

Psychology 314-4 & 314-7L, – Behavioral Neuroscience

Fall 2022

Professor: Dr. Peter A. Krause (peter.krause066@csuci.edu)
Office Hour: Madera 1631, and also
Zoom Personal Meeting ID: 450 213 7619
(<https://csuci.zoom.us/j/4502137619>)
Wed 1:00PM-3:00 PM (or by appointment)
Lecture: Sierra 3332
Mon 9:00AM-11:50 AM
Lab: Sierra 3332
Wed 10:00AM-11:50 AM

OVERVIEW AND AIMS

Catalog Description:

Neuroanatomy, physiology, pharmacology and their application to cognition, emotion, language, learning, motivation, perception, and memory. A lab fee is required.

Goals and Objectives for the Course:

This course introduces the basic concepts of behavioral neuroscience. The goal is to give the student a good understanding of the nervous system and its relationship to behavior. The objectives of the course include understanding the basic cells of the nervous system, the chemical and electrical conduction of nerve signals, neuroanatomy, psychopharmacology, basic research methods, systems within the nervous system (e.g., the motor system) as well as topics of interest such as hunger, sleep, reproduction, psychiatric disorders, and drugs of abuse.

Student Learning Objectives:

This is a required course for the Psychology major. Students completing this course will be able to do the following:

- Demonstrate an understanding of psychology in relation to natural sciences including biology, physiology, medicine, and neuroscience
- Demonstrate knowledge and understanding of theory and research in the biological and physiological bases of behavior
- Demonstrate knowledge and understanding of the contribution of animal research to our understanding of human behavior and brain physiology
- Demonstrate understanding of APA guidelines for the ethical treatment of human and non-human participants involved in neuroscience research
- Explain behavior using structural, chemical, and functional theories or models of the brain

TEXTBOOK AND MATERIALS

Textbook:

Foundations of Behavioral Neuroscience, 9th Edition, N. Carlson, ISBN-13: 9780205940240

OR Foundations of Behavioral Neuroscience, 10th Edition, N. Carlson, ISBN-13:
9780134639796

Canvas:

This course uses a Canvas portal for announcements, resources such as lecture slides, and grade reporting. If you have difficulty accessing the Canvas portal, please let me know immediately. **I use a single Canvas portal for both lecture and lab components. There is no separate laboratory portal.**

Lecture Slides:

Each lecture will be accompanied by a deck of PowerPoint slides. I will also post an abbreviated form of each lecture as a PDF file under Files>Lecture Slides. Reading the abbreviated slides is no substitute coming to lecture. If you skip lecture in a course this technical, you *will not pass*.

Lab Activity Software:

You *must* purchase a student copy of LT (formerly Lab Tutor), a software for performing laboratory-based learning activities and completing associated lab reports. You will receive an invitation to purchase an LT license by the first week of class. You *must* have your copy ready to go by **Wednesday, September 7th**, which is the first lab session that will involve at LT lab report.

EVALUATION

Breakdown:

Midterm Exams (3)	45%
Final Exam	25%
Lab Reports	15%
Lab Quizzes	5%
Lecture Attendance Quizzes	5%
Meeting with Instructor	3%
Syllabus Quiz/Course Plan	1.5%
Learner Survey	0.5%

Extra Credit:

Research Participation	1%
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Exams:

This course includes three (3) midterm exams and one (1) final exam. These exams will include a mix of multiple-choice and short-answer questions. The midterms will be completed during the lecture time for the week they are assigned. The Final Exam will be completed on our Final Exam day. All exams will be completed in person. You must bring a #2 pencil and Scantron form 882-E (the skinny green one) for the multiple-choice component. You do **not** need a blue/green book—short answers will be written directly onto the exam prompt.

One-on-One Meeting with Professor Krause:

You will be required to meet with me individually, either in person or over Zoom, sometime during the first five weeks of the course. These meetings will take place in my office or at my personal meeting ID: 450 213 7619 (<https://csuci.zoom.us/j/4502137619>). This meeting is intended to help normalize the idea of office hours, to ensure that we know each other, and to give me the opportunity to evaluate your needs and concerns. **To get credit for this meeting, you must expect it to take at least 10 minutes, and you *must* prepare at least one question or conversation topic. Failure to come prepared to our meeting will result in no credit being granted.** The meeting requirement can be satisfied by appearing at my regular office hour. If my office hour does not fit your schedule, you may schedule an outside appointment using this signup sheet:

<https://docs.google.com/spreadsheets/d/11Xcc9gS3Q1r6r8TGvdZu8Z1x2CYBkcMQVIAuO-WvX8/edit?usp=sharing>.

