Animal Physiology Winter 2019 Syllabus

I. Course Description

Animal Physiology is the study of how animals "work": the functions of tissues, organs, and organ systems in multicellular animals. This course will introduce physiological mechanisms and principles across the animal kingdom, with a focus on the model organisms routinely used in biological research. Although many animals face similar challenges, such as maintaining a stable pH and ion concentration in their tissues, obtaining energy and oxygen, and sensing their environment, they have evolved different ways of tackling these challenges.

The course consists of two lectures and two labs per week. Lectures will include opportunities to practice newly learned skills and discuss course material in the form of clicker questions and small group exercises. As such, you are encouraged to at least skim the assigned reading before lecture. To encourage you to do so, two-question reading quizzes will be administered through Canvas. You are expected to prepare for labs by reading the lab protocols in detail before attending the lab.

There will be three exams, two midterms and one final, covering the material from the lecture portion of the class. All three exams will be based on both multiple choice and short answer questions. Only one of the two midterm exams will contribute to your final grade, and the final exam will be cumulative.

You will write multiple assignments based on the lab sessions, and there will be a final project in which you will design, perform, analyze and write about an experiment examining the physiology of one of the animal models used in the lab. For more details see lab syllabus.

II. Instructors

Dr. Hannah Bishop
email: hibishop@uoregon.edu
office: Huestis 130
Office Hours: Tuesday 3:00 pm – 4:00 pm
…and by appointment

Dr. Lisa Wagner
email: lwagner8@uoregon.edu
office: Huestis 130
Office Hours: Monday 12:00 pm – 1:00 pm
…and by appointment

Denver Ncube
email: denvern@uoregon.edu
office: Huestis 130
Office Hours: Friday 2:00 – 3:00 pm
…and by appointment

Conor O'Sullivan
email: conoro@uoregon.edu
office: Huestis 130
Office Hours: Thursday 11:00 am – 12:00 pm
…and by appointment

III. Course Details

a. Required Text

Assigned readings are from the 5th edition of Eckert Animal Physiology by Randall et al. It is a fairly old publication, and therefore should be easy to find used. There are a few copies available in the science library on reserve, and several in the Biology office.

b. Required Supplies

iClicker (available at the Duck Store).

c. Assignments

Reading Assignment "Quizzes" (100 pts):

There will be 17 short "quizzes" due before each lecture (except for the first lecture). Immediately after each lecture, quizzes for the next lecture will be made available to you on Canvas. Quizzes are due immediately prior to the relevant lecture (by 11:59 am Tues or Thurs). They will cover the assigned readings that are required prior to each class, and will be administered and automatically graded through Canvas. **They are "open book" but must be completed individually.** The purpose of these assignments is to give you an opportunity to practice the range of questions you will encounter on the exams, and to have you practice scanning text for relevant information. Each of the 17 assignments is worth 8 pts for a total of 136 pts available. Since these assignments are scored out of a max of 100 pts, this allows you to miss some assignments or questions. There will be no makeup assignments.

iClicker Participation (100 pts):

You can earn up to 100 pts for lecture participation, which will be scored using iClickers. Each click counts as 3 pts toward participation. Responses will not be scored for correctness. However, you may see similar questions on exams, so it is a good idea to pay attention to iClicker questions. There will be at least 45 opportunities for clicker participation, which will be spread through each lecture and across classes. Responding to at least 34 of ≥45 clicker questions will earn full credit (100 max pts available) which allows for any missed sessions, iClicker failure, etc.

Homework Assignments (200 pts):

Weekly homework assignments are worth 200 pts of your final grade. Homework will be due Sunday by midnight, and there will be no homework assignment on exam weeks (weeks 4 and 8). Each assignment is worth 25 points.

