

Cellular Basis of Animal Behavior

BIO/PSYCH 5080

Syllabus

Credits: 3

Time: Tues/Thurs 2:30 – 3:45PM

Place: 1151 Old Main

Instructor: Dr. Justin Kenney

Biological Sciences Building, room 2117

Ph: 313-577-5943

Preferred method of contact: within Canvas

Office hours: By appointments scheduled in Canvas. Please sign up for time slots within Canvas, if you do not sign-up at least an hour ahead of time I may not be in my office.

Course description

The goal of this course is to enhance your understanding of nervous system function by studying the mechanisms by which animals have evolved to solve various problems posed by their environment. This field is called “Neuroethology”. A key goal of neuroethology is to identify the neural basis of behavior occurring in naturalistic conditions. You will gain an appreciation for the wide variety of behaviors exhibited by various animals and the neural mechanisms that underlie those behaviors. This is an exciting field that sits at the nexus of biology and psychology and yields unique insight into the variety of ways nervous systems can function.

Recommended textbook: *Behavioral Neurobiology* by Thomas J. Carew. Sinauer Press, 2001.

This is an older textbook that you should be able to find an inexpensive copy of online. Much of the material in the class will be based on the textbook. This will be supplemented with other papers that will be posted in Canvas.

Readings: Readings from the scientific literature and elsewhere will be uploaded to Canvas prior to the beginning of each section. You should read these prior to class. You are expected to be familiar with the posted readings, but the emphasis will be on topics covered in class.

Course website: On Canvas.

Readings, lecture slides, and homework will be posted on Canvas.

Grades will be calculated on the following scale:

Grade	Percent	Grade	Percent
A	94-100	C	73-76
A-	90-93	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	<59

Grading

Exam 1	2/6	100 pts
Exam 2	3/19	100 pts
Exam 3	4/23	100 pts
Homework	Various dates	100 pts (1 x 12 + 8 x 11 pts)
Total		400 pts

For final scores, I will replace your lowest exam score with the average of all three exam scores.

I do not offer extra credit.

Exams

There will be three midterm exams, each worth 100pts.

Students with any exam scheduling conflicts must notify Dr. Kenney by January 22nd, 2020. There will not be any alternate make-up exams other than for University-sanctioned obligations, such as WSU team athletic competitions or University recognized religious holidays. No make-up exams will be given unless notified in writing by this date.

Reasonable exceptions will be granted in cases of illness, which will require notification prior to the exam and must be followed up with an original signed note from a physician.

Exam policies

- Exams may include multiple choice, fill-in-the-blank, problem solving, or short answers.
- All exams will be closed book and held in class.
- For exams you will only require a pencil. If a calculator is necessary, I will tell you ahead of time. Phones are **not** allowed and must be turned off.
- If you leave during an exam, you will not be allowed back in
- Late arriving students will not be allowed after the first student finishes the exam and leaves.

Exam grades will be posted on Canvas as soon as possible following the exam.

Homework

I consider homework an important part of the learning experience. Engaging with the material on your own time and terms will enrich your knowledge of the material. This will also serve to help you identify gaps in your knowledge that you can address through further study or seek help through office hours.

Although you are welcome to work together on homework problems, I would caution against simply copying answers. Doing so will hinder your understanding of the material and is likely to result in poor exam scores.

There will be homework assignments due throughout the semester (tentative due dates below, due dates will also be listed within Canvas). Homework will consist of online quizzes within Canvas. You will only have one opportunity to answer the questions correctly, so please take your time. You will be able to see your scores and correct answers **after** the due date has passed.

The quizzes in canvas may not submit automatically, so please make sure to click submit!

Late homework will automatically be reduced by 50% and can only be submitted up to one day late.

Grade disputes

- Students will have one (1) week after the grading of an exam or an assignment to challenge the grade. Any challenges require a written note providing an explanation.
- Failure to challenge the grade within this period indicates a willingness to accept the grade as is.
- The challenge should consist of a written description of why the answer is correct based on other published material that you cite.

