

COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

Prepared by: James Rhodes James Rhodes

Date: Spring 2010

Status: Experimental

A. Identification:

1. Subject Area: Psychology
2. Course Number: PSY 255
3. Course Title: Intro to Biological Psychology
4. Credit Hrs: 3
5. Catalog Description:

A survey course exploring the biological and biochemical correlates of behavior and mental processes; focusing on relationships between the nervous system and behavior, and providing a foundation in basic nervous system structure and function. Prerequisite PSY 101. Three lecture.

B. Course Goals:

To acquaint students with the scientific methods of inquiry, vocabulary, theories, and areas of study in the field of biopsychology; especially the relationships between the brain and behavior.

C. Course Outcomes:

Students will:

1. Describe the scientific method and the research methodologies used in the field of biopsychology.
2. Discuss the neural mechanisms of behavior including the role evolution, heredity, and the adaptiveness of behavioral processes.
3. Identify the major structures of the nervous system (central and peripheral) according to location and associated higher psychological functions.
4. Describe the role of postsynaptic potentials (excitatory and inhibitory), synaptic transmission, the primary neurotransmitters, and neuro-receptors in producing and regulating behavior.
5. Discuss the nature of sensation and perception as it applies to the five senses.
6. Describe the cognitive processes related to learning and memory.
7. Explain the interactions between hormones and behavior, including sex differences in brain morphology and sexuality.

D. Course Outcomes Assessment:

Assessment will include:

1. Students will demonstrate their attainment of course outcomes through a variety of assessment techniques including written exams and writing assignments.

E. Course Content:

Will include:

1. Research Methods
 - A. Human and non-human subjects
 - B. Methods of imaging the brain.
 - C. Invasive physiological methods
 - D. Behavioral, cognitive, and pharmacological methods
2. Theoretical Perspectives
 - A. Evolution
 - B. Genetics
 - C. Behavioral
 - D. Cognitive
3. Anatomy and Functions of the Nervous System
 - A. Divisions of the nervous system

- B. Cells of the nervous system; neuron and glial cells
 - C. Spinal cord
 - D. Major brain structures
 - E. Synaptic transmission
 - F. Neurotransmitters and pharmacology
4. Brain Function and Behavior
- A. Sensation and perception
 - B. Learning
 - C. Memory
 - D. Language and lateralization
 - E. Biological influences on behavior such as but not limited to:
 - 1. Vision
 - 2. Eating and drinking
 - 3. Hormones
 - 4. Sleep and rhythms
 - 5. Addictions
 - 6. Stress and health
 - 7. Mental disorders
 - 8. Aggression and violence