BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

PSY 3 - Introduction to Biological Psychology **3 Unit(s)**

Prerequisite(s): PSY 1
Recommended Prep: NONE
Transfer Status: CSU/UC
51 hours Lecture

This course introduces the scientific study of the biological bases of behavior and its fundamental role in the neurosciences. Physiological, hormonal, and neurochemical mechanisms, and brain-behavior relationships underlying the psychological phenomena of sensation, perception, regulatory processes, emotion, learning, memory, and psychological disorders will be addressed. The course also notes historical scientific contributions and current research principles for studying brain-behavior relationships and mental processes. Ethical standards for human and animal research are discussed in the context of both invasive and non-invasive research. (C-ID PSY 150).

II. **OBJECTIVES**

Upon successful completion of this course, the student will be able to:

A. Define and use basic biological, physiological, and psychological terminology of the neurosciences.
B. Differentiate among specialty areas within Biological Psychology and the related disciplines within the Neurosciences and the types of research that characterize the biopsychological approach.
C. Summarize the major issues in human evolution, genetics, and behavioral development that underlie the "biology of behavior."
D. Generate and explicate concrete examples of invasive vs. noninvasive research methods and the general principles of research ethics for the study of animals and human beings, including the research safeguards and the peer-review process in science.
E. Explain scientific approaches used in methodologies for the study of brain-behavior relationships.
F. Explain the general anatomy and physiology of the nervous system and its relationship to behavior.
G. Describe neural conduction and synaptic tranmission.
H. Discuss the role of the neuroendocrine system as it relates to behavior.
I. Exemplify with concrete examples various brain-behavior relationships including ingestive behavior, motivation, sexual behavior, sleep, learning, memory, stress, drug dependence, and psychiatric disorders such as affective disorders and schizophrenia.

III. **COURSE CONTENT**

A. **Unit Titles/Suggested Time Schedule**

Lecture

Topics	Hours
1. Biological Psychology as a Course of Study	3.00
2. Genes and Behavior and Human Evolution	3.00
3. Research Methods and Ethical Considerations of Biological Psychology and Neuroscience: Invasive vs Non-invasive, Research Ethics Applied to Animals and Humans	6.00

4. The Nervous System: Anatomy, Development and Plasticity, Communication within the Nervous System	6.00
5. The Effects of Psychoactive Drugs	3.00
6. Mechanisms of Perception, Conscious Awareness, and Attention	3.00
7. Wakefulness and Sleep	3.00
8. Motivation	3.00
9. Ingestive Behavior	3.00
10. Internal Regulation	3.00
11. Hormones, Sexual Development and Sexual Behavior	4.50
12. Learning and Memory	4.50
13. Emotion and Stress	3.00
14. Biological Bases of Affective Disorders and Schizophrenia	3.00
Total Hours	51.00

IV. **METHODS OF INSTRUCTION**

A. Lecture
B. Group Discussions
C. Collaborative Group Work
D. Class Activities
E. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
F. Discussion
G. Demonstrations
H. Problem-Solving Sessions
I. Reading Assignments
J. Multimedia Presentations

V. **METHODS OF EVALUATION**

A. Quizzes
B. Research Projects
C. Oral Presentation
D. Homework
E. Journal
F. Written Assignments
G. Mid-term and final examinations

VI. **EXAMPLES OF ASSIGNMENTS**

A. Reading Assignments
    1. Read the chapter on the structure of neurons and their impulses. Answer and submit review questions.
    2. Read the chapter on diseases and their effects on behavior.
B. Writing Assignments
    1. Explain the concept of neuroplasticity in the context of early child development.
    2. Write a 3 page paper summarizing a case study assigned by the instructor.
C. Out-of-Class Assignments
    1. Make a three dimensional model of a brain using the instructions provided in class.
    2. Explore a web site on drugs of abuse. Complete the worksheet detailing drug actions.

VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

A. Kalat, J. Biological psychology. 11 Edition. Wadsworth, 2012.
B. Pinel, J. Biopsychology. 8th Edition. Pearson, 2010.
C. Freeberg, L. Discovering Biological Psychology. 2nd Edition. Wadsworth Publishing, 2009.

Created/Revised by: Steve Hall
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