Biology 5301 (CRN 19706): Graduate-Level Systems Neuroscience
Fall 2021, Tuesdays, 6:00–8:50 pm, Location: UGLC 128

Instructor
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Definitions and Objectives

*Systems neuroscience* is concerned with how nerve cells are organized as functional circuits, thereby permitting organisms to process sensory information, control their internal state, and execute movements. In this course, we will explore how neural systems are organized within mammalian brain, spinal cord and peripheral ganglia, beginning with an exploration of nerve cells as the fundamental units of nervous system organization. While the focus is on mammals, examples from other vertebrates as well as invertebrates will also be provided. We will discuss how sensory systems (visual, auditory, vestibular, olfactory, gustatory, somatosensory) provide information that allows the organism to execute voluntary (somatomotor) and involuntary (autonomic) movements. The course is intended for graduate and professional students pursuing careers in neuroscience, medicine, or allied health fields. It is also a useful adjunct for advanced studies in field biology, natural history, and ecology/evolution; where animal behavior is emphasized.

Course organization and grading

Attendance is expected. Of your total grade, *two take-home midterm exams* will each form 20% and a *take-home final* will count for 30%. The remaining 30% will be formed by performance in class during discussions, on in-class quizzes, presentations, and in the punctual completion of written assignments.

Texts

4. Additional readings (journal articles, chapters) will also be assigned each week.

Prerequisites

Students must be graduate students in good standing, and the successful completion of *ZOOL 4384/Biol 5301: Neurobiology – Cellular/Molecular Neuroscience* (or equivalent course from another college or university) is preferred but not required.

Policy on Academic Dishonesty

Students caught cheating or plagiarizing will be reported to the Dean of Students.

Accessibility

If you have or suspect you have a disability and need accommodations, contact the Center for Accommodation and Support Services (CASS) at (915) 747-5148 or e-mail their office at cass@utep.edu. The office is located in Union Building East, Rm. 106; and on the web at [https://www.utep.edu/student-affairs/cass/](https://www.utep.edu/student-affairs/cass/). You are responsible for presenting to Dr. Khan any CASS accommodation letters and instructions.