Course Description

“This course is an in-depth exploration of the cellular and chemical bases of behavior. Emphasis will be placed on neuro-development, ionotropic, and metabotropic communication and the relationship of these processes to normal and abnormal behavior” – Course catalog (riveting, I know).

Neuroscience II is a continuation of Neuroscience I (based on 2 being greater/after 1). Neuroscience II will build on foundational topics students have learned in Neuroscience I and will expand on them. Students will begin by reviewing key concepts including: neuroanatomy, neuronal signaling, and differences between ionotropic and metabotropic mechanisms. Students will go through an in-depth survey of the sensory systems (touch, vision, audition, olfaction, gustation) and the vestibular system before moving onto movement modulation and its systems (basal ganglia and cerebellum). Finally, students will learn about sleep (cortical states), brain development, and the way the brain is able to rewire, repair, and regenerate based on injury, disease, or experience.

Course Credits

3 credits

Prerequisite and Co-requisite Courses

Prerequisite: PSY 6342 (Neuroscience I)
Prerequisite Skills
Accessing Internet websites, using ASU Library resources, and proficiency with Microsoft Word and/or PowerPoint are expectations of this course.

Student Learning Outcomes

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assignment(s) or activity(ies) validating outcome achievement:</th>
</tr>
</thead>
</table>
| Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories) | Exams  
Student Presentation                                      |
| Learning to apply course material (to improve thinking, problem solving, and decisions) | Neuroscience Sensory snapshot assignment  
Student Presentation                                               |

Class Mask Policy
As a member of the Texas Tech University System, Angelo State University has adopted the mandatory Facial Covering Policy to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

Course Delivery
This is a face-to-face course with learning resources and supplemental materials posted in Blackboard. Students unable to attend class in person can find all resources on Blackboard.

Required Texts and Materials
Text:  
Communication

Faculty will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

**Written communication via email:** All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line.

Grading

**Evaluation and Grades**
Course grades will be determined as indicated in the table below.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent/Points of Total Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams (4)</td>
<td>70% (15% each Exams 1-3; 25% Final)</td>
</tr>
<tr>
<td>Sensory Snapshot (1)</td>
<td>10%</td>
</tr>
<tr>
<td>Final Project/Presentation (1)</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Grading System**
Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:

- A = (90-100%)
- B = (80-89%)
- C = (70-79%)
- D = (60-69%)
- F = (0-59%)

**Teaching Strategies**
Students are expected to be “active learners.” It is a basic assumption of the instructor that students will be involved (beyond the materials and lectures presented in the course) discovering, processing, and applying the course information using peer-review journal articles, researching additional information and examples on the Internet, and discussing course material and clinical experiences with their peers.
Assignment and Activity Descriptions

Exams
Throughout the semester, students will take 4 exams (Exams 1-3 are noncumulative while the last exam is cumulative, focusing more so on material post exam 3). However, neuroscience is cumulative by nature and thus it should not be surprising to see similar concepts from previous exams on exams later in the semester. The first exam will be on neurotransmitter systems, signaling mechanisms, and general anatomy. The second exam will cover the sensory systems. The third will cover brain development, construction of circuits, and modulation of movement (basal ganglia and cerebellum). The last exam will focus mainly on material related to plasticity, regeneration, and sleep, while still assessing knowledge from throughout the semester. Each exam will be available during a specified window of time on Blackboard; however, once the exam is started, it must be completed during that time. Students will download the exam from Blackboard and will complete it. You will then need to upload a PDF or Microsoft Word document of your completed exam in the appropriate exam submission window in Blackboard. You will have the length of a normal class period to complete the exam. This is on an honor system and I may check to confirm that download times match when the completed exams are uploaded. Exams 1-3 are worth 15% each while exam 4 is 25%. 70% of the course grade will come from exams.

Neuroscience Sensory Snapshot
Neuroscience is all around us! This is no truer than us experiencing the world. Therefore, students will be tasked with describing what is happening in the nervous system when they experience a particular sense, using terms and pathways discussed in class. Rubrics for this assignment will be given in advance of the due date (as seen below). Students will have to pick a given sensory system experience (listening to music (audition), reading a book (vision), eating a piece of cake (gustation), etc.) and explain what exactly is happening in the brain and spinal cord that allows for our processing of the experience. This assignment is meant to get students engaged in how neuroscience relates to our lives and truly controls everything around us. This write up is worth 10% of your final grade.

Neuroscience Final Project/Presentation
Each student will be responsible for presenting a Neuroscience-related (peer-reviewed) journal article and a write-up of that article to the class (not a review article). Each student will put together a PowerPoint presentation summarizing the article, discussing the methods used, highlighting the results, and providing commentary regarding the methodology/experiment at large. The article must be selected and approved ahead of time (see date below). The presentation should be between 20 and 25 minutes, and should not involve you reading straight from the slides. The write-up component will involve you summarizing the need for the article (what did the experiment/what would the experiment help provide, what methods were used, one or two important results, and discussion of how the article fills in any gaps in the literature). This final presentation/write up is worth 20% of the final grade.

Assignment Submission
All exams, the sensory snapshot, and final paper summary will be submitted online through Blackboard. Issues with technology use arise from time to time. If a technology issue does occur
regarding an assignment submission (before the deadline), email me at stephen.lippi@angelo.edu and attach a copy of what you are trying to submit. Please contact the IT Service Center at (325) 942-2911 or go to your Technology Support tab to report the issue. This lets your faculty know you completed the assignment on time and are just having problems with the online submission feature in Blackboard. Once the problem is resolved, submit your assignment through the appropriate link. This process will document the problem and establish a timeline. Be sure to keep a backup of all work.

