

SOUTHEAST COMMUNITY COLLEGE
DIVISION OF ARTS AND SCIENCES
Social Science
Revision Date: 05-22-23

I. CATALOG DESCRIPTION

Course Number: PSYC2730
Course Title: Brain & Behavior
Prerequisite(s): PSYC1810
Catalog Description: Introduction of concepts and research for understanding relations between bodily processes and behavior focusing on the structure and function of the human brain.
Credit Hours: 3.0
Class Hours: 4.5
Lab Hours: 0
Total Contact Hours: 45

II. COURSE OBJECTIVES: *Course will:*

- A. Offer students an understanding of the basis of biological functions regarding the nervous system.
- B. Provide students the opportunity to explore important classes of behavior driven by biology.
- C. Allow students to be better informed on the biology of behavioral disorders and certain mental illness.
- D. Relate the mechanism of sensory input and motor output related to structure and function as well as pain control.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Demonstrate a basic understanding of the structure and function of neurons and the nervous system and the sensorimotor system.
 - 2. Develop a working knowledge of the biology underlying classes of behavior including reproduction, sleeping, emotions, and eating/drinking.
 - 3. Identify and explain the neural basis of mental illness.
- B. General Education Learning Outcomes
 - 1. GELO #2: Written Communication
Outcome: Comprehend, analyze, and evaluate a given text.
 - 2. GELO #3: Critical Thinking & Problem Solving
Outcome: Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.
 - 3. GELO #5: Analytical, Quantitative, and Scientific Reasoning
Outcome: Effectively develop strategies, algorithms, or experiments (or performing experiments) to better describe the systems or to solve the problems.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

- A. Introduction to Brain and Behavior
 - 1. The past, present and future of brain science
- B. Cells and Structures
 - 1. The anatomy of the nervous system – parts and processes
- C. Neurophysiology
 - 1. Generation of neural signals, transmissions and how they are measured.
- D. The Chemistry of Behavior
 - 1. Understanding neurotransmitters and neuropharmacology

- E. The Sensorimotor System
 - 1. Sensory processing and the somatosensory system
 - 2. Pain: The body's emergency signaling system
 - 3. How the neural system controls muscles to create behavior/mirror neurons
- F. Hearing, Balance, Taste and Smell
- G. Vision: From eye to brain
- H. Hormones & Sex
- I. Homeostasis and food and energy regulation
- J. Biological Rhythms & Sleep
- K. Emotions, Aggression & Stress
- L. Psychopathology
 - 1. The biology of behavioral disorders
- M. Memory, Learning and Development
- N. Attention & Consciousness
- O. Brain Asymmetry, Spatial Cognition & Language

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s):
 - 1. Introduction to Biological Psychology:
<https://open.umn.edu/opentextbooks/textbooks/introduction-to-biological-psychology>
- B. Other Resources:
 - 1. None.

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. Lecture
 - 2. Discussion

VII. METHODS OF EVALUATION

- A. Methods of evaluation typically include a combination of the following:
 - 1. Attendance
 - 2. Assignments
 - 3. Discussions/Responses (online)
 - 4. Critiques
 - 5. Exams

B. SCC GRADING SCALE

A+	95-100	C+	75-79	F	59 or less
A	90-94	C	70-74		
B+	85-89	D+	65-69		
B	80-84	D	60-64		

VIII. SPECIFIC COURSE REQUIREMENTS:

- A. Attendance and participation
- B. Assignments
- C. Exams