NEUR 335 – Molecular, Developmental, and Systems Neuroscience
Fall 2023; Section 003

Instructor: Dr. Sarojini Manju Attili
Email: sattili@gmu.edu

Meeting time: Tues/Thurs 10:30-11:45 am EST
Meeting location: Music/Theater Building; 1002

Office Hours: By appointment

Course Information:
This course is one of the required Neuroscience courses for majors. Developmental neuroscience is the study of the cellular and molecular events during embryonic development of the nervous system. We will cover patterning of the nervous system, cell differentiation, axon guidance, synapse formation, and neural death. Systems neuroscience involves the study of neural circuits, organized into sensory and motor systems, whose activity gives rise to complex functions. For each of these systems, pathways of information flow, information processed at each level, overall function, and consequences of injury/damage will be discussed. Students are also expected to become familiar with the scientific methods used to tackle questions in developmental/systems neuroscience as well as current questions and/or controversies in the field.

Required Textbook:
Purves, D., et al. (2017) *Neuroscience, 6th Edition.* Sinauer Associates. ISBN: 9781605353807
Online Resources: oup-arc.com/access/purves-6e (includes animations, flashcards, etc.)

Technological Requirements: Access to Blackboard and email.

Tentative Schedule

Last Day to Add – Aug 28
Last Day to Drop – Sep 5 (100% refund), Sep 12 (50% refund)

Date	What we are discussing	Reading Material	Quizzes/Report
Week 1 – Aug 22	Course introduction & Early Brain Development	Purves Ch 22	
Aug 24	Early Brain Development	Purves Ch 22	
Week 2 – Aug 29	Construction of Neural Circuits	Purves Ch 23	Quiz 1
Aug 31	Construction of Neural Circuits	Purves Ch 23	

Week 3 – Sep 5	Vision	Purves Ch 11	Quiz 2
Sep 7	Vision & Central Visual Pathways	Purves Ch 11, 12	
Week 4 – Sep 12	Central Visual Pathways	Purves Ch 12	
Sep 14	Exam 1 Review		Quiz 3
Week 5 – Sep 19	**Exam 1**		
Sep 21	Auditory System	Purves Ch 13	
Week 6 – Sep 26	Auditory System	Purves Ch 13	
Sep 28	Vestibular System	Purves Ch 14	Quiz 4
Week 7 – Oct 3	Vestibular System	Purves Ch 14	
Oct 5	Chemical Senses	Purves Ch 15	Quiz 5
Week 8 - Oct 10	Fall Break		
Oct 12	Somatosensory System	Purves Ch 9	
Week 9 – Oct 17	Somatosensory System	Purves Ch 9	
Oct 19	Exam 2 Review		Quiz 6
Week 10 – Oct 24	Exam 2		
Oct 26	Lower Motor Neurons	Purves Ch 16	
Week 11 – Oct 31	Lower Motor Neurons	Purves Ch 16	
Nov 2	Upper Motor Neurons	Purves Ch 17	Quiz 7
Week 12 – Nov 7	Upper Motor Neurons	Purves Ch 17	
Nov 9	Basal Ganglia	Purves Ch 18	Quiz 8
Week 13 – Nov 14	Basal Ganglia	Purves Ch 18	
Nov 16	Pain	Purves Ch 10	Quiz 9
Week 14 – Nov 21	Cerebellum	Purves Ch 19	
Nov 23	Thanksgiving Break		
Week 15 – Nov 28	**Exam 3 Review; Course Evaluations**		Quiz 10
Nov 30	**Exam 3**		
Week 16 – Dec 5	**Reading Day**		
Dec 7	**Cumulative Final Exam (Optional)**		Written Report Due
Dec 8-12	**Grading Period**		

Grading Scale:

A+ 97-100%	B+ 87-89%	C+ 77-79%	D 60-69%	F 0-59%
A 93-96%	B 83-86%	C 73-76%		
A- 90-92%	B- 80-82%	C- 70-72%		

10 Quizzes @ 5 pts each	50
1 Written Report	50

Attendance & Participation	25
Exam 1	50
Exam 2	50
Exam 3	50
Total	500.00

How do I do well in this class?

- This course relies heavily on material presented in the book. You are expected to read the chapters and the material presented in lecture will be over that content.
- I recommend skimming the chapter before we talk about them in class, and then reading again after lecture and when doing classroom activities.
- Also, communication is key to doing well in this course. You will be graded on your written and oral communication, but communication is necessary when you are confused in class.

Student responsibilities:

- Attend all sessions & participate in discussions.
- Be respectful to others, ask questions, and don't interrupt.
- Communicate about missing class/assignments with the instructor.
- Read the chapter before coming to class.
- Limit distractions in class including side conversations, phone use, and computer/tablet use.
- Seek help if you are struggling.

Class communication: The instructor reserves the right to make any changes in the course he determines academically advisable. Changes will be announced in class and by *email solely through the students Mason account*. It is the student's responsibility to keep up with any changed policies.

Mandatory Attendance: Students are expected to attend class on time and participate in all discussions and activities for the whole duration of each lecture. Graded weekly quizzes will be at the beginning of each class, so punctuality is required. **There will be no make-up quizzes/exams**. Students with an excused absence (sick with a doctor's note, death in the family, religious observance) should contact instructor before missing class/exams to discuss options for alternative arrangements. In the event of illness, you must present a doctor note explicitly stating that you were too ill to take the exam. Car/transportation trouble, traffic, routine doctor appointments, vacations, family travel, and any avoidable conflicts are not considered excused absences.

Writing Center: George Mason University provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) for supporting students as they work to construct and share knowledge through writing. See writingcenter.gmu.edu

Academic Integrity: George Mason has an honor code with clear guidelines for academic integrity. Honesty expectation and requirement are taken very seriously, and breaches of this trust are treated gravely. Students must be responsible for their own work. When in doubt (of any kind) please ask for guidance and clarification. Cheating of any form is not tolerated. Students and faculty must take on the responsibility of dealing explicitly with violations.

Professional disposition: Students are expected to exhibit professional behavior at all times.

Disability Accommodations: If you have a documented learning disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with Office of Disability Services (SUB I, Rm. 4205; 993-2474; ods.gmu.edu) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs. (Please talk to the Disability Services office first; they will meet with you and help you with your individual needs. We can only activate your accommodation after you talk with Disability Services. Then talk to the instructor.)

Counseling and Psychological Services: George Mason University has a staff of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops, and outreach programs) to enhance students' personal experience and academic performance. See caps.gmu.edu

COVID Policies: All students, instructors, and TAs are required to follow the university's public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage (https://www2.gmu.edu/safe-return-campus). Similarly, all students, instructors, and TAs in face-to-face and hybrid courses must also complete the Mason COVID Health Check daily, seven days a week. The COVID Health Check system uses a color code system and students will receive either a Green, Yellow, or Red email response. Only students, instructors, and TAs who receive a "green" notification are permitted to attend courses with a face-to-face component. If you suspect that you are sick or have been directed to self-isolate, please quarantine or get testing. Faculty are allowed to ask you to show them that you have received a Green email and are thereby permitted to be in class.