



San José State University
Department of Psychology
PSYC/BIO 129-01,
Neuroscience (49671/48085), Fall 2024

Instructor:	Jill Citron, PhD
Email:	jill.citron@sjsu.edu
Drop-in Hours:	Monday & Wednesday, 12:00 pm – 1:00 pm, and by appointment.
Office Location:	DMH 352 & Zoom link is available on Canvas
Class Days/Time:	Monday & Wednesday, 9:00 am – 10:15 am
Classroom Location:	DMH 208
Prerequisites:	Either: (a) PSYC 30 and 3 units of BIO, or 9 units of BIO You must <u>complete</u> the prerequisites before taking this course.

CANVAS and MYSJSU Messaging

Copies of some course materials such as the syllabus, major assignment handouts, etc. may be found on Canvas. Messages to the class may be sent through Canvas or MYSJSU.

Course Description

Neuroscience is defined as the study of the nervous system. This field comprises several related disciplines including: Neuroanatomy, neurochemistry, neuropharmacology, neurophysiology, neuroimmunology, and neuropathology. The united efforts of such disciplines have produced a better understanding of the function of the nervous system and its relationship to behavior. This course will examine each of these sub-disciplines in detail, with a focus on both the healthy nervous system and disorders of the nervous system including depression, Alzheimer's disease, and schizophrenia. We will examine specific topics and research methods in depth.

Communication with instructor

Use email, drop-in hours, or class time to ask questions. I respond to email M-F 9:00-5:00. Please allow 1-2 days for a response. When emailing, include a relevant title and our course number (129). If you have extensive questions about an assignment or class work, please come to office hours. Do not hesitate to reach out to me during office hours, after class, or via email. I welcome your questions.

Course Goals and Student Learning Outcomes (CLOs)

Upon successful completion of this course, Psych/Bio 129 students will be able to:

CLO1: *Students will be able to* -identify, describe, and communicate the major concepts related to basic neuroanatomy, neurophysiology, and psychopharmacology. Assessment for this will be in Quiz #1, Midterm #1, Quiz #2, and Midterm #2

CLO2: *Students will be able to* -describe and communicate the major transduction mechanisms, neuroanatomical pathways and theoretical perspectives associated with visual and nonvisual sensory systems, motivational systems and learning processes. This CLO will be assessed in Quizzes #2 & #3, and Midterms #1 & #2.

CLO3: *Students will be able to* -identify, describe, and communicate experimental approaches and associated empirical findings for various methodological approaches in neuroscience. This CLO will be assessed in Quizzes #2 & #3, and Midterms #2 & #3.

CLO4: *Students will be able to* think critically and creatively about neuroscience to address behavioral and mental health processes. This CLO will be assessed in the final exam.

CLO5: *Students will be able to* apply neuroscience principles to individual, interpersonal, and group behavior and mental health issues. This CLO will be assessed in the final exam.

CLO6: Review empirical findings from the scientific literature concerning a topic relevant to the course, allowing them to communicate complex topics relating to the nervous system and behavior. The literature review will assess this CLO.

Program Learning Outcomes (PLOs)

Upon successful completion of the psychology major requirements, students will be able to:

PLO1: Knowledge Base of Psychology- Students will be able to identify, describe, and communicate the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.

PLO2: Research Methods in Psychology- Design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations.

PLO3: Critical Thinking Skills in Psychology- Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes.

PLO4: Application of Psychology- Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.

PLO5: Values in Psychology- Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as members of society.

The goals for this course fall into three categories. In the first portion of our course, we will focus on developing a general understanding of the philosophical issues driving much of contemporary neuroscience research, learning the mechanisms that drive early brain development and deepening our knowledge of the physiology of the central nervous systems. The second section will explore the mechanisms underlying the different sensory systems. In the course's final section, we will apply our understanding of biological mechanisms to various complex behaviors ranging from motivation and circadian rhythms to learning and language.

Our class meets on campus. We will use Canvas for discussions and assignment submissions and as a repository for articles we will use during the semester. Be sure to sign up for Canvas notifications as I send out announcements during the semester. Canvas is an essential component of our class, but it does NOT a replacement for attending class.

It is strongly recommended that students use the Chrome Web Browser when using Canvas. Using Chrome will decrease the glitches and errors you experience, as Canvas was developed using the Chrome platform.

In addition, update your Canvas setting to receive messages from this course, as announcements are sent out regularly.

Note: clearing your cache may help if you have trouble logging into the site.

Accessing the Course Canvas site

To access the Canvas site go to <http://www.sjsu.edu/at/ec/canvas/> and click on “Log in to Canvas”

Username = *SJSU 9-digit ID*

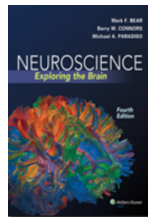
Password = *your current SJSUOne password*

For additional information or help with logging in:

Canvas Student Tutorial: <http://www.sjsu.edu/at/ec/canvas/>

Required Textbook

Bear, Mark., Barry, W. Connors, Michael A. Paradiso. (2016). Neuroscience: Exploring the Brain (Enhanced 4th edition). Jones & Bartlett Learning.



