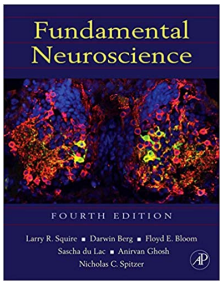
NEUR 602, Cellular Neuroscience, **FALL 2022 (**Synchronous Online)
Meets: W/10:30AM-1PM EST via Zoom
Instructor: Nadine Kabbani, nkabbani@gmu.edu

Overview: This is a core graduate neuroscience course that presents key concepts in cellular neuroscience and provides a survey of neuronal function, which includes topics in cell structure, membrane function, electrical properties, and intracellular signaling. The course enables an understanding of research trends in neuroscience through the primary literature.

Textbook: FUNDAMENTAL NEUROSCIENCE (Squire et al., 4th edition)



Class structure and grading: The class will be divided into 2 parts: A 90 min lecture, a 10 min break, a 45 min student presentation, and a 15 min Q&A discussion. There will be 2 exams and each will count for 40% of the final grade. The remaining 20% is based on participation and presentation of a research article.

Exam Format: Exams will be administered via Blackboard between 9am and 9pm on the scheduled day. They will consist of multiple choice and true/false questions and cover information from the book chapters. The exams are timed for 60 min with one attempt.

Article Selection and Presentation: We will study a primary research article that relates to the weekly topic. Each student will be able to choose an article to present. This article must be approved by the instructor at least 2 weeks in advance.

Date	**Topic**	**Presenter**	**Chapters**
8/24	Introductions	None	
8/31	Cellular Components of Nervous Tissue	None	Ch. 1-3
9/7	Subcellular Organization	NL	Ch.4
9/14	Membrane and Action Potential	FA	Ch. 5
9/21	Neurotransmitters/**Nick Racine (Opioids)**	KM, SE	Ch. 6
9/28	Neurotransmitter Release	GL, AC, ESV	Ch. 7
10/5	Neurotransmitter Receptors	HW, LM	Ch. 8
10/12	Intracellular Signaling	AP, MK	Ch. 9
10/19	**EXAM 1 (online)**		**Ch.1-8**
10/26	Intracellular Signaling	RH, GW	Ch. 9
11/2	Brain Energy Metabolism	AP, LB	Ch. 12
11/9	Presentations	AA, AN, TF	

11/16	Presentations	LB, NM, AW	
11/24	No class- Thanksgiving		
12/1	**EXAM 2 (online)**		