanth Kashyapa (sskashya@ucsd.edu)

OBJECTIVES FOR THE COURSE:

The purpose of this course is to learn how different physiological adaptations allow animals to live and succeed in challenging environments. Students will learn anatomy and physiological processes of wide range of invertebrates and vertebrates. Students will learn how to interpret graphs and figures and will be able to apply the knowledge acquired to solve physiological problems.

To succeed in this course, you must do the following:

1. Work hard. Go over the material every week.
2. Learn the terminology and concepts. There are two components important when learning physiology: memory and understanding. You will have to memorize anatomical and physiological terms, but to succeed you must understand the concepts and physiological processes and learn to critically think about physiology.
3. Take your own notes on the lecture slides as you watch the lecture recording.
4. Attend office hours regularly.
5. Attend your discussion sections each week.

READINGS

OPTIONAL Textbook: Eckert Animal Physiology, 5th edition, Randall, Burggren and French

There are recommended readings from the text for each topic. The text is **NOT** required, and the quizzes will only include the material seen in class.

EXAMS AND GRADING:

All quizzes and final exam will be given ONLINE through Canvas and we will proctor using Zoom. You must have your **VIDEO ON** at all times during your quizzes.

QUIZZES

Quizzes will take place every **Wednesday at 9:30 AM, starting on Week 2**. See the Syllabus and Schedule for dates. The quizzes will be based on material for that section of the course.

Final Exam/Quiz 5: Friday, September 8, 9 AM

The lowest quiz will be dropped. There are no make-up quizzes or exams. If you miss a quiz, you will be required to provide official documentation of an unavoidable emergency. Without the documentation, you will receive a failing grade for the quiz.

Any questions concerning exams will be addressed during office hours or discussion sections, not by email. Requests for re-grading questions of the quizzes must be submitted to the Instructional Assistant.

ASSIGNMENTS

Assignments will be posted on Canvas by 9 AM on Friday, August 11 and September 1. To access the Assignment go to the Quiz Tab on the left panel of your Canvas page. Please use Chrome and do not click submit until you have answered all questions.

Assignments are **timed** (allotted time will vary) and will close by **9 AM** on Friday of the following week. (see dates below and on the schedule).

Assignment	Release date	Due date
Assignment 1	Friday August 11	Friday August 18 – 9 AM
Assignment 2	Friday September 1	Friday September 8 – 9 AM

GRADING

- Quizzes 4 out of 5 quizzes worth 20% each – Total 80% of the grade
- Assignment 1 - 8%
- Assignment 2 – 10%
- Office hour attendance (4 out of 10 office hour periods for at least 30 minutes) - 2%

GRADE SCALE

The final grade will follow the table below, but will likely be adjusted or **CURVED**.

Letter Grade	Percent grade
A+	98-100
A	92-97
A-	90-91
B+	88-89
B	82-87
B-	80-81
C+	78-79
C	72-77
C-	70-71
D	60-69
F	<60

COURSE POLICIES

REGRADES

Occasionally errors or ambiguities occur in an exam question. If you have a specific issue with a question, please email Catalina within 24 hours of completing the quiz. The IA and I will evaluate the question and we could either not change anything (if we think the questions is fair) or we could remove the question from the exam for the whole class.

If you have a specific concern about how an answer to an exam question was graded email the IA, include BIPN 106 in the subject. You must do this within **2 days** of the quiz being graded and available for viewing. Late regrades **WILL NOT** be accepted.

UCSD Policy on Academic Integrity Academic Misconduct Policy.

Students suspected of Academic Integrity violations on quizzes or exams will be invited to a Zoom follow-up meetings where they will be asked to (in real time, on video) justify their answers (before the graded quizzes or solutions are released). If the instructor is not convinced during the meeting, or the student refuses to participate, the quiz or exam will be submitted for Academic Integrity violations.

Students are expected to do their own work, as outlined in the UCSD Policy on Academic Integrity. Academic misconduct is broadly defined as any prohibited and dishonest means to receive course credit, a higher grade, or avoid a lower grade. Academic misconduct misrepresents your knowledge and abilities, which undermines the instructor's ability to determine how well you are doing in the course. Please do not risk your future by cheating

For information on academic integrity at UCSD visit the following website
<http://senate.ucsd.edu/manual/appendices/app2.htm>

All academic work you submit for this course should be your own new original work. Quizzes are **CLOSED BOOK** and you must complete these quizzes without access to other resources or the person seating next to you.

During the quizzes you must attend the Zoom meeting and have your video on throughout the completion of the quiz.

IMPORTANT – Please do not post any class lectures, documents, problem sets, assignments, or exam questions on public websites. These materials are my intellectual property, and you must not make them public without my authorization.

STUDENTS WITH ACCOMODATIONS

If you have a disability that might affect attendance or performance in the class, contact your IA or instructor as soon as possible, so that we can work with you in providing reasonable accommodations. To ensure proper support, anyone who requests accommodations due to a disability must get a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD). To contact OSD, use the student portal <https://academicaffairs.ucsd.edu/sso/osdsp/home>, or email the Biology OSD liaison at bioosd@ucsd.edu, or call 858-534-4382.

