San José State University
Department of Psychology
PSYC 030, Psychobiology, Sec. 02
Fall 2024

Instructor:	Cheryl Chancellor-Freeland, Ph.D.
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Office Hours:	Tue./Thurs. 12:00 - 1: 00PM
Class Days/Time:	Tue./Thurs. 10:30 - 11:45AM
Classroom:	*Morris Dailey Auditorium*
Prerequisites:	Bio 021 or Bio 065

Description: Biopsychologists try to understand the biological basis for behavior and mental processes. They try to determine why people do what they do, and in some cases, help them change what they are doing. This discipline involves examining many aspects of human functioning--overt actions, mental processes, and emotional and physiological responses. Biopsychologists deal with the smallest of units, such as a single molecule or individual nerve cell, and they also investigate large brain regions and interconnections between nervous, endocrine and immune systems. In this course, we will be covering a variety of topics, and the pace may be rather fast at times. Therefore, it is advised that you come to class!

Course Goals and Learning Outcomes: The goal of this course is to facilitate a basic understanding of neural mechanisms underlying behavior. By the end of the course, you should be able to describe activities of nerve cells as well as that of specific brain structures. You should also be able to describe and discuss complexities associated with specific sensory and motivational systems. A broad understanding of the biological basis of psychopathology is also an outcome of this course.

Finally, it is my goal that you gain a greater understanding of yourself and others, and that you become fascinated with biopsychology, even if you think you hate biology!

Learning Outcomes
More specific course outcomes have been outlined in the *Summary of Events* following each homework and exam (see below). Course and program learning objectives are as follows.

Course Learning Outcomes (CLOs)
Upon successful completion of this course, Psych 30 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 homework #1, midterm I and in an in-class activity

CLO2 – *Students will be able to* –describe, and communicate the major transduction mechanisms, neuroanatomical pathways and theoretical perspectives associated with vision and nonvisual sensory systems, motivational systems and learning processes. Assessment for this CLO will be conducted in homework #2 and #3, and midterms I and II.

CLO3 – *Students will be able to* –identify, describe, and communicate experimental approaches and associated empirical findings for various methodological approaches in biopsychology. Assessment for this CLO will be conducted primarily in Midterm I, but also in homework #'s 1 - 3, and midterm II.

CLO4 – *Students will be able to* – think critically and creatively about biopsychological approaches to address issues related to behavioral and mental health processes. This CLO will be assessed in essay-type questions on midterm II and the final exam.

CLO5 – *Students will be able to* – apply biopsychological principles to individual, interpersonal and group behavioral and mental health issues. This will be assessed on the final exam.

Program Learning Outcomes (PLO) Upon successful completion of the psychology major….
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 – Students will be able to 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 a member of society.

Text :
Freberg, L.A. (2019). Discovering Behavioral Neuroscience: An Introduction to Biological Psychology (4th Ed). Belmont, CA, Cengage Learning.
ISBN-10: 1305088700
ISBN: 9781337570930

Suggested Resource: Neuroscience on the Internet: http//www.neuroguide.com

Requirements: The requirements for this class include four homework assignments and four examinations (three midterms and a final). Each homework assignment is worth about 9% of your grade, and the midterm examinations each count 15% toward the final grade. The final exam will be worth 19%. It is strongly recommended that students take every advantage to earn bonus points (see **Extra Credit Points** below). They will be offered throughout the semester.

The format for homework assignments and midterms is objective (multiple choice, true/false, identify, match) and short answer. Homework assignments are to be completed at home, which means that you will be on your honor when you take them. You may use your text, or notes but you may NOT use Google or consult with other persons. Homework assignments and other course materials will be available *Canvas Leaning Management System course login website at http://sjsu.instructure.com*. If short answers are required short answers are to be submitted on Canvas as well. Midterm exams are scheduled on Thursdays. The final exam date is scheduled for Friday December 13th, 9:45AM - 12:00PM

Extra Credit Points: a maximum of 8 extra credit points may be earned by attending research presentations and for completion of activities listed on the "Bonus Point" handout. To receive credit, you must write a brief summary (1 page maximum) of each presentation, except noted elsewhere (Due 12/5). All summaries are to be typed (double-spaced) referencing the presentation. There may also be extra credit opportunities in class.

Grading: Due to the fast-paced nature of this course, there will be no early, late, or make-up exams or homework assignments. Please check your schedule to ensure that you have no conflicts with the test dates. However, if you have a written medical excuse for missing an exam, a makeup exam will be given within a week of the missed exam, or at the discretion of the instructor. Please note, it is the student's responsibility to make arrangements for any needed make-up assignments.

