PSYC A250: PSYCHOBIOLOGY

Item	Value
Curriculum Committee Approval Date	03/11/2020
Top Code	200100 - Psychology, General
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S)
Associate Arts Local General Education (GE)	• OC Physical/Biological Sci - AA (OB)
Associate Science Local General Education (GE)	• OCC Physical/Biological Sci-AS (OSB)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 5B Biological Sciences (5B)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 5B Biological Sciences (5B)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B2 Life Science (B2)

Course Description

This course is an examination of the relationships between the brain and behavior and their application to self-management. The anatomy and physiology of the following will be explored: neurological disorders and their treatments, sensation, perception, sexuality, drug use, emotion, sleep, learning, memory, and internal bodily states. PREREQUISITE: PSYC C1000 or PSYC C1000H. ADVISORY: ENGL C1000. Transfer Credit: CSU; UC. C-ID: PSY 150.**C-ID:** PSY 150.

Course Level Student Learning Outcome(s)

1. Students will be able to critically evaluate theoretical perspectives, research, and applications in psychobiology.

Course Objectives

- 1. Describe and contrast the methods used to acquire information in physiological psychology.
- 2. Describe the basic components and functions of the nervous system.
- 3. Explain the physiology involved in various aspects of sexuality.
- 4. Explain the mechanisms of each sensory process.
- 5. Explain the role of muscles and brain mechanisms in movement.
- 6. Compare and contrast thirst and hunger in terms of brain and body mechanisms.
- 7. Explain and detail the brain mechanisms of wakefulness, sleep and dreaming.
- 8. Describe current research findings on learning and memory.
- 9. Identify causes of brain damage and the nature of recovery.
- 10. Describe the characteristics of various neurological disorders.

Lecture Content

Introduction to physiological psychology Scope and interests of the field Methods used to acquire knowledge in the field The Nervous System Peripheral nervous system Somatic/skeletal portion Autonomic portion Central nervous system Spinal cord Introduction to brain structures, locations, and functions Split Brain Procedures Surgical cuts Experimental testing procedures Lateralization of function Cells in the Nervous System Neuroglial cells and functions Neurons Structure Electrochemical explanation of the neuron impulse cycle Synapse and neurotransmitters Drugs Classification of drugs Effects on the brain and behavior Sensory Processes Vision Audition Olfaction Gustation Vestibular sensation Movement Muscles and control of movement Brain mechanisms of movement Disorders of movement Regulation of Internal Bodily States Temperature regulation Thirst Hunger Wakefulness and Sleep Rhythms and biological clock Stages of sleep and brain mechanisms Dreaming Sleep disorders Learning and Memory Brain damage and amnesia Memory consolidation Critical brain structures Biochemistry of learning and memory Brain and memory in young and old Emotional behavior Limbic system structures Stress Reinforcement and brain activity Sexuality Sexual development Hormonal control of sexual behavior Neural control of sexual behavior Parental behavior Sexual Orientation Sexual Identity Genetic Influences on Sexuality Neurological Disorders and Brain Injury Causes of human brain disorders Nature of recovery Possible mechanisms of recovery Schizophrenia, Autism and Affective Disorders Depression and Mania Types Possible biological causes Biological therapies Schizophrenia Characteristics Biochemistry Brain anomalies Autism Possible causes Endorphins observations Therapies

Method(s) of Instruction

- Lecture (02)
- DE Online Lecture (02X)

Instructional Techniques

1. Lecture, explanation, and applications of topics, concepts, and terms. 2. Verbal feedback to small discussion groups. 3. Written feedback to student exercises and tests. 4. Instructor handouts. 5. Review sheets to support student preparation for tests. 6. Answer students questions. 7. Power Point, smart board overhead projector and white-board. 8. CD animations, DVDs and tapes. 9. Exams will be used to assess student progress and mastery.

Reading Assignments

2 hours per week reading from the assigned textbook and supplementary materials as directed by instructor

Writing Assignments

2 hours per week writing paper analyzing topics in psychobiology Students will summarize, critique, and react to current articles in the field of psychology. Students will use critical thinking skills to explain and justify their answers to test questions.

Out-of-class Assignments

2 hours per week completing out-of-class homework assignments Students will summarize, critique, and react to current articles in the field

of psychology. Students will use critical thinking skills to explain and justify their answers to test questions.

Demonstration of Critical Thinking

Participation in small-group, in-class discussions. Students will summarize current articles that relate to physiological psychology and use critical thinking skills to critique the findings and offer their personal reactions in written and oral assignments. Objective examinations covering text and lecture materials.

Required Writing, Problem Solving, Skills Demonstration

1. Students will summarize, critique, and react to current articles in the field of psychology. 2. Students will use critical thinking skills to explain and justify their answers to test questions.

Eligible Disciplines

Psychology: Masters degree in psychology OR bachelors degree in psychology AND masters degree in counseling, sociology, statistics, neuroscience, or social work OR the equivalent. Masters degree required.

Textbooks Resources

1. Required Carlson, N.R. . Foundations of Behavioral Neuroscience, 9th ed. Massachusetts: Allyn and Bacon, 2014 Rationale: - 2. Required Kalat, James . Biological Psychology, 13th ed. Belmont, CA: Wadsworth/ Thomson Learning, 2019 Rationale: - 3. Required Pinel, John P.J. . Biopsychology, 9th ed. Massachusetts: : Allyn and Bacon/Longman, 2013 Rationale: - 4. Required Garrett, Bob. Brain and Behavior, 5th ed. Los Angeles, CA: Sage Publications, 2018