

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE  
MASTER SYLLABUS

**BIOLOGICAL BASIS OF BEHAVIOR**  
**PSY 2010**

**Class Hours: 3.0**

**Credit Hours: 3.0**

**Laboratory Hours:**  
**0.0**

**Date Revised: Fall 1998**

**Catalog Course Description:**

Course includes basic anatomy of the brain and nervous system. Understanding the biological determinants of human behavior is the focus of study. Emphasized is the role of biological systems in learning, emotion, memory, perception, mental illness, and other areas of importance to psychology.

**Entry Level Standards:**

Admission to the college and exited from developmental reading and developmental writing if required by AAPP.

**Prerequisite:** PSY 1010 or equivalent or consent of instructor

**Textbook(s) and Other Reference Materials Basic to the Course:**

Kalat, J. W. (1998) . *Biological Psychology*. (Sixth Edition) . Pacific Grove, CA: Brooks/Cole.  
Hull, E.M. (1998). *Study Guide for Kalat's Biological Psychology*. (Sixth Edition). Pacific Grove, CA: Brooks/Cole.

**I. Week/Unit/Topic Basis:**

<b>Week</b>	<b>Topic</b>
1	Global Issues of Biological Psychology (intro., chapter 1)
2	Nerve cells and nerve impulses (chapter 2)
3	Synapses and drugs (chapter 3)
4	Anatomy of the nervous system (chapter 4)
5	Development and evolution of the brain (chapter 5)
6	Vision (chapter 6)
7	Nonvisual sensory systems (chapter 7)
8	Movement (chapter 8)

- 9 Rhythms of wakefulness and sleep (chapter 9)
- 10 Regulation of internal states (chapter 10)
- 11 Hormones and sexual behavior (chapter 11)
- 12 Emotional behavior and stress (chapter 12)
- 13 Learning and memory (chapter 13)
- 14 Lateralization and language (chapter 14)
- 15 Biology of mood disorders, schizophrenia and autism (chapter 16)
- 16 Final Exam

## **II. Course Objectives\*:**

- A. Learn the structure and function of the nervous system . IV, V
- B. Describe the major parts of the brain and describe their primary functions. IV, V
- C. Explain the major brain systems involved in emotion, cognition and behavior. II, IV, V
- D. Read and write reports on current research in biological psychology. I, II, III, IV, V, VII
- E. View current audio-visual aids focusing on biological psychology and discuss their relevance. II, IV, VII
- F. Apply knowledge goals from course resources to personal and professional development. I, II, III, IV, V, VI, VII
- G. Learn the various aspects of brain development. IV, VI, VII

\*Roman numerals after course objectives reference goals of the Social and Behavioral Sciences department.

## **III. Expectations for Student Performance\*:**

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

- 1. Identify the major lobes, fissures, and areas of the brain and their primary function. A, B, C
- 2. Describe the neural transmission process; identify major neurotransmitters and their role in the transmission process. C
- 3. Trace key events in neural development. A, G
- 4. List differences in form and function of the brain of males and females. A, G
- 5. Name the areas of the brain involved in vision, audition, and skin sensations and how they function. A, B, C
- 6. Identify the coordination systems of various brain areas in the production of physical movement. A, B, C
- 7. Describe the varying levels of brain functioning and behavioral correlates. A, B, C, D, E, F

8. Explain the relationship of emotion to learning and its connection to specific environmental signals. A, B, C
9. Identify the role of the higher brain centers in emotion. A, B, C
10. Describe the basic brain functions regulating sleep, dreaming, hunger and thirst. C, E
11. Identify the basic components of learning and memory. C, D, E, F
12. Explain the role of biological changes in brain functions and mental illness . A

\*Letters after performance expectations reference the course objectives listed above.

#### **IV. Evaluation:**

##### A. Testing Procedures: 85% of grade

Five 100 point examinations are scheduled for the semester. They may be objective, short answer, essay, or a combination of these methods of assessment. They encompass all lectures, discussions, audio/video presentations, and assigned readings. Test items will require recall, recognition, and applications of content. Examination dates are in the tentative schedule of instruction. No make-up exams will be given. However, an optional comprehensive final exam will be given during exam week to make up for a missed or low exam score. Your score on the final will substitute for a missing exam or your lowest test score.

##### B. Laboratory Expectations: None

##### C. Field Work: 15% of grade

Choose one of the following projects to complete your field work requirement. Late papers will lose 20% of original value for each day late.

###### 1. Research Paper

You may write a research paper on an approved topic for 100 points of credit. The paper is due the 12th week of class. It must be between five and six pages in length, typed, double-spaced, with appropriate references. Topics must be submitted in writing during the fourth week of class.

Approved topics include the following:

- animal research in biological psychology sexual motivation
- behavioral medicine sleeping and dreaming
- biofeedback Surgical control of behavior
- biological causes of mental illness biological basis of learning and memory
- brain disease drugs and addiction
- emotion and physiology genetic predispositions
- hunger and thirst infant brain development
- left/right brain research methods of research in biological psychology
- psychoneuroimmunology

###### 2. Research article critiques:

You may write a set of four critiques of articles dealing with biological psychology topics. Topics may be chosen from those listed under Research paper. Each critique should deal with a different topic and should be approximately 350-500 words, typed, double spaced, with a copy of the critiqued article, and should include a title page. Also due 12th week. Each is worth 25 points, for a total of 100 points.

D. Other Evaluation Methods:

A review of a movie relevant to topics discussed in class may be submitted for 10 points of extra credit. A list of suggested movies will be provided by instructor, but others may be used with instructor's permission.

E. Grading Scale:

Each of the 5 required exams is worth 100 points, as are the projects, for a total of 600 possible points. Your final grade is based on cumulative points.

<u>FINAL GRADE</u>	<u>CUMULATIVE POINTS</u>	<u>PERCENTAGE</u>
A	540-600+	90%
B+	510-530	85-89%
B	480-509	80-84%
C+	450-479	75-79%
C	420-449	70-74%
D	360-419	60-69%
F	Below 360	Below 60%

V. Policies:

Attendance Policy:

The quality of your experience in this class depends for the most part on you. For maximum benefits, you must attend class sessions, be prepared for discussion and lecture, etc. Pellissippi State attendance policy will be enforced: Any student who misses more than 25 % of classes will receive an automatic failure.

Class meets: Number of absences allowed:

3 days a week	12
2 days a week	8
1 day a week	4