Classroom Protocol
To succeed in this course, attendance is critical. You should come prepared for class discussions with a completion of course readings. Students are responsible for keeping current on changes that may occur on the tentative schedule of events in the syllabus. Students are expected to maintain a level of professional and courteous behavior at all times. When we meet online, please be aware whether your mic is muted and when your camera is on.

Cell phones and other electronic devices
You are to turn off cell phones and other electronic devices before the beginning of class. For in-class ("live") instruction: Laptops are permitted for note-taking purposes only. If you use your laptop to take notes you should sit at the front of the class. Laptop use for purposes other than taking notes for 30 will not be permitted. Students not abiding by this policy will be asked to leave the class and will not be permitted to use their laptop for the remaining semester.

Communication with instructor
Use email, office hours, or class time. I will respond to emails M-F 9:00 – 5:00. Please allow 1-2 business days for a response. Please note, email is not a mechanism to get extensive help with course content or with papers. Please come to my office hours for these other issues that require more discussion.

Lecture notes will not be emailed to students. When lecture is missed, it is your responsibility to get lecture notes from a classmate. When sending an email to the instructor, please be certain to be specific about the topic. For example, the subject line should include the course ("Psych 30") and brief topic (e.g., "Appointment").

Consent for Recording of Class and Public Sharing of Instructor Material
University Policy s12-7, http://www.sjsu.edu/senate/docs/S12-7.pdf, requires students to obtain instructor's permission to record the course.

- "Common courtesy and professional behavior dictates that you notify someone when you are recording him/her. You must obtain the instructor's permission to make audio or video recordings in this class. This permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material."

- "If you would like to record course lectures, please obtain permission from your instructor in writing (via email is ok) or orally and indicate whether you will record for the whole semester or on a class by class basis."

- "Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor-generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent".

Faculty Web Page and MYSJSU Messaging: Copies of the course materials such as the syllabus, major assignment handouts, etc. may be found ***Canvas Leaning Management System course login website*** *at* ***http://sjsu.instructure.com****.* You are responsible for regularly checking with the messaging system through **MySJSU** at http://my.sjsu.edu (or other communication system as indicated by the instructor) to learn of any updates.

Dropping and Adding
Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's **Catalog Policies** section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the **current academic calendar** web page located at http://www.sjsu.edu/academic_programs/calendars/academic_calendar/. The **Late Drop Policy** is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/. Procedures about add/drops, academic renewal, fee payment, withdrawal and so forth. These are listed under: http://info.sjsu.edu/home/schedules.html

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 at http://www.sjsu.edu/gup/syllabusinfo/"

Student Technology Resources:
Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library.

A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include digital and VHS camcorders, VHS and Beta video players, 16 mm, slide, overhead, DVD, CD, and audiotape players, sound systems, wireless microphones, projection screens and monitors.

Learning Assistance Resource Center*:* The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. It is designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. The center provides support services, such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. The LARC website is located at http:/www.sjsu.edu/larc/.

The following provides a quick summary of important course events. I have also included a brief description of the learning outcomes for each section. You may find this, along with the study guides, useful when preparing for exams. A detailed schedule of events is also provided, but this may be modified as instructor deems necessary.

You are responsible for noting any changes that may occur during the semester.

Summary of Events

Homework 1

Date:	Thursday Sept 5th (Due September 10th)
Lectures:	August 22 – Sept. 5th

Outcomes: Describe the mind/body issue and key historical events.
Demonstrate a clear understanding of structure and function of neurons and of the CNS.
Understand invasive and noninvasive methods for investigating brain function.

Midterm I

Date: Thursday, September 19th
Lectures: August 22 – September 19
Chapters: Chapters 1-4 (select pages from chapter 4)
Outcomes: Demonstrate a complete understanding of the functioning of the neuron: electrophysiological and chemical properties; interneuronal communication; basic principles of drug effects on neuronal.
Be able to identify major structures and function of the brain.
Understand some general methods for investigating brain and behavior.

Homework 2

Date: Thursday Oct 3rd (Due Tuesday October 8th)
Lectures: September 19 – October 3rd
Outcomes: Demonstrate an understanding of how the CNS develops.
Be able to identify components of the visual system, and describe how vision occurs.
Be able to describe how somatosensation is processed.

Midterm II

Date: Thursday, October 17th
Lectures: September 19 – October 12
Chapters: Chapters 4 (select pp.), 5 – 6 (select sections)
Outcomes: Complete understanding of psychopharmacology and a basic understanding of vision. Basic understanding of brain development and brain plasticity.