**POLICY ON LATE OR MISSED ASSIGNMENTS**
Due dates and times for assignments are posted. Failure to submit your assignments on the assigned date will result in a ten percent deduction for each day after the posted deadline. No assignments will be accepted more than one week past the assigned due date.

**General Policies Related to This Course**
All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](https://www.angelo.edu/student-handbook/)
- [Angelo State University Catalog](https://www.angelo.edu/catalogs/)

**Student Responsibility and Attendance**
Each student is expected to arrive on time to each class and attend class regularly. However, if you are unable to attend because you are feeling ill, that is certainly fine. You all are graduate students and are expected to be in class each week (except in serious circumstances).

**COVID-19 and Attendance:** If you have had an exposure event, feel any less than 100%, or are unable to complete your daily wellness check, **do not** come to class. Please see the Class Mask Policy above.

**Academic Integrity**
Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Health and Human Services adheres to the university’s [Statement of Academic Integrity](https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php).

**Accommodations for Students with Disabilities**
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as
provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website. The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy
It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.

Plagiarism
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

In your neuroscience snapshot write-up and final paper summary write-up, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list. You should not be needing to take from much else beyond the textbook and notes to answer your neuroscience snapshot and article summary write-up (besides citing the article). However, should you look at other information besides the course materials. Please be sure to cite appropriately.

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4 [https://www.angelo.edu/services/disability-services/](https://www.angelo.edu/services/disability-services/)
5 [https://www.angelo.edu/content/files/14197-op-1011-grading-procedures](https://www.angelo.edu/content/files/14197-op-1011-grading-procedures)
6 [https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php](https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php)
Assignments are subject to be evaluated for originality. Resources to help you understand this policy better are available at the ASU Writing Center.  

**Student Absence for Observance of Religious Holy Days**
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

**Syllabus Changes**
The faculty member reserves the option to make changes as necessary to this syllabus and the course content. If changes become necessary during this course, the faculty will notify students of such changes by email, course announcements and/or via a discussion board announcement. It is the student’s responsibility to look for such communications about the course on a daily basis.

**Title IX at Angelo State University**
Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Boone, J.D. You may submit reports in the following manner:

Online: [www.angelo.edu/incident-form](http://www.angelo.edu/incident-form)
Face to face: Mayer Administration Building, Room 210
Phone: 325-942-2022
Email: michelle.boone@angelo.edu

*Note, as a faculty member at Angelo State, I am a mandatory reporter and must report*  

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7 [https://www.angelo.edu/dept/writing_center/academic_honesty.php](https://www.angelo.edu/dept/writing_center/academic_honesty.php)
8 [https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of](https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of)
incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State’s policy please visit: www.angelo.edu/title-ix.

**Course Schedule** - Subject to Change at Professor’s Discretion

<table>
<thead>
<tr>
<th>Date</th>
<th>Reading</th>
<th>Topic</th>
<th>Exams</th>
<th>Additional Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 25</td>
<td>Ch. 6-7</td>
<td>Neurotransmitters &amp; Their Receptors; Anatomy Molecular Signaling within Neurons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 1</td>
<td>Ch. 7</td>
<td>Molecular Signaling within Neurons G-proteins and 2nd Messenger signaling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 8</td>
<td>Ch. 9</td>
<td>Somatosensory System Touch &amp; Proprioception</td>
<td>Exam 1 (Ch. 6-7; Review)</td>
<td></td>
</tr>
<tr>
<td>Feb 15</td>
<td>Ch. 11-12</td>
<td>Vision Central Visual Pathways</td>
<td></td>
<td></td>
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<tr>
<td>Feb 22</td>
<td>Ch. 13-14</td>
<td>Auditory System Vestibular System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>March 1</td>
<td>Ch. 14-15</td>
<td>Vestibular System Chemical Senses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>March 8</td>
<td>Ch. 18</td>
<td>Modulation of Movement by: Basal Ganglia</td>
<td>Exam 2 (Ch. 9;11-15)</td>
<td></td>
</tr>
<tr>
<td>March 15</td>
<td>Ch. 19</td>
<td>Modulation of Movement by: Cerebellum</td>
<td>Sensory Snapshot Due Due: 11:59PM March 15</td>
<td></td>
</tr>
<tr>
<td>March 22</td>
<td></td>
<td></td>
<td>Pseudo Spring Break</td>
<td></td>
</tr>
</tbody>
</table>
Students in all programs are given the opportunity to evaluate their courses and the faculty who teach them. Evaluations are most helpful when they are honest, fair, constructive, and pertinent to the class, clinical experience, or course. Faculty value student evaluations, and use student suggestions in making modifications in courses, labs and clinical experiences. Angelo State University uses the IDEA (Individual Development and Educational Assessment) system administered through Kansas State University for all course evaluations. The Office of Institutional Research and Assessment administers IDEA for the entire university, online and has established a policy whereby students can complete course evaluations free from coercion.
KIDS: IF YOU STUDY REALLY HARD IN NEUROSCIENCE

YOU TOO CAN BECOME A UNITED STATES SECRETARY OF HOUSING AND URBAN DEVELOPMENT