The Enhanced 4th edition includes an access code to the Navigate system. It is not required but will provide additional resources to support your learning during the semester. I have heard rumors that the PDF version is free on specific internet sites. I do not know if this is true, so please do not ask me, ask a class peer. Additional readings will be posted on Canvas in PDF format.

Library Liaison

The SJSU library has a librarian who specializes in psychology (and other social sciences), and this librarian can serve as a very valuable resource for helping you to develop research ideas and locate appropriate research materials. The library also has an abundance of resources for doing psychology research:

Christa Bailey, 408-808-2422, christa.bailey@sjsu.edu, <http://libguides.sjsu.edu/psychology>

Classroom Protocol

As a member of this class, you are part of a community. Students are expected to maintain a level of professional and courteous behavior. You must put your cell phone and other distractors away before the beginning of class. We will respect our class members and expect the same respect in return. Do not have side conversations, make unrelated comments in class, or look for deals on eBay during class. You may not realize that your actions are distracting to those around you. Students who do not abide by these policies (after being alerted to their behavior) will be asked to leave the class.

Diversity Statement

This class strives to be an inclusive community, learning from the many perspectives that come from having differing backgrounds and beliefs. As a community, we aim to be respectful of all. We reject all forms of prejudice and discrimination, including but not limited to those based on age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, and sexual orientation. Together, we can create an environment that supports inquiry, self-expression, and respect for diverse viewpoints. We all benefit.

Dropping and Adding

Students must understand the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's catalog, <https://catalog.sjsu.edu/>, policy section. The Late Drop Policy is available at <https://www.sjsu.edu/aars/policies/latedrops/policy/>. It is the student's responsibility to make sure classes are dropped <https://www.sjsu.edu/senate/docs/S20-9.pdf>. Visit the Advising Hub at <https://www.sjsu.edu/advising/> for additional questions. This semester, the last day to add or drop a class without a "W" is September 17th.

Attendance

Students are expected to attend all meetings for the courses in which they are enrolled as they are responsible for the material discussed therein, and active participation is frequently essential to ensure maximum benefit to all class members. Life happens. If you will miss class, please let me know as soon as you can.

According to University Policy F15-12, "Students are expected to attend all meetings for the courses in which they are enrolled as they are responsible for material discussed therein and active participation is frequently essential to ensure maximum benefit to all class members. In some cases, attendance is fundamental to course objectives; for example, students may be required to interact with others in the class. Attendance is the responsibility of the student. Participation may be used as a criterion for grading when the parameters and their evaluation are clearly defined in the course syllabus and the percentage of the overall grade is stated."

Assignments and Grading Policy

During this course, we will participate in class activities and discussions. One lab activity will correspond directly to class material. There will be three Hypotheses activities, a discussion board, and three tests. SJSU classes are designed to be successful. Students are expected to spend a minimum of forty-five hours for each unit of credit (typically three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

Anticipate that your grades in Canvas will continue to change throughout the semester. Do not contact me at the end of the semester to ask if I will round up your grade. I want all my students to succeed and will always round grades up (not down) when possible.

Definition of a Credit Hour

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five hours over the length of the course. As an example, the expectation of work for a 3-credit course is 150 minutes of direct faculty instruction and six-hours of out-of-class student work each week.

Please review the following sources and policies, as well:

- University Syllabus Policy S16-9 at <http://www.sjsu.edu/senate/docs/S16-9.pdf>
- Office of Graduate and Undergraduate Programs' Syllabus Information web page at <http://www.sjsu.edu/gup/syllabusinfo/>

Make-up Exams and Late Assignments

Please check your schedule to ensure everything runs smoothly with the set due dates. There will be no early, late, or make-up exams or assignments (except for documented emergencies or serious illnesses).

Academic integrity

Academic integrity is essential to the mission of San Jose State University. Familiarize yourself with the SJSU Academic Integrity Policy <https://www.sjsu.edu/senate/docs/F15-7.pdf>. When practiced, academic integrity ensures that students are fairly graded. A reminder about academic integrity and Chat GPT: All cases of academic misconduct will be referred to the Office of Student Conduct. Academic Misconduct includes (but is not necessarily limited to) using ideas, words, images, or content in any other media you did not create and presenting that content as if you were the creator.

Here's a simple guide: If more than four words are taken from another source, they must be cited.

All students must use Turn-It-In to ensure the academic integrity of their writing.

GRADING INFORMATION AND MAJOR ASSIGNMENTS:

Your final grade will be based on the number of points that you earn during the semester. The following table provides a breakdown of the points you can earn during the semester.

