Cognitive and Behavioral Neuroscience  
(PSY 6342; Section 010)

Fall 2017 Thursday 3—5:50 pm A 219

Instructor: Steve T. Brewer, Ph.D.  
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Email: steven.brewer@angelo.edu  
Phone: (325)486-6124

Office Hours:  
M & W: 1:00 – 3:00  
T 11:00-12:00  
R 11:00-12:00 & 2:00-3:00  
F 11-2; Or By Appointment.


Course Description: The field of psychology evolved from the combination of philosophy and physiology. The first textbook in psychology, written by Wundt in the late 19th c. was entitled "Principles of Physiological Psychology". Physiological psychology involves studying the relationship between physiological mechanisms and behavior. The primary physiological mechanism is the nervous system. Anyone who has kept current with psychological research realizes that the future of psychology will revolve around neural substrates of behavior and how they are influenced by our genetic makeup and modified by the environment. The purpose of this course is to give the student an in-depth look at the principles of neuroscience and how they relate to cognition and behavior. Emphasis will be placed on the organization of the nervous system and the cellular/chemical bases of neural activity and their relationship to normal and abnormal behavior.

Course Objectives:  
1. Learn fundamental principles, generalizations, or theories  
2. Learn to apply course material (to improve thinking, problem solving, and decisions)  
3. Develop specific skills and competency needed to understand biological research in the neurosciences.

Student Learning Outcomes:  
By the end of this course, you should:  
1. Have a basic understanding of the structure and function of the nervous system.  
2. Have a preliminary understanding of neuronal communication.  
3. Have a basic understanding of the biological processes underlying higher level functions such as cognition, learning and memory, and mental disorders.
Course Policies, Procedures and Format

Readings
It is expected that each student will have the required reading completed before the class during which we will discuss the material (see course schedule). Some material in the text may be challenging upon first read, but lectures and discussions will be easier and more advantageous if you have read the assigned reading.

Policies/Expectations
1. Students are expected to take responsibility for their success in class. You are encouraged to be active participants in the education process by asking questions and being alert in class.
2. Distracting or disrespectful students will be asked to leave the class (this includes use of cell phones and other electronic devices).
3. If you have any concerns related to this class, you are encouraged to speak with your instructor in a timely manner. As a general rule, you should raise any issues within one week of receiving a grade or completing a given project.
5. Students will be expected to access the Blackboard online classroom on a regular basis for announcements, course materials, assignments, and grades.

Class Sessions
1. The majority of the class will be lecture.
2. Class attendance is mandatory. This is a graduate level class and as such you are expected to attend each class and contribute to class discussions and activities. In order to have meaningful class discussions it is expected that you will come to class having read the assigned materials. Two absences will reduce your final grade by one letter.
3. You MUST take your own notes in class in order to pass.
4. Media presentations and demonstrations may be used to help illustrate the concepts being discussed.
5. Classes may include discussions, group projects, films, and activities.
6. Questions and comments are always welcome! (Please be respectful.)

*DISCLAIMER:* This class may examine ideas and material that some students may find disagreeable. If students are unable or unwilling to tolerate other perspectives in light of their own value systems and in the context of the class, then they are encouraged to speak with the instructor regarding their concerns and may wish to reconsider their enrollment in the course. Should you have any questions, concerns, or suggestions at any time during the semester, please feel free to contact me.

Communication
1. Email is the best way to contact your instructor.
2. All emails should include “PSY 6342” in the subject line.
3. All emails should include your first and last name.
4. Emails will typically be answered within 24 hours (excluding weekends and holidays), if an email is not answered within 24 hours please verify the email address and speak with your instructor during office hours or the next class period.
**ACADEMIC INTEGRITY:** Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at http://www.angelo.edu/forms/pdf/honorcode5.pdf. Any violation of academic honesty may result in course failure.

**Tutoring:**
The ASU Tutor Center is located in the Library C301 (3rd floor). Tutoring is free to all ASU students.

**Disabilities:**
Persons with disabilities which may warrant academic accommodations must contact the Student Life Office, Room 112 University Center (325-942-2191), in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.