Laboratory Reports:

During most lab days, students will work with lab partners to complete assigned laboratory activities. Some days these will be directed study activities intended to solidify, for example, students' memory for neuroanatomy. Other days these will be psychophysiological tests in which students will record and analyze variables like heart rate or skin conductance. At the end of each lab session, students will submit a completed laboratory report summarizing their work.

Although students complete the activities in pairs, each student must individually submit a copy of the lab report for credit. To pass the class, you may only miss turning in *one* lab report. If you fall further behind than that, work with me to catch up! These are not percentage points you can “sacrifice” with the expectation of still having a passing grade!

Minor Quizzes:

In lecture, we will periodically stop to take in-class Kahoot! quizzes that verify students' understanding of material. Although performance on these quizzes will not be graded, they will be a means of taking lecture attendance. (In other words, **lecture is required!**) Missing a Kahoot! quiz will result in a student not receiving credit for that lecture. Several weeks, students will also take follow-up online Canvas quizzes that verify their understanding of that week's laboratory activity.

Syllabus Quiz & Course Plan, Introductory Learner Survey:

Prior to the second lecture, students will complete a short survey about who they are and what their learning needs are. Students will also complete a quiz about course policies, which also asks them to set intentions for how they will allocate time to studying for the course, and what study strategies they will use.

Extra Credit:

I will be placing this class in CSUCI's SONA participation pool. Students may receive up to 1% extra credit for participating in psychological research being conducted over SONA.

Final Letter Grades:

97 - 100%	A+
93 - 96%	A
90 - 92%	A-
87 - 89%	B+
83 - 86%	B
80 - 82%	B-
77 - 79%	C+
73 - 76%	C
70 - 72%	C-
67 - 69%	D+
60 - 66%	D
<60%	F

(Remember, per current University policy, only grades of C or better may be applied towards graduation for Major courses. That means you need a **73%** or better to pass!)

COURSE POLICIES**Submission of Assignments:**

All course assignments are turned in electronically on Canvas.

I reserve the right to penalize late submissions by 10% for each day they are late, at my discretion. I have made a practice of trying to be flexible on this point, especially when students seek me out "face to face" (or at least on Zoom 😊). However, I am finding that many students come to believe that they can perform all the work for one of my courses at the last minute, saving themselves in the eleventh hour. I must warn you, this almost never works. So: know that you can always reach out to me, but also accept that planning to miss deadlines is, at least in this class, planning to fail the course. **Please also see my note about lab reports. Finishing the semester with more than one missing lab report submission will result in a non-passing grade in the course. Work with me to make up lost lab reports, or better yet, plan to make every lab!**

Contingency Planning:

Should access to campus be compromised, due to COVID-19 or some other reason, we will switch to meeting over Zoom, using the link given at the top of this syllabus.

Disability Accommodations:

If you are a student with a disability requesting reasonable accommodations in this course, please visit Disability Accommodations and Support Services (DASS) located on the second floor of Arroyo Hall, or call 805-437-3331. All requests for reasonable accommodations require registration with DASS in advance of need. You can [apply for DASS services here](https://www.csuci.edu/dass/students/apply-for-services.htm): <https://www.csuci.edu/dass/students/apply-for-services.htm>. Faculty, students and DASS will work together regarding classroom accommodations. You are encouraged to discuss approved accommodations with your faculty.

Academic Honesty:

By enrolling at CSU Channel Islands, students are responsible for upholding the University's policies and the Student Conduct Code. Academic integrity and scholarship are values of the institution that ensure respect for the academic reputation of the University, students, faculty, and staff. Cheating, plagiarism, unauthorized collaboration with another student, knowingly furnishing false information to the University, buying, selling or stealing any material for an examination, or substituting for another person may be considered violations of the Student Conduct Code (located at <http://www.csuci.edu/campuslife/student-conduct/academic-dishonesty.htm>). **If a student is found responsible for committing an act of academic dishonesty in this course, the student may receive academic penalties including a failing grade on an assignment or in the course, and a disciplinary referral will be made and submitted to the Student Conduct & Community Responsibility office.** For additional information, please see the faculty [Academic Senate Policy on Academic Dishonesty](#), also in the CI Catalog. Please ask about my expectations regarding academic dishonesty in this course if they are unclear.