Assignment	How Many?	Points Per Assignment	Total Points	<small>Approximate</small> % Final Grade
Quizzes	3	25	75	25%
Midterms	3	45	135	45%
Paper	1	35	35	12%
Paper Topic	1	10	10	3%
Final Exam	1	45	45	14%
Discussion Board	1	3	3	<1%
Name Coach	1	1	1	<1%
NYT Subscription	1	1	1	<1%
Total:			305	100%

Grading Scale:

Percent	Grade
100 – 94	A
93-90	A-
89 – 87	B+
86-84	B
83-80	B-
79 – 77	C+
76-74	C
73-70	C-
69-67	D+
66 – 64	D
63 -60	D-
59 or below	F

University Policies: Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>.

Student Resources

Student Computer Resources –

Computer labs and other technological resources for students can be found in various places on campus:

- For information regarding the loan of laptops, tablets, and other computer materials; <https://library.sjsu.edu/student-computing-services/student-computing-services>
- For IT Support visit - <https://www.sjsu.edu/it/support/service-desk/index.php>
- For a list of software available to all SJSU students visit - <https://library.sjsu.edu/student-computing-services/software-available>

ACCESS Success Center

The Academic Counseling Center for Excellence in Social Sciences (ACCESS) Success Center “provides general education advising for undergraduate students majoring or intending to major in any of the departments in The College of Social Sciences.” Visit their webpage for more information and to schedule an online appointment: <https://www.sjsu.edu/education/studentsuccesscenter/advising-and-tutoring.php>.

Accessible Education Center (AEC)

Ability Redefined - Please reach out to me as soon as possible in the beginning of the semester, for any support. “If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with AEC to establish a record of their disability.” [Academic Senate Policy F06-2 \[pdf\]](#)

SJSU Peer Connections

Peer Connections website “offers free mentoring, tutoring, and supplemental instruction services for students at SJSU. Peer Educators are students just like you; they understand the triumphs and challenges of being a student at San José State University.” If you have questions about services, contact the Peer Connections at 408-924-

2587 or email at peerconnections@sjsu.edu, or visit their webpage for more information, <https://peerconnections.sjsu.edu/programs/tutoring/index.html>

SJSU Writing Center– Check for different ways to access these services.

The SJSU Writing Center “offers a variety of resources to help students become better writers, and all of our services are free for SJSU students.” If you have questions about services, call the Writing Center at 408.924.2308 or email us at writingcenter@sjsu.edu, or visit their webpage to make an online appointment <https://www.sjsu.edu/writingcenter/>

SJSU Counseling and Psychological Services (CAPS)

SJSU Counseling and Psychological Services invites “all students to come into Counseling and Psychological Services, located at the Student Wellness Center, room 300B, for any support.

If you have questions about services, contact CAPS at (408) 924-5910 or email at counseling.services@sjsu.edu or visit their webpage, <https://www.sjsu.edu/counseling/>

Student Support Services-

Housing Assistance for students that lack stable and adequate housing <https://www.sjsu.edu/sjsucares/get-assistance/housing.php>

Spartan Food Pantry is a walk-in full-service food assistance program for qualifying students.

<https://www.sjsu.edu/sjsucares/get-assistance/spartan-food-pantry/index.html>

CalFresh Foods offers monthly cash assistance to pay for groceries. CalFresh has supported many students who are experiencing budget restraints. <https://www.sjsu.edu/sjsucares/get-assistance/calfresh.php>

Academic Integrity and Artificial Intelligence

This is a reminder about academic integrity and Chat GPT: All cases of academic misconduct will be referred to the Office of Student Conduct. Academic Misconduct includes (but is not necessarily limited to) using ideas, words, images, or content in any other media you did not create and presenting that content as if you were the creator.

Copying content you have not created—either directly or partially—without properly citing the creator qualifies as academic misconduct, as does utilizing unauthorized digital tools such as artificial intelligence to create content. An assignment found to have been plagiarized or used unauthorized tools will automatically receive a zero, and you will not be allowed to repeat the assignment for a passing grade. Depending on the severity of the case, academic misconduct may result in a failing grade in the course.

A simple rule to follow is that if more than four words are taken from another source, they must be cited.

Major Assignments

The requirements for this class include three quizzes, four examinations (three midterms and a final exam), a paper topic, one research paper, and one discussion board. Remember that assignments due on Canvas may be submitted until the end of the due date. Assignments scheduled for in-class take place during scheduled times.

Quizzes will be available on Canvas. You will have some flexibility when you take the quiz, but it must be completed once you have started. There is to be no information sharing between students. Exams will occur during class and be multiple choice and true or false. The final exam is scheduled for Monday, May 19th, 8:30 am – 10:30 am.