Cheating

- A strict zero-tolerance policy for cheating will be enforced.
- Anyone caught cheating on an exam will receive a score of 0 (zero) for that portion of the grade.
- Students found to be cheating during an exam (using a “cheat sheet”, looking at another’s paper, or allowing another to look at yours), will receive a zero for that test with no opportunity to drop or replace that score.
- A second episode of cheating will result in a grade of F for the course and may also result in initiation of university disciplinary action.

Technical Support

WSU Computing and Information Technology (C&IT): For free help with campus computing, including email, Canvas, or your AccessID call (313) 577-4778, see computing.wayne.edu/ or email csthel@wayne.edu. Unfortunately, I am not trained to provide technical computing support.

Special considerations for students with disabilities

You need to register documented disabilities with Student Disability Services for coordination of your academic accommodations. They need a week or more to arrange accommodations, so make an appointment early. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TTY: telecommunication device for the deaf; phone for hearing impaired students only). Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your needs. Please refer to the SDS website for further information about students with disabilities and the services we provide for faculty and students: studentdisability.wayne.edu/

Class

I do not offer participation points. However, attending class is essential for earning good marks. The emphasis on homework and exams will be what is covered in class. Posted lecture slides alone will not be enough to reconstruct classroom discussions.

I plan to post lecture slides in pdf format on Canvas prior to class. I would urge you to print them out to take notes and follow along the lectures.

Please turn off your cell phones while in class. If you absolutely need to have your phone on because of a potential emergency, please put it on vibrate and sit near the door so you can excuse yourself if necessary (i.e. to answer the phone or text). Phones not only distract you but also those around you.

Any issues that arise that are not in the syllabus will be dealt with according to University policies.

Unexpected closures

If the University is officially closed on an exam day, the exam will be held on the next regularly scheduled class day. Closure of the University is announced by the following mechanisms: 1) University Newsline (313) 577-5345 2) WSU Homepage (www.wayne.edu) 3) WSU Pipeline (www.pipeline.wayne.edu) 4) WDET-FM (Public Radio 101.9) 5) by other local radio and television stations.

Tentative schedule

Section	Dates	Topics	Book Chapter
1	T Jan 7 TH Jan 9 T Jan 14	<u>Introduction to neuroethology & basic neuronal function</u> • HW #1 due Mon. Jan 20 @5PM in Canvas	Chapter 1
2	Th Jan 16 T Jan 21 Th Jan 23	<u>Echolocation in bats</u> • HW #2 due Mon. Jan 27 @ 5PM in Canvas	Chapter 2
3	T Jan 28 Th Jan 30 T Feb 4	<u>Prey location in owls</u> • HW #3 due Mon. Feb 3 @ 5PM in Canvas	Chapter 3
	Th Feb 6	EXAM #1 (Sections 1-3)	
4	T Feb 11 Th Feb 13 T Feb 18	<u>Reflex regulation in crayfish</u> • HW #4 due Mon. Feb 24 @ 5PM in Canvas	Chapter 7
5	Th Feb 20 T Feb 25 Th Feb 27	<u>Song Learning in Birds</u> • HW #5 due Mon. Mar 2 @ 5PM in Canvas	Chapter 8
6	T Mar 3 Th Mar 5 T Mar 17	<u>Foraging in honeybees</u> • HW #6 due Mon. Mar 16 @ 5PM in Canvas	Chapter 9
	Th Mar 19	EXAM #2 (Sections 4-6)	
7	T Mar 24 Th Mar 26	<u>Molecular basis of learning in Aplysia</u> • HW #7 due Mon. Mar 30 @ 5PM in Canvas	Chapter 10
8	T Mar 31 Th Apr 2	<u>Genetics of learning in <i>Drosophila</i></u> • HW #8 due Mon. Apr 6 @ 5PM in Canvas	Chapter 11
9	T Apr 7 Th Apr 9 T Apr 14	<u>Spatial navigation in rats</u> • HW #9 due Mon. Apr 13 @ 5PM in Canvas	Chapter 12
	Th Apr 16	Flex day in case of weather cancellations	
	Th Apr 23	Exam #3 (Sections 7-9) exam starts at 2:45PM same room	

This schedule is **tentative** and may be altered (including homework due dates). It is your responsibility to attend class and check Canvas announcements to be aware of any changes.