Instructor: Dr. Stephen Lippi
Email: stephen.lippi@angelo.edu
Phone: 325-486-6923
Office: Academic 104C
Office Hours: TR 11 am – 4 pm

Course Information

Course Description
“This course is an in-depth exploration of the cellular and chemical basis 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 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
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
Vocabulary definitions |
| Learning to apply course material (to improve thinking, problem solving, and decisions)   | Neuroscience snapshot assignments                             |

Course Delivery
This is a face-to-face course with learning resources and supplemental materials posted in Blackboard.

Required Texts and Materials

Topic Outline – May change at the discretion of professor

<table>
<thead>
<tr>
<th>Monday(s)</th>
<th>NEURO 2</th>
<th>3-5:50PM</th>
<th>Neuroscience Snapshots</th>
<th>Handwritten Vocab Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 13</td>
<td>Ch. 6-7</td>
<td>Neuroneceptors &amp; Their Receptors; Anatomy Molecular Signaling within Neurons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan 20</td>
<td>NO SCHOOL - Martin Luther King Jr. Day</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Jan 27    | Ch. 7   | Molecular Signaling within Neurons G-proteins and 2nd Messenger signaling |                      | Ch. 6
Gproteins and 2nd Messenger signaling |
<p>| Feb 3     | Exam 1 (Review: Anatomy, Ch. 6 &amp; 7) |                      |                         | Ch. 7                   |
| Feb 10    | Ch. 9   | Somatosensory System Touch &amp; Proprioception |                      | Ch. 9                   |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Chapter(s)</th>
<th>Topic</th>
<th>Chapter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 17</td>
<td>Ch. 11-12</td>
<td>Vision</td>
<td>Ch. 11-12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Central Visual Pathways</td>
<td></td>
</tr>
<tr>
<td>Feb 24</td>
<td>Ch. 13-14</td>
<td>Auditory System</td>
<td>Ch. 13-14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vestibular System</td>
<td></td>
</tr>
<tr>
<td>March 2</td>
<td>Ch. 14-15</td>
<td>Vestibular System</td>
<td>Ch. 14-15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chemical Senses</td>
<td></td>
</tr>
<tr>
<td>Mar 9</td>
<td></td>
<td>SPRING BREAK</td>
<td></td>
</tr>
<tr>
<td>Mar 16</td>
<td>Exam 2 (Sensory Systems: Ch. 9, 11-15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar 23</td>
<td>Ch. 18</td>
<td>Modulation of Movement</td>
<td>Sensory System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>by: Basal Ganglia</td>
<td>Snapshot</td>
</tr>
<tr>
<td>Mar 30</td>
<td>Ch. 19</td>
<td>Modulation of Movement</td>
<td>Ch. 19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>by: Cerebellum</td>
<td></td>
</tr>
<tr>
<td>April 6</td>
<td>Ch. 22-23</td>
<td>Early Brain Development</td>
<td>Ch. 22-23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction of circuits</td>
<td></td>
</tr>
<tr>
<td>April 13</td>
<td>Ch. 23-24</td>
<td>Construction of circuits</td>
<td>Ch. 23-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Circuit development</td>
<td></td>
</tr>
<tr>
<td>April 20</td>
<td>Ch. 8</td>
<td>Synaptic Plasticity</td>
<td>Motor System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Snapshot</td>
<td>Snapshot</td>
</tr>
<tr>
<td>April 27</td>
<td>Ch. 26</td>
<td>Repair and Regeneration in the Nervous System</td>
<td>Ch. 26</td>
</tr>
<tr>
<td>May 4</td>
<td>Exam 3 &quot;Final&quot; (Ch. 8, 18, 19, 22-24; 26)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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>Vocabulary definitions</td>
<td>120 points</td>
</tr>
<tr>
<td>Neuroscience snapshots</td>
<td>200 points (100 points each)</td>
</tr>
<tr>
<td>Exams</td>
<td>300 points (100 points each)</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 = 558-620 points (90-100%)
B = 496-557 points (80-89.84%)
C = 434-495 points (70-79.84%)
D = 372-433 points (60-69.84%)
F = 0-371 points (0-59.84%)

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

Vocabulary
Neuroscience has many terms that all relate to one another. As a scientist, it is important to understand terminology. Therefore, students will be responsible for defining terms related to each week’s assigned reading (please see above outline for due dates). These are mainly for completion to ensure that students are engaged in the text and defining the terms accordingly. All bolded terms must be defined on sheets of paper, notecards, or some medium that can be presented in class for grading. These must be handwritten. Each week’s vocabulary will count for 10 points and there will be 12 of these assignments; therefore, 120 points will be awarded for vocabulary lists.

Neuroscience Snapshots
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 and when they generate movement, using terms and pathways discussed in class. Rubrics for this assignment will be given in advance of the due date (as seen above). Students will have to pick a given sensory system experience (listening to music, reading a book, eating a piece of cake, etc.) and describe a type of movement (running to a
friend, waving to a neighbor, etc.) and explain what exactly is happening in the brain and spinal cord that allows for our processing of the experience/action. This assignment is meant to get students engaged in how neuroscience relates to our lives and truly controls everything around us.

**Exams**
Throughout the semester, students will take 3 noncumulative exams. 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 and the third will cover brain development, motor systems, and plasticity. Students can bring an 8.5 x 11 sheet of notebook paper or printer paper with *handwritten notes* to the exam. Students may write anything on these sheets of paper; these are meant to aid in studying and to help focus attention to key details. Each exam will be worth 100 points, for a grade contribution of 300 points.

**Assignment Submission**
All assignments are due in class on their respective due dates.

**Late Work or Missed Assignments Policy**

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**
It is expected that all students will attend class each week. If you are unable to attend class for some reason, please see me or email me before hand to explain the situation.
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 to disciplinary action and possible expulsion from ASU.

The College of Health and Human Services adheres to the university’s Statement of Academic Integrity.³

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 (ADAAA) 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.⁴ 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

---

³ https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
⁴ https://www.angelo.edu/services/disability-services/
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-ups, 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 assignments. However, should you look at other information besides the course materials, please be sure to cite appropriately.

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

---

5 https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
6 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
7 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
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 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](http://www.angelo.edu/title-ix).

**Student Evaluation of Faculty and Course**

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.