NEUR327 Cellular Neuroscience

Spring 2024, Monday 1:30-4PM, Krasnow 229

INSTRUCTOR: N KABBANI
Contact Information: nkabbani@gmu.edu
Office Hours: Directly after class or by appointment

OBJECTIVE: This is a fundamental neuroscience course that presents basic concepts of cellular and molecular neuroscience. We will study key topics in neuronal function, including the structure of neurons, the functions of cell membranes, regulation of electrical properties, and intracellular signaling that participates in synaptic plasticity.

Textbook: The textbook used for developing this course is **Neuroscience 5/e, Purves et al. or any other edition**). Although not required, reading of the textbook is highly recommended.

Attendance is required for success.

GRADING: Your final grade will be based on
3 exams @ 20% each
1 group presentation @ 20%
4 random quizzes @ 5% each

EXAM INFO: Your exams will be available via Blackboard at 9AM on the scheduled day. The exam will remain available until 5PM that same day. The exam is to be completed within 60 minutes. The exam **is not** open-notes, and you are asked to use the GMU Honor Code during the exam.

Group Presentation: You will be divided into groups and expected to work together to prepare a 20 min presentation on an assigned topic. I am happy to meet with each group individually. Presentations will be graded based on the below rubric. The group will be graded as a whole with every member receiving the same score.

Criteria	**Strong**	**Average**	**Weak**
Content (50%)	Topic was discussed thoroughly and sufficient information provided.	Topic was discussed well. One or more issues were not entirely clear.	Discussion of the topic enabled a broad understanding leaving a number of unanswered questions.
Delivery (50%)	Well prepared. Slides were clear. The presenter answered all questions.	Minor aspects of the presentation (visual or verbal) were not clear.	Presentation lacked clarity or poorly prepared slides

Weekly Schedule

Jan 22 Introduction and Studying the Nervous System Ch.1 (form groups)
Jan 29 **No class**
Feb 5 Electrical Properties of Neurons, Ch.2
Feb 12 The Action Potential, Ch.3 (select presentation topic)
Feb 19 EXAM 1 (Ch. 1-3)
Feb 26 Membrane Proteins, Ch.4
March 4 **No class Spring Break**
March 11 Presynaptic Release, Ch.5 (identify topic related articles)
March 18 EXAM 2 (Ch. 4-5)
March 25 Neurotransmitters, Ch.6
April 1 Receptor Signaling, Ch 7
April 8 Synaptic Plasticity, Ch.8
April 15 **Group presentation**
April 22 **Group presentation**
April 29 EXAM 3 (Ch. 6-8)