NEUR327/Cellular Neuroscience Summer 2023-ONLINE Synchronous

INSTRUCTOR: N KABBANI
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Online meeting times: M/W/F, 9-11AM

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. Reading of the textbook (**Neuroscience 5/e, Purves et al. or any other edition**) is highly recommended.

GRADING: There will be 2 exams and a comprehensive final. Each exam will be worth 25% of your final grade while the comprehensive will be worth 40%. **10% of your grade is based on attendance and participation in the course (see below).** All exams are online and will be available via Blackboard the day of the exam. **Make-up exams are not allowed**.

Attendance and participation are mandatory. Thus, regularly attending the Zoom lecture, with camera turned on, and an engaged presence is built into the objective of the course. The slides provided are not complete notes nor are they substitutes for attending the lecture.

ONLINE EXAM INFO: Your exams will be posted on Blackboard the scheduled day of the exam. The exam will be available for 12 hours that day. The exam will be timed to 90 minutes, and you will have only one attempt to complete the exam. The exam **is not** open book or open notes. You are asked to use the GMU Honor Code throughout the exam.

SCHEDULE (subject to minor modification as the we progress)

Week 1: M: Introduction to the Course W: Studying the Nervous System Ch.1 F: Electrical Signals of Nerve Cells, Ch.2 (DD)
Week 2: **M: No class Memorial Day** W: Voltage Dependent Membrane Permeability, Ch.3 (NKA) F: ------
Week 3: M: **EXAM 1 (Ch. 1-3)** W: Channels and Transporters, Ch. 4 (WA) F: Synaptic Transmission, Ch.5 (BM)/(RK)
Week 4: **M: EXAM 2 (Ch. 4 & 5)** W: Neurotransmitters and their Receptors, Ch.6 (EB)/Vanessa F: Molecular Signaling within Neurons, Ch. 7 (HR)/TB/BK
Week 5: M: Synaptic Plasticity, Ch.8 (JH)/NS W: Synaptic Plasticity, Ch.8 (CS)/(AE) **F: FINAL EXAM (Ch. 6-8 + comprehensive)**