

Psychology (PSYC) 2050 Introduction to Biological Psychology (3) CSU: UC

Prerequisite: Successful completion of PSYC 1500 Introduction to Psychology with a grade of 'C' or better.

Advisory: Successful completion of Biology 1500 or 1510 and English 1500 or 1501 with a 'C' or better

Prerequisite knowledge and skills: Before entering the course, the student should be able to:

1. Demonstrate familiarity with the major concepts, theoretical perspectives, research methods, core empirical findings, and historic trends in psychology.
2. Explain (including advantages and disadvantages) and compare major theoretical perspectives of psychology (e.g., behavioral, biological, cognitive, evolutionary, humanistic, psychodynamic and socio-cultural);
3. Demonstrate knowledge and understanding of the following nine general domains: (1) biological bases of behavior and mental processes, (2) sensation and perception, (3) learning and memory (4) cognition, consciousness, (5) individual differences, psychometrics, personality, (6) social processes (including those related to socio-cultural and international dimensions), (7) developmental changes in behavior and mental processes that occur across the lifespan, (8) psychological disorders, and (9) emotion and motivation;
4. Describe and demonstrate an understanding of applied areas of psychology (e.g., clinical, counseling, forensic, community, organizational, school, health);
5. Draw the distinction between scientific and non-scientific methods of understanding and analysis.
6. Recognize and understand the impact of diversity on psychological research, theory and application, including (but not limited to): age, race, ethnicity, culture, gender, socio-economic status, disability, and sexual orientation.
7. Understand and apply psychological principles to personal experience and social and organizational settings.
8. Demonstrate critical thinking skills and information competence as applied to psychological topics.

Hours and Units Calculations:

48 hours lecture. 96 Outside of class hours. (144 Total Student Learning Hours) 3 Units

Catalog Description: This course introduces the scientific study of the biological bases of behavior and its fundamental role in 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 experimental research. C-ID: PSY 150.

Type of Class/Course: Degree Credit

Text: Kalat, James E. *Biological Psychology*. 12th ed. Wadsworth, 2015.

Keys, with Bahm, Bhadha, Koenigshover, and Smith. *Biological Psychology (Keys)*. LibreTexts, 2023.

Additional Instructional Materials: None

Course Objectives:

By the end of this course, a successful student will be able to:

1. Define and use basic biological, physiological, and psychological terminology of the neurosciences,
2. Differentiate among specialty areas within Biological Psychology and the related disciplines within the Neurosciences and the types of research that characterize the biopsychological approach,
3. Summarize the major issues in human evolution, genetics, and behavioral development that underlie the “biology of behavior,”
4. 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,
5. Explain scientific approaches used in methodologies for the study of brain-behavior relationships,
6. Explain the general anatomy and physiology of the nervous system and its relationship to behavior,
7. Describe neural conduction and synaptic transmission,
8. Discuss the role of the neuroendocrine system as it relates to behavior, and
9. 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.

Course Level Student Learning Outcomes

Local General Education Learning Outcomes

1. Develop an understanding of the relationship between science and other human behaviors.
2. Demonstrate the scientific method.

Course Scope and Content:

- Unit I Introduction
- A. Biological Psychology as a Course of Study
 - B. Terminology of the neurosciences
 - i. Definitions and use of basic biological, physiological, and psychological terminology
 - C. Specialty areas within Biological Psychology and Related Disciplines
 - i. Types of Research that Characterize Biological Psychology

- Unit II Genes and Behavior and Human Evolution
A. Human Evolution, Genetics, and Behavioral Development that Underlie Behavior
- Unit III Research Methods and Ethical Considerations of Biological Psychology and Neuroscience
A. Research Methods for the Study of Brain-Behavior Relationships
B. Invasive and Non-Invasive Methods
C. Research Ethics Applied to Animals and Humans
D. Research Safeguards and the Peer-Review Process
- Unit III The Nervous System
A. Anatomy & Physiology
B. The Nervous System and the Relationship to Behavior
C. Development and Plasticity
D. Communication within the Nervous System
 i. Neural Conduction and Synaptic Transmission
E. Ingestive Behavior
- Unit IV States of Consciousness and Memory
A. Psychoactive Drugs
 i. Effects
 ii. Dependence
B. Mechanisms of Perception, Conscious Awareness, and Attention
C. Wakefulness and Sleep
D. Learning and Memory
- Unit V Motivation, Emotion, and Disorders
A. Motivation
B. Emotion and Stress
C. Biological Bases of Psychological Disorders, Including Affective Disorders and Schizophrenia
- Unit VI Hormones, Sexual Development, and Sexual Behavior
A. Neuroendocrine System and its Relationship to Behavior
B. Sexual development
C. Sexual behavior

Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 6 hours per week outside of the regular class time doing the following:

1. Studying
2. Answering required questions
3. Completing required reading
4. Completing required projects
5. Reading, summarizing, or integrating, research

Methods of Instruction:

1. Lectures
2. Discussions
3. Visual presentations
4. Group projects

5. Worksheets
6. Questions

Methods of Evaluation:

1. Substantial writing assignments, including:
 - a. summarizing research findings
 - b. integrating research findings
2. Short writing assignments, including:
 - a. essay exams
 - b. application and opinion essays
2. Other examinations, including:
 - a. multiple choice
 - b. true/false items
3. Skill demonstration, for example:
 - a. Identify specific elements of the central and/or peripheral nervous system in situ.

Supplemental Data:

T.O.P. Code:	200100- Psychology, General
Sam Priority Code:	E: Non-occupational
Distance Education:	Online; Offline
Funding Agency:	Y: Not Applicable
Program Status:	1: Program Applicable
Noncredit Category:	Y: Not Applicable
Special Class Status:	N: Course is not a special class
Basic Skills Status:	N: Not Applicable
Prior to College Level:	Y: Not Applicable
Cooperative Work Experience:	N: Course is not a part of a cooperative education program
Eligible for Credit by Exam:	Yes

Eligible for Pass/No Pass:	Yes
Discipline	Psychology