**METHOD OF ASSESSING LEARNING OUTCOMES:**

**Exams:** Principles of learning and cognition have indicated that the acquisition and use of knowledge is facilitated to the degree that material is presented in a "distributed" rather than "massed" manner. Thus, you will be evaluated (tested) four times this semester after each of four units according to the schedule detailed below. Exams will most likely consist of a combination of multiple choice and short answer/essay type questions. Exam material will come from class material as well as the book. Note that the 4th or final exam will not be comprehensive. Each exam will be worth 100 points for a total of 400 points.

**Make up policy for exams:** Make up exams will ONLY be allowed for emergency situations (in other words, a doctor's appointment is not an emergency). It is the student’s responsibility (BY EMAIL WHEN POSSIBLE) to contact the professor within 24 hours to reschedule. Failure to do so will result in a zero on the exam. Make up exams will be scheduled at the convenience of the instructor and will be scheduled as quickly as possible.

**Quizzes:** There will be a quiz given at the beginning of class each week covering the assigned reading material. Each quiz will be worth 10 points and you will have 5 to 10 minutes to complete the quiz. The make-up policy for quizzes is the same as for exams (e.g. ONLY for emergency situations).

**Participation:** This is a graduate class that is heavily discussion based. Your attendance and participation is EXPECTED. That said, there are 10 pts available for discussion/attendance. Each day you do not attend or participate will affect these points.
Course Point Distribution:
Exams (4): 400 pts. (100 pts. Each)  Final Grades:
A: 450-500
Quizzes (9): 90 pts. (10 pts. each)  B: 400-449
Participation: 10 pts.  C: 350-399
Total Possible Points: 500  D: 300-349
F: ≤ 299

Tentative Schedule*

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Chapter</th>
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<tbody>
<tr>
<td>8-31</td>
<td>Syllabus/Introduction</td>
<td>1, 2, &amp; 3</td>
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<tr>
<td>9-7</td>
<td>Neuroscience: Past, Present, &amp; Future; Neurons and Glia; The Neuronal Membrane at Rest</td>
<td>1, 2, &amp; 3</td>
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<tr>
<td>9-14</td>
<td>The Action Potential; Synaptic Transmission</td>
<td>4 &amp; 5</td>
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<tr>
<td>9-21</td>
<td>The Action Potential; Synaptic Transmission</td>
<td>4 &amp; 5</td>
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<tr>
<td>9-28</td>
<td><strong>Exam 1</strong></td>
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<td>10-5</td>
<td>Neurotransmitter Systems; The Structure of the Nervous System</td>
<td>6 &amp; 7</td>
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<tr>
<td>10-12</td>
<td>Neurotransmitter Systems; The Structure of the Nervous System</td>
<td>6 &amp; 7</td>
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<tr>
<td>10-20</td>
<td>The Somatic Sensory System; Brain Control of Movement</td>
<td>12 &amp; 14</td>
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<td>10-26</td>
<td><strong>Exam 2</strong></td>
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<td>11-2</td>
<td>Chemical Control of the Brain and Behavior; Motivation; Sex and the Brain</td>
<td>15, 16, &amp; 17</td>
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<td>11-9</td>
<td>Brain Mechanisms of Emotion; The Resting Brain, Attention, &amp; Consciousness; Mental Illness</td>
<td>18, 21, &amp; 22</td>
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<td>11-16</td>
<td><strong>Exam 3</strong></td>
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<td>11-23</td>
<td>Thanks Giving Holiday</td>
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<td>11-30</td>
<td>Wiring the Brain; Memory Systems</td>
<td>23 &amp; 24</td>
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<tr>
<td>12-7</td>
<td>Memory Systems; Molecular Mechanisms of Learning and Memory</td>
<td>24 &amp; 25</td>
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<tr>
<td>12-12</td>
<td><strong>Final 3:30-5:30 pm</strong></td>
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* Syllabus is subject to change at the discretion of the instructor*