

CATALOG INFORMATION

Dept and Nbr: PSYCH 10L Title: BIO PSYCH LAB
Full Title: Biological Psychology Lab
Last Reviewed: 5/8/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	0	17.5	Lecture Scheduled	0
Minimum	1.00	Lab Scheduled	3.00	6	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 0.00

Total Student Learning Hours: 52.50

Title 5 Category: AA Degree Applicable
Grading: Grade Only
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly:

Catalog Description:
In this course, the students will study the nervous system and its connections to behavior. Specific biopsychological topics include organization of the brain, anatomy and physiology of the neuron, sensorimotor systems, and states of consciousness. Students will explore the topics by applying the scientific method and practicing laboratory procedures such as sheep brain dissection and interactive computer simulations.

Prerequisites/Corequisites:
Course Completion or Current Enrollment in PSYC 10 (or PSYCH 10)

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: In this course, the students will study the nervous system and its connections to behavior. Specific biopsychological topics include organization of the brain, anatomy and physiology of the neuron, sensorimotor systems, and states of consciousness. Students will explore the topics by applying the scientific method and practicing laboratory procedures such as

sheep brain dissection and interactive computer simulations. (Grade Only)

Prerequisites/Corequisites: Course Completion or Current Enrollment in PSYC 10 (or PSYCH 10)

Recommended:

Limits on Enrollment:

Transfer Credit: CSU;UC.

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:

IGETC:	Transfer Area	Effective:	Inactive:
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CSU Transfer:	Transferable	Effective:	Fall 2024	Inactive:
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UC Transfer:	Transferable	Effective:	Fall 2024	Inactive:
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CID:

CID Descriptor:PSY 150	Introduction to Biological Psychology
SRJC Equivalent Course(s):	PSYC10 OR PSYC10 AND PSYC10L

Certificate/Major Applicable:

Major Applicable Course

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Apply laboratory procedures utilized in biopsychological research.
2. Explain the relationship between anatomy, physiology, and organization of the nervous system.

Objectives:

At the conclusion of this course, the student should be able to:

1. Describe the various research methods commonly utilized in biopsychological research to study brain-behavior relationships.
2. Apply laboratory techniques to observing and experimenting with biopsychological phenomena.
3. Describe the anatomy, physiology, and organization of the nervous system.
4. Examine the electrophysiology of neurons and nerve conduction.
5. Compare and contrast the human nervous system with that of other animals.
6. Analyze the basic processes of sensation and perception for the main sensory systems.
7. Compare and contrast the pattern of neural activity during different stages of wakefulness.
8. Describe synaptogenesis and the brain's ability to recover from injury.
9. Analyze the biology of learning, memory, emotions, and psychological suffering.
10. Describe the role of lateralization in language development.

Topics and Scope:

- I. Research methods in biological psychology
 - A. Brain lesions
 - B. Recording and stimulating neural activity
 - C. Neuroimaging
 - D. Neurochemical methods
- II. Biopsychology laboratory techniques
 - A. Microscopy or virtual microscopy
 - B. Tissue preservation
 - C. Dissection
 - D. Anatomical planes and directions
 - E. Electrical stimulation and recording
 - F. DNA extraction and genotyping
- III. The anatomy of the nervous system
 - A. Reflexes lab
 - B. Drawing the nervous system
 - C. Sheep brain dissection
- IV. Communication within a neuron
 - A. Measuring electrical potentials
 - B. Neuron drawings
 - C. Neurons in action lab
- V. Communication between neurons
 - A. Neuron modeling lab
 - B. Neurons in action
 - C. Virtual leech lab
- VI. Evolution and comparative neuroanatomy
 - A. Reptiles
 - B. Non-primate mammals
 - C. Primates
- VII. Vision
 - A. Eye dissection/eye modeling lab
 - B. Vision and visual illusions lab
- VIII. Audition and other senses
 - A. Perceptual illusions
 - B. Build a receptive field lab
 - C. Lateral inhibition lab
- IX. Mechanisms of wakefulness, sleep, and attention
 - A. Electroencephalography lab
 - B. Manipulating the central nervous system: Drugs lab
- X. Brain damage and neuroplasticity
 - A. Head games lab
- XI. Lateralization of the brain
 - A. Split-brain lab
 - B. Language lab
- XII. Biopsychology of emotion and stress
 - A. Stress and coping lab
 - B. Biofeedback lab

Assignment:

All the assignments are done in-class.

1. Reading assignments (13-16)
2. Problem-solving and skills demonstrations with lab models or specimens in class (13-16)

including:

- A. Assembling three dimensional models
- B. Conducting dissections
- C. Performing computer simulations
3. Group discussions of data and problem-solving assignments (13-16)
4. Quiz(zes) or exam(s) (1-4), which may include multiple choice and true-false questions, short answers, and the identification of three-dimensional specimens
5. Lab reports (3-8)

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because skill demonstrations are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Problem solving and skills demonstration; lab reports

Problem solving
15 - 25%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Problem-solving and skills demonstrations with lab models or specimens

Skill Demonstrations
20 - 40%

Exams: All forms of formal testing, other than skill performance exams.

Quiz(zes) or exam(s)

Exams
30 - 50%

Other: Includes any assessment tools that do not logically fit into the above categories.

In-class participation; discussion; attendance

Other Category
5 - 15%

Representative Textbooks and Materials:

A Colorful Introduction to the Anatomy of the Human Brain: A Brain and Psychology Coloring Book. 2nd ed. Pinel, J. & Edwards, M. Pearson. 2007 (classic).

The Sheep Brain: A Basic Guide. Cooley, R. K. & Vanderwolf, C. H. AJ Kirby Company. 2004 (classic).

Biological Psychology. 14th ed. Kalat, J.W. Cengage Learning. 2024.

Instructor prepared materials