

NEUR 335 – Developmental and Systems Neuroscience
Spring 2026; Section DL1

Instructor: Dr. Sarojini Attili
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Office Hours: Online 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, 7th Edition*. Sinauer Associates. ISBN: 9780197616246

Technological Requirements: A functional computer with access to Canvas, email and an internet browser.

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%		

Grade Breakdown:

12 Quizzes (5 points each)	60
6 Activities (10 points each)	60
1 Written Report	40
Exams (3 @ 40 points each)	120
Total	280

Quizzes and Activities: Students will take an online quiz (via Canvas) after attending each lecture before the assigned due date. Quizzes are open book/note but there is a time limit. You may only take each quiz or activity once. There will be a total of 12 quizzes and 6 activities.

News & Views Report: Students will research and write a 1-2 page "News & Views" style summary of a primary research paper. Sample reports and guidelines will be available on Canvas. Reports must be submitted via Canvas by the assigned due date.

Exams: There will be a total of three non-cumulative exams consisting of multiple choice, fill in the blank, and free response questions. There will also be an OPTIONAL cumulative final exam that can be used to replace a low score on Exam 1, 2 or 3. Exams will be timed. There will be no make-ups allowed for missed exams. Contact the instructor in the first two weeks of the semester if you have accommodations that allow for extra time and review the 'Disability Accommodations' section below.

Course Calendar

Last Day to Add – Jan 27

Last Day to Drop – Feb 3 (100% refund), Feb 10 (50% refund)

Date	Topic	Textbook Chapter/s	Assignments
Week 1 1/20	Course introduction & Basic concepts		Quiz 1
Week 2 1/27	Early Brain Development	Purves Ch 22	Quiz 2
Week 3 2/3	Construction of Neural Circuits	Purves Ch 23	Quiz 3
Week 4 2/10	Experience-Dependent Plasticity	Purves Ch 24	Quiz 4
Week 5 2/17	Exam 1		
Week 6 2/24	Vision & Central Visual Pathways	Purves Ch 9	Quiz 5
Week 7 3/3	Auditory System	Purves Ch 10	Quiz 6
Week 8 3/10	Spring Break		
Week 9 3/17	Chemical Senses	Purves Ch 14, 15	Quiz 7
Week 10 3/24	Somatosensory System	Purves Ch 12	Quiz 8
Week 11 3/31	Exam 2		
Week 12 4/7	Lower Motor Neurons	Purves Ch 16	Quiz 9
Week 13	Upper Motor Neurons	Purves Ch 17	Quiz 10

4/14			
Week 14 4/21	Basal Ganglia	Purves Ch 18	Quiz 11, Written Report
Week 15 4/28	Cerebellum	Purves Ch 19	Quiz 12, Submit any late work by 4/30
Week 16 5/6	Exam 3		
Week 17 5/12	Optional Cumulative Final Exam - Online		

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 complete the activities assigned.
- Watch all lectures and other videos posted.
- Read any supplementary materials posted.

Student responsibilities:

- Watch all lectures, review all materials posted.
- Complete all work by the due dates.
- Be respectful to fellow classmates on discussion boards or other interactions.
- Seek help if you are struggling.

Class communication: If you need to contact me, please do so using e-mail from your university account only and include the course name in the subject line and include your name in the e-mail. Check your e-mail and course Canvas account daily and before each class meeting. The instructor reserves the right to make any changes to the course she determines academically advisable. I will use e-mail and Canvas to communicate with you regarding changes related to the course, syllabus, and other essential information. You are responsible for all announcements posted and sent via Canvas and e-mail, in addition to announcements made in lecture videos.

Late Work: Unless prior arrangements are made, late work will incur a deduction of 20% and will not be accepted more than two weeks after the due date. No late work will be accepted after **April 30th**. Late exams and exam extensions are not accepted except in cases of emergency or illness. It is imperative that you contact me as soon as possible regarding any issues that may affect your ability to complete assignments.

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 Standards: 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.)

AI (Artificial Intelligence) Tools Policy:

AI tools such as ChatGPT, Gemini, or similar platforms may be used to assist with research and editing documents for clarity and language. However, students must not use these tools to complete assignments or produce work on their behalf. All submitted work must be original and created by the student, with AI tools limited to the specified purposes of research support and language refinement. Please follow GMU AI guidelines if you choose to use AI tools for support with your coursework.

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.

Mason Diversity Statement*

George Mason University promotes a living and learning environment for outstanding growth and productivity among its students, faculty and staff. Through its curriculum, programs, policies, procedures, services and resources, Mason strives to maintain a quality environment for work, study and personal growth. An emphasis upon diversity and inclusion throughout the

campus community is essential to achieve these goals. Diversity is broadly defined to include such characteristics as, but not limited to, race, ethnicity, gender, religion, age, disability, and sexual orientation. Diversity also entails different viewpoints, philosophies, and perspectives. Attention to these aspects of diversity will help promote a culture of inclusion and belonging, and an environment where diverse opinions, backgrounds and practices have the opportunity to be voiced, heard and respected.

* This is an abbreviated statement; full statement is available at <http://ctfe.gmu.edu/professional-development/mason-diversity-statement/>