Literature Review Research Paper: will be due on the last week of instruction (). They must be at least five pages of text (excluding summary, references, and cover page) and be typed (double-spaced) and in APA format. This assignment is designed to allow you to explore a particular topic of interest and demonstrate

what you've learned about neuroscience.

You may research a particular topic, theory, or author. These are merely intended as examples of what is possible, and the professor must preapprove all paper topics. The paper topic assignment (due is a one-page (maximum) description of your literature review research paper. This must be double-spaced with at least one reference (APA format). These assignments will be discussed further in class.

Naegleria fowleri amoeba Discussion: This Canvas discussion board requires background reading and analysis before beginning a discussion with your peers. Together, we will explore and discuss the intersection of the Naegleria fowleri amoeba and mammalian evolution **in the context of climate change**.

There will be opportunities for extra credit over the semester for attending relevant talks available on campus. Some will be offered online, as well, so keep an eye out for these one point opportunities.

Major Assignments Due Dates

Note: This schedule is subject to modification (with fair warning, no surprises, promise) as necessary to accommodate flexibility in our class schedule.

<u>Assignment</u>	<u>Location of Submission</u>
<u>Quiz #1</u> Date: Wednesday, February 12 th	Canvas
<u>Section #1 Test</u> Date: Wednesday, February 26 th	In-Class
<u>Submit Paper Topic</u> Date: Monday, March 3 rd	Canvas
<u>Naegleria Fowleri Discussion</u> Date: Open March 17 - 24	Discussion Board on Canvas
<u>Quiz #2</u> Date: Monday, March 10 th	Canvas
<u>Section #2 Test</u> Date: Wednesday, March 26 th	In-Class
<u>Quiz #3</u> Date: Monday, April 14 th	Canvas
<u>Section #3 Test</u> Date: Monday, April 28 th	In-Class
<u>Literature Review Paper</u> Date: Monday, May 12 th	Canvas
<u>Final Exam</u> Date: Monday, May 19 th 8:30 am – 10:30 am	In-Class

COURSE SCHEDULE

Note: This schedule is subject to modification (with fair warning, no surprises, promise) as necessary to accommodate flexibility in our class schedule.

Week	Date	Topics	Reading Due for Class	Assignment
1	M- 1/27	<ul style="list-style-type: none"> • Course Introduction • Review of Syllabus • Course Requirements • Study Skills 	Always complete chapter reading before class.	Due: <i>Name Coach -due Sunday</i> <i>NY Times- due Sunday</i> <i>Discuss Research Paper Topics</i>
** PART ONE - FOUNDATIONS **				
	W- 1/29	Neurons	Chapter 1	
2	M- 2/03	Neurons & Glia	Chapter 1, 2	
	W- 2/05	Electrophysiology	Chapter 3	
3	M- 2/10	Electrophysiology		
	W- 2/12	Electrophysiology	Chapter 4	Quiz #1 (Chapters 1- 4) Due 2/16
4	M- 2/17	Synaptic Transmission	Chapter 5	Attend Psych Forum for Extra Credit, 2-3 pm
	W- 2/19	Receptor Types and Down Regulation	Chapters 5, 6	
5	M- 2/24	Neurotransmitter Systems	Chapter 6	
	W- 2/26	Midterm #1		Chapters 1-6
6	M- 3/03	Epigenetics, Neuroanatomy	Chapters 7, 9	
	W- 3/05	Neuroanatomy, CNS Development	Chapters 9, 10	
7	M- 3/10	Neuroanatomy, CNS		Quiz #2 (Chapters 5 - 9) Due 3/16
	W- 3/12	Sensory Systems: Vision	Chapter 8	

8	M- 3/17	Sensory Systems: Chemical	Chapter 9	
	W- 3/19	Somatosensory System	Chapter 12	Naegleria Fowleri. Discussion, Open 3/17- 3/24
9	M- 3/24	The Auditory System	Chapter 13	
	W- 3/26	Midterm #2		Chapters 7-12
10	3/31 - 4/4	SPRING BREAK	NO CLASSES	
11	M- 4/07	Hypothalamus/Limbic System	Chapter 15, 16	
	W- 4/09	Homeostasis, Motivated Behaviors	Chapters 16	
12	M- 4/14	Stress, Sleep	Chapter 16, 19	Quiz#3 (Chapters 15-16)
	W- 4/16	Sleep	Chapter 19	
13	M- 4/21	Hormones	Chapter 17	
	W- 4/23	Hormones		
14	M- 4/28	Midterm #3		Chapters 15-19
	W- 4/30	Motivation	Chapters 16	
15	M 5/05	Conference – No Class	Chapter 18	
	W- 5/07	Emotion	Chapter 18	
16	M- 5/12	Mental Health Last Day of Instruction		
Final		Final Monday, May 19 th , 8:30 am -10:30 am		Cumulative