Homework 3

Date: Thursday October 31rst (Due Nov. 5th)
Lectures: October 17 – 31
Outcomes: Demonstrate a basic understanding of motivational systems.
What makes you eat and sleep?

Midterm III

Date: Tues, November 21rst
Lectures: October 17 – Nov. 21rst
Chapters: Chapters 6, 7, 9, 11 (12 TBD)

Outcomes: Visual and nonvisual sensation and perception (e.g., how the physical energy is translated in to neural energy and then goes to brain)
An understanding of underlying mechanisms driving specific motivations. An understanding of the set-point model works.
Describe sleep and its proposed purposes.
Describe mechanism involved with learning and proposed purpose.

Homework 4

Date: Tuesday November 26th (Due Dec. 3rd)
Lectures: November 26
Outcomes: An understanding of the biological basis and specific brain regions associated with stress, aggression and reward. For this one you might have to read ahead a bit.

Final Exam

Date: Friday December 13th**, 9:45AM - 12:00PM**.
Lectures: All
Chapters: All reading with particular focus on chapters 14 and 16, as well as any material covered following Midterm III.

Please note: Homework will be take-home tests. This means you are on your honor when complete homework assignments. Your time is unlimited; however, you may not discuss the questions or responses with other individuals. Collaborative work will result in a zero for all. All homework assignments are to be submitted in CANVAS; short answers are to be turned in to the instructor within the first 10 minutes of lecture.

Performance Outcomes and Associated Points

Assignment	***Approximate percent***	***Points***
Homework *(4)*	*9% each*	*27 each (108 total)*
Midterms (3)	*15% each*	*45 each (135 total)*
Final Exam	*19%*	*57*
Total	***100%***	***300***

Grading Scale (300 points)

Total Points	*Percentage*	*Grade*
269 – 300	90 – 100	A- to A+
239 – 268	80 – 89	B- to B+
194 – 238	65 – 75	C- to C+
150 – 193	50 – 64	D- to D+
149	less than 50	F

Tentative Schedule of Events (subject to change with fair notice):

Week	*Date*	Reading/Lecture Topic	Daily Events
1	8/22	Chapter 1: Introduction and Course Expectations	**See "Online Learning" in the Modules for course and COVID-related support**
2	8/27	Chapter 2: Anatomy of the Nervous System	
	8/29	Chapter 2: Nervous System cont.	
3	9/3	Chapter 3: Cells of the Nervous System	
	9/5	Chapter 3: Membrane and Action Potentials and Synapses	**Homework 1 (Chapters 1-3)**
4	9/10	Action Potentials and Synapses	**Homework 1 Due**
	9/12	Postsynaptic Potentials	
5	9/17	Intro to Chapter 4: Psychopharmacology	
	9/19	**Midterm I**	***Chapters 1- 3 (TBD: select pages from chapter 4)***
6	9/24	Chapter 4: Psychopharmacology	
	9/26	Chapter 4: Psychopharmacology	
7	10/1	Chapter 5: Development of the Human Brain	
	10/3	Chapter 5: Development of the Human Brain	**Homework 2**
8	10/8	Chapter 6: Vision	**Homework 2 Due**
	10/10	Chapter 6: Vision	
9	10/15	Chapter 7: Nonvisual Sensation Mechanoreceptors	
	10/17	**Midterm II**	**Chapters 4 (select pp.), 5-6**
10	10/22	Chapter 7: Nonvisual Sensation- Chemical Receptors	
	10/24	Chapter 7: Nonvisual Chemical Sensory Systems	
11	10/29	*Chapters 7: Somatosensation and Nociception*	

	10/31	*Chapter 9: Motivation--Thirst, and Hunger*	***Homework 3***
12	11/5	*Chapter 9: Motivation--Thirst, and Hunger*	**Homework 3 due**
	11/7	Chapter 11: Sleep/Waking	
13	11/12	Chapter 11: Sleep/Waking	
	11/14	Chapter 12: Learning and Memory	
14	11/19	Chapter 12: Learning and Memory	
	11/21	**Midterm III**	**Chapters 6, 7, 9, 11 (12 TBD)**
15	11/26	Chapter 14: Emotion, Aggression. Reward	
	11/28	**THANKSGIVING**	**NO CLASS Homework 4**
16	12/3	Chapter 16: Psychological Disorders	**Homework 4 due**
	12/5	Chapter 16: Psychological Disorders	EXTRA CREDIT DUE
Final Date	FRI 12/13	**FINAL EXAM 9:45AM – 12:00PM**	**ALL**