Exams (600 pts):

There will be two midterm exams and one cumulative final exam, though only one of the two midterm exams will contribute to your grade. Each exam will have multiple choice and short answer questions and will be worth 300 pts. No makeup exams will be given for any reason. In the unforeseen event that a midterm is missed, the missed exam will count as the dropped exam grade. The final cannot be missed or rescheduled, so **please check your calendars and exam schedules now for potential conflicts.**

d. Grading

Category	Points	Point Breakdown
Reading "quizzes"	100	17 2-MCQ "quizzes" worth 8 pts each, 100 pt max
Participation (iClicker)	100	≥45 iClicker opportunities at 3 pts each, 100 pt max
Homework	200	25 pts per homework, 8 total
Exams	600	2 exams, 300 pts each
Total	**1000**	

Grade	Points
A+	970-1000
A	930-969
A-	900-929
B+	870-899
B	830-869
B-	800-829
C+	770-799
C	730-769
C-	700-729
D+	670-699
D	600-669
F	0-599

Grades for BI356 will be based upon lecture (50%) and lab (50%). The lab portion will be based upon the assignments in lab, see lab syllabus.

e. Classroom Etiquette

Please arrive on time -- lectures and labs begin promptly. **Laptops and other electronic devices are not to be used unless explicitly permitted.** Please do not leave early as this is disruptive to everyone. If you have an unusual circumstance and must leave early, please inform the instructor, and sit near the exit so your leaving is not disruptive. Finally, please be respectful of your fellow students.

f. Email Etiquette

Please include "Bi 356" in the subject line, so your email can be attended to in time. We will try to answer your email in a timely manner; however, we do not always check our email in the evenings or during weekends.

g. Policy on Missed Assignments

All assignments must be turned in on time.

h. Plagiarism and Cheating

Academic misconduct will not be tolerated. You are expected to do your own work on all assignments and exams. Using another student's iClicker during class constitutes cheating. You are encouraged to discuss ideas with other students and study together, but do not copy someone else's work or allow anyone to copy yours. All students are expected to conform to the Student Conduct Code. Please note that Instructors are required to file a written report of any academic misconduct with the Director of Student Conduct and Community Standards.

IV. Class Schedule and Reading Assignments

Week	Date	Topic and Reading Assignments
1	**1)** 8 Jan	**Course Overview and Introduction, Homeostasis** (Eckert Ch 1; p3-15)
	2) 10 Jan	**Transport/osmosis** (Eckert Ch 4; p79-110)
2	**3)** 15 Jan	**Neuronal function** (Eckert Ch 5)
	4) 17 Jan	**Synapses** (Eckert Ch 6; p167-198)
3	**5)** 22 Jan	**Sensory systems: Vision** (Eckert Ch 7; p215-230)
	6) 24 Jan	**Sensory systems: Vision** (Eckert Ch 7; p253-271)
4	**7)** 29 Jan	**Organization of neuronal circuits: Visual system** (Eckert Ch 11; p440-454)
	31 Jan	**MIDTERM I**
5	**8)** 5 Feb	**Movement and muscle** (Eckert Ch 10; p361-375; p379-389)
	9) 7 Feb	**Movement and muscle** (Eckert Ch 10; p389-411)
6	**10)** 12 Feb	**Circulation** (Eckert Ch 12; p373-395)
	11) 14 Feb	**Circulation** (Eckert Ch 12; p499-510, p512-521)
7	**12)** 19 Feb	**Respiration and gas exchange** (Eckert Ch 13; p525-544)
	13) 21 Feb	**Respiration and gas exchange** (Eckert Ch 13; p545-562)
8	26 Feb	**MIDTERM II**
	14) 28 Feb	**Feeding, digestion and nutrient uptake** (Eckert Ch 15; p637-665)
9	**15)** 5 Mar	**Energy metabolism** (Eckert Ch 16; TBD)
	16) 7 Mar	**Thermoregulation** (Eckert Ch 17; TBD)
10	**17)** 12 Mar	**Osmoregulation and excretion** (Eckert Ch 14; TBD)
	18) 14 Mar	**Osmoregulation and excretion; Review** (Eckert Ch 14; TBD)
11	20 Mar	**CUMULATIVE FINAL EXAM 8 AM**