SAN JUAN COLLEGE
Success Matters

PSYC-2250 BRAIN AND BEHAVIOR 3 CREDITS

SYLLABUS

CATALOG DESCRIPTION

A general survey of the biological foundations of behavior and mental processes. Students will gain an understanding of anatomy, physiology, and chemistry of the nervous system and their relationships to human behavior.

Formerly: PSYC-245

Prerequisites: PSYC-1110. (RDNG-099 OR RDNG-113) and ENGL-099 or appropriate Reading and English Accuplacer scores.

Semester Offered: Fall

COMMON STUDENT LEARNING OUTCOMES

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in…

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

COURSE LEARNING OUTCOMES

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

GENERAL LEARNING OBJECTIVES

1. Demonstrate an understanding of the different structures of the brain and nervous system.
2. Demonstrate an understanding of the different functions of the nervous system.
3. Demonstrate an understanding of the chemistry of the brain and nervous system.
4. Develop the ability to apply 1, 2, & 3 above to different psychological processes such as: learning,
5. memory, sensation, perception, drive states, sleep, language, etc.
6. Develop the ability to apply 1,2, &3 above to psychological disorders such as: bipolar disorder, unipolar
7. disorder, anxiety, and schizophrenia.

SPECIFIC LEARNING OUTCOMES

1. Demonstrate an understanding of the different structures of the brain and nervous system:
    a. Describe the gross anatomy of the nervous system;
    b. Describe the microscopic anatomy of the nervous system which includes neurons and neuroglia
2. Demonstrate an understanding of the different functions of the nervous system:
    a. Describe the physiology of the nervous system which includes:
    i. resting potentials,
    ii. action potentials
    iii. graded potentials
    iv. neurotransmitters
    v. synaptic transmission
    vi. IPSPs, EPSPs, PSPs, etc.;
3. Demonstrate an understanding of the chemistry of the brain and nervous system:
    a. Explain how voltage gated ion channels work
    b. Discuss how different drugs effect neuronal functioning
        i. Agonistic drugs
    ii. Antagonistic drugs;
    c. Explain drug addiction and the brain's reward circuits
4. Develop the ability to apply 1, 2, & 3 above to different psychological processes such as: learning, memory, sensation, perception, drive states, sleep, language, etc.:
    a. Discuss the different diseases of the nervous system and recovery of function from brain damage;
    b. Evaluate the different sensory systems structure and function (i.e. vision & hearing);
    c. Discuss how hormones work;
    d. Discuss sexual differentiation and biological basis of gender differences/ preferences;
    e. Explain the function of movement and the motor system
    f. Describe the regulation of drive states such as hunger, thirst, sex and regulation of body temperature;
    g. Explain the biological basis of learning and memory;
    h. Discuss the different sleep stages, functions of sleep and the circadian cycle;
    i. Discuss the biological basis of emotions and stress;
    j. Explain lateralization of language and other cortical functions that are localized;
5 Develop the ability to apply 1,2, &3 above to psychological disorders such as: bipolar disorder, unipolar disorder, anxiety, and schizophrenia:
    a. Describe the biological basis of mood disorders and schizophrenia;
    b. Describe biological basis of anxiety disorders;
    c. Describe other disorders of brain dysfunction (e.g. Alzheimer's, Autism, Epilepsy, Multiple Sclerosis, Parkinson's Disease, Huntington's (Chorea, etc.).