

NEUR327

Cellular, Neurophysiological, and Pharmacological Neuroscience

Summer 2020-ONLINE

INSTRUCTOR: N KABBANI

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Online meeting times: Tuesday/Thursday 10AM-Noon; Friday 10-11AM

Course Objectives: This is a core neuroscience course that presents basic concepts of cellular and molecular level neuroscience. It is an in depth survey of neuronal functions, including cellular anatomy and membrane functions, electrical properties of neurons, intercellular and intracellular signaling, synaptic plasticity, brain development and repair. **Text: Neuroscience 5/e, Purves et al.**

GRADING

There will be 2 exams and a comprehensive final. Each exam will be worth 30% of your final grade while the comprehensive will be worth 40%. All exams are online. Make-up exams are not allowed. All exams follow the guidelines of the GMU Honor Code as described in the GMU catalog.

Weekly Schedule:

Week 1: June 1, 2020 T: Studying the Nervous System Ch.1 R: Electrical Signals of Nerve Cells, Ch.2 F: Voltage Dependent Membrane Permeability, Ch.3
Week 2: June 8, 2020 T: Voltage Dependent Membrane Permeability, Ch.3 R: Channels and Transporters, Ch. 4 F: Channels and Transporters, Ch. 4
Week 3: June 15, 2020 T: Synaptic Transmission, Ch.5 R: Synaptic Transmission, Ch.5 F: Neurotransmitters and their Receptors, Ch.6
Week 4: June 22, 2020 T: Neurotransmitters and their Receptors, Ch.6 R: Molecular Signaling within Neurons, Ch.7 F: Molecular Signaling within Neurons, Ch.7
Week 5: June 29, 2020 T: Synaptic Plasticity, Ch.8 R: Synaptic Plasticity, Ch.8 F: TBD

Exam 1: Chapters 1-4 (6/15)

Exam 2: Chapters 5-6 (6/26)

Final: Chapter 7-8 and comprehensive (TBD)