STUDENT SUPPORT**Campus Tutoring Services:**

You are encouraged to make regular use of campus tutors and/or peer study groups, beginning in the second week of the semester. For campus tutoring locations, subjects and hours, go to: <http://go.csuci.edu/tutoring>.

Civil Discourse Statement:

All students, staff and faculty on our campus are expected to join in making our campus a safe space for communication and civil discourse. In 2016, CI faculty (through the Academic Senate) voted to approve [Resolution SR 16-01](#) titled, "Commitment to Equity, Inclusion, and Civil Discourse within our Diverse Campus Community." If you are experiencing discomfort related to the language you are hearing or seeing on campus (in or out of classes), please talk with a trusted faculty or staff member. Similarly, please consider whether the language that you are using (in person or on canvas) respects the rights of others to "engage in informed discourse and express a diversity of opinions freely and in a civil manner."

Emergency Intervention and Basic Needs Statement:

As CI's website points out, "a recent study commissioned by the CSU Chancellor's Office shows that nearly 25 percent of CSU students either regularly skip meals for financial reasons or lack access to toiletries and sufficiently nutritious food options. In addition, more than 10 percent are

displaced from their homes due to things like an unexpected loss in income or personal safety issues.” If you recognize yourself, or someone you know from this description, please know that there are resources on campus to help, including the Dolphin Food Pantry for students which offers free food, toiletries and basic necessities. The Dolphin Pantry is currently located in Arroyo Hall, Room 117 and is open Monday – Friday 8:30 – 4:30 (please check the website below for updates).

Emergency housing and funds are also available. More information on these, and other services available at CSUCI can be found at: <https://www.csuci.edu/basicneeds/>

SCHEDULE (SUBJECT TO CHANGE)

Note: Chapters given below are for 9th edition. If using 10th, any Chapter greater than 7 is one higher – Ch. 12 is 13, Ch. 13 is 14, etc. Lab Reports & Quizzes are due Friday of same week.

Week of:	Lecture Topics	Reading	Submissions/Lab
08/22	Intro & Background	Ch. 1	Lab: Icebreakers, finding lab partners, Microscopy
08/29	Neurons & Action Potentials	Ch. 2	Lab: Action Potential
09/05	LABOR DAY – Lecture during Wed’s Lab Time	Ch. 4 (neurotransmitter section), Ch. 12 (through synaptic plasticity section)	Lab: No Lab Activity – Lecture: Synaptic Transmission & Potentiation; Syllabus Quiz Due; Learner Survey Due
09/12	Midterm 1		Lab: LT Intro, Midterm 1 debrief
09/19	Neuroanatomy	Ch. 3 (except section on peripheral NS)	Lab: Neuroanatomy; Meeting w/Professor Due
09/26	Somatic & Autonomic Nervous systems	Ch. 3 (peripheral NS section), Ch. 7 (Somatosenses section)	Lab: AN System
10/03	Vision & Audition	Ch. 6, Ch. 7 (audition section)	Lab: EMG
10/10	Midterm 2		Lab: EEG
10/17	Sleep, Learning	Ch. 8, Ch. 12 (remaining sections)	Lab: EDR
10/24	Language	Ch. 13 (sections on speech only), Ch. 10	Lab: Classical Conditioning & EDR
10/31	Emotion, Reproduction	Ch. 10, Ch. 9	Lab: Polygraph

11/07	Midterm 3		Lab: Blood Sugar & Memory
11/14	Hunger	Ch. 11	Lab: Virtual rat
11/21	Psychopharmacology & Substance Abuse	Ch. 4 (first 2 sections), Ch. 16 (substance abuse section)	Lab: Drugs of Abuse
11/28	Psychiatric Disorders	Ch. 15	Lab: Final Exam Review
12/05	Final Exam (8-10 AM)		

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