Date	Topic	Reading 5 th ed
Week 1 (Aug 7-11) Lectures 1-5	<ul style="list-style-type: none"> • ONLY SYNCHRONOUS CLASS - Introduction • Homeostasis 	7-11
	<ul style="list-style-type: none"> • Cardiovascular. Circulatory function • How are materials distributed? (diffusion, convection) 	473-481
	<ul style="list-style-type: none"> • Open and closed circulatory systems • Vertebrate hearts and heart function 	488-494
	<ul style="list-style-type: none"> • Heart rate, SV, CO, BP • Hemodynamics 	482-485
	<ul style="list-style-type: none"> • Regulation of cardiovascular function and blood 	
Week 2 (Aug 14-18) Lectures 6-10	<ul style="list-style-type: none"> • Respiration: oxygen and CO₂ content in air and water • Gas laws 	525-529
	<ul style="list-style-type: none"> • Transport of respiratory gases in the blood and respiratory pigments 	525-539
	<ul style="list-style-type: none"> • Respiratory surfaces and gas exchange with the environment 	545-562
	<ul style="list-style-type: none"> • Regulation of respiration 	564-568
Wednesday Aug 16	QUIZ 1 – Homeostasis, cardiovascular	
Friday August 18	Assignment 1 due by 9 AM	
Week 3 (Aug 21-25) Lectures 11-13	<ul style="list-style-type: none"> • High altitude • Diving • pH regulation 	568-571 539-544
Wednesday Aug 23	QUIZ 2 - Respirationj	
Week 4 (Aug 28- Sep 1) Lectures 14-17	<ul style="list-style-type: none"> • Body fluids: regulating osmolarity and water in the body 	579-593
	<ul style="list-style-type: none"> • Body fluids: regulating volume 	
	<ul style="list-style-type: none"> • Body fluids: the vertebrate kidney 	593-614
	<ul style="list-style-type: none"> • Body fluids: other vertebrate regulatory mechanisms 	615-621
	<ul style="list-style-type: none"> • Body fluids: invertebrate mechanisms • Handling nitrogenous wastes 	621-624 624-628
Wednesday Aug 30	QUIZ 3	
Week 5 (Sept 4-8) Lectures 18-20	<ul style="list-style-type: none"> • Temperature: environmental diversity 	699-707
	<ul style="list-style-type: none"> • Temperature: regulation vs. conforming 	707-725
	<ul style="list-style-type: none"> • Temperature: adaptations to special circumstances 	730-735
	<ul style="list-style-type: none"> • Using energy: BMR and the effects of body size 	667-681
Wednesday Sept 6	QUIZ 4	
Friday Sept 8	Assignment 2 due by 9 AM	
Friday Sept. 8	FINAL EXAM/Quiz 5 at 9 AM	

HELPFUL RESOURCES AT UCSD

If you are feeling overwhelmed, experiencing anxiety, depression or other condition please let us know as soon as possible. We can support you and give you some guidance on what resources are available at UCSD to ensure you can succeed during difficult times.

Academic Support	Psychology & Physical Safety*	Basic Needs
<p>OASIS (http://oasis.ucsd.edu) The Office of Academic Support & Instructional Services (OASIS) offers math and science tutorial Programs for everyone. They also have services and scholarships for those of you who have overcome significant obstacles to become successful (like being first in your families to go to college).</p> <p>Teaching + Learning Commons (http://commons.ucsd.edu) The Teaching + Learning Commons offers tutoring, consultations, and workshops on learning strategies as well as assistance with writing in the Writing + Critical Expression Hub.</p> <p>Educational Technology (https://digitalllearning.ucsd.edu/learners/learning-remotely/tools.html) EdTech has resources for understanding educational technologies like Zoom and Canvas.</p>	<p>CAPS (http://caps.ucsd.edu) CAPS offers free, confidential counseling. They can help with urgent crises, such as an assault or thoughts of self-harm. They can also talk if you are worried about a friend or classmate.</p> <p>CARE at SARC (http://care.ucsd.edu) Campus Advocacy, Resources, and Education at the Sexual Assault Resource Center (CARE at SARC) offers support for those of you who have experienced sexual violence or violence from a partner. They have free confidential counseling, including on nights and weekends.</p>	<p>Triton Food Pantry (http://basicneeds.ucsd.edu/triton-food-pantry/) The Triton Food Pantry discreetly offers food for current UCSD students to ensure each of you has enough nutrition to get through the day.</p> <p>The Hub (https://basicneeds.ucsd.edu) The Hub serves those of you who have trouble accessing basic needs, including food or stable housing, or who have financial emergencies. They can help you connect with a variety of on- and off-campus programs, including the Food Pantry, CalFresh, emergency loans, emergency housing, or changes to your financial aid.</p>