

UNIVERSITY OF CALIFORNIA – IRVINE
DEPARTMENT OF NEUROBIOLOGY AND BEHAVIOR

The Brain and Behavior (BIO 35)
Summer Session #2, 2017 **Course Code: 05060**

Days/Times: Tues, Thurs 9:00am – 11:50am (4 credits)
Location: Social Science Trailer (SSTR) 101

Instructor: Judith S. A. Asem, Ph.D.
Email: judith.ase@uci.edu

Text: *Foundations of Behavioral Neuroscience* by Carlson (9th edition)
with reference to *Neuroscience: Exploring the Brain* by Bear, Connors, and Paradiso (3rd edition)

Course Description:

This course will provide an introduction to how the brain and nervous system influence our thinking and behavior. Students will examine neuroanatomy of the brain, the neuron, the peripheral and central nervous systems, and the endocrine system. Students will study the five major senses, perception, and higher cognitive processes. Students will understand how these nervous system components contribute to basic biological functions (e.g., sleep, wakefulness, and drive states), emotion, memory, movement, language, cognition, and behavioral actions.

Course Objectives:

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 endocrine system as it relates to behavior.
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.

Website:

The lecture slides and other pertinent materials will be placed on the Blackboard website. Most assigned readings are found in the assigned textbook. Any additional assigned readings will be made available via Blackboard or hyperlink. Lecture slides will be posted *after* each class as well as any additional materials used during lecture.

Grading Policy:

An assignment is considered late if it is submitted after 9:00am on the due date. The late penalty is a loss of 5% from the assignment’s grade for each 24 hours that it is late. There are no make-up homework assignments. However, make-up quizzes and exams are to be scheduled on an as-needed basis, likely immediately before or after the next class session. These make-up evaluations will likely consist of an *oral discussion* of the relevant material. There is no curve, and there is no extra credit available.

UNIVERSITY OF CALIFORNIA – IRVINE
DEPARTMENT OF NEUROBIOLOGY AND BEHAVIOR

Requirements:

The course grade (there is no curve) will be determined based on the following requirements.

Quizzes (2)	30%
Study Guides (2)	30%
Mid-Term Exam (1)	20%
Final Exam (1)	20%

- 1) **Quizzes (30%):** There will be two short quizzes (~15 questions) interspersed throughout the session (2 quizzes, 15% each), testing material from the previous lecture(s) and corresponding readings. You will be given 10-15 minutes at the beginning of the class for the quiz. You must be punctual or risk having less time (or no time at all) to take the quiz. Make-up quizzes are immediately before or after the next class session and will likely consist of an *oral discussion* of the relevant material. Answers to quizzes will be verbally discussed in class, but neither the quiz questions nor answers will be posted on Blackboard.
- 2) **Study Guides (30%):** There are two study guide assignments due during the session (2 study guides, 15% each). Complete the study guides on material related to “Sensory Systems” and “Attention, Learning, and Memory.”
- 3) **Exams (40%):** There will be a midterm exam and a cumulative final exam (2 exams, 20% each), testing material from the previous lectures and corresponding readings. Exams will consist of multiple choice questions and essay questions. Make-up exams are on an as-needed basis, will be scheduled based on the individual, and may consist of an *oral discussion* of the relevant material. Answers to the midterm exam will be verbally discussed in class, but neither the exam questions nor answers will be posted on Blackboard.

Policies and Support Services:

This course is governed by the policies set forth by University of California - Irvine.

If you have any questions regarding Special Programs and Services, please contact the Coordinator of the Special Programs and Services Office. If you may require accommodations, please establish contact with this representative prior to the first quiz, so that you have accommodations in place prior to our first exam.

Contact Person	Learn More	Contact
Departmental Office	Website	949-824-8519

Statement of Diversity and Inclusion:

As an instructor, I believe in facilitating a community committed to sharing values of diversity and inclusion in order to achieve and sustain excellence. I believe excellence is best promoted by having a diverse group of students, faculty, and staff who are committed to creating a climate of mutual respect that is supportive of one another’s success. I desire to work toward an ultimate outcome of best serving the needs of students, particularly by demonstrating an understanding of diversity as it relates to planning, instruction, management, and assessment. *[modified from Johns Hopkins University’s statement]*

A Word on Ethics:

The strength of our community depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, re-use of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition. Report any violations you witness to the instructor. Ethical violations will result in failure of the course and disciplinary action. *[Johns Hopkins University’s statement]*

University Policy on Academic Dishonesty: <http://www.editor.uci.edu/catalogue/appx/appx.2.htm>

UNIVERSITY OF CALIFORNIA – IRVINE
DEPARTMENT OF NEUROBIOLOGY AND BEHAVIOR

Schedule of Classes

The following schedule is subject to change. For each day, readings are listed in the recommended reading order. Any citations are hyperlinks to an online version (access may be limited). Any assigned readings are to be skimmed *before* the lecture.

Week 1	Topic	Readings
Tue, Aug 8	Introduction to the Course and Psychobiology Research Methods and Experimental Design	Chapter 1 Chapter 5
Thu, Aug 10	Nervous System: Design and Development Cells and Communication Psychopharmacology	Chapter 3 Chapter 2 Chapter 4

Week 2	Topic	Readings
Tue, Aug 15	Quiz #1: The Nervous System Visual System Auditory System	Chapter 6 Chapter 7, Part 1
Thu, Aug 17	Vestibular and Somatosensory Systems Chemical Sense (Gustatory and Olfactory) Systems	Chapter 7, Part 2 Chapter 7, Part 3

Week 3	Topic	Readings
Tue, Aug 22	Study Guide due: Sensory Systems Catch-Up and Review Mid-Term Exam: The Nervous System and Sensory Systems	
Thu, Aug 24	Sleep and Biological Rhythms Reproductive Behavior	Chapter 8 Chapter 9

UNIVERSITY OF CALIFORNIA – IRVINE
DEPARTMENT OF NEUROBIOLOGY AND BEHAVIOR

Week 4	Topic	Readings
Tue, Aug 29	Emotion, Stress, and Related Issues Ingestive Behaviors and Related Issues	Chapter 10, 15 (Part 2 and 3), and 16 (Part 2) Chapter 11 and 16 (Part 3)
Thu, Aug 31	Quiz #2: Innate Behaviors Attention, Learning, Memory	Chapter 12 and 16 (partial)

Week 5	Topic	Readings
Tue, Sep 5	Study Guide due: Attention, Learning, Memory Communication Neurological Disorders	Chapter 13 Chapter 14
Thu, Sep 7	Catch-Up and Review	

Week 6	Topic	Readings
Tue, Sep 12	Final Exam (Cumulative)	