

Georgia Institute of Technology

School of Biological Sciences

NEUR 4200- Functional Neuroanatomy

Instructor:

Dr. Jasmine Hope- jasmine.hope@gatech.edu

Assigned Text: Atlas of Functional Neuroanatomy, 3rd edition (Hendelman) ISBN 9781466585348 (electronic format ISBN 9781466585355)

All readings will come from chapters in this text (though some supplemental materials may be provided in Canvas). An optional supplemental text is Human Neuroanatomy: an introduction (James R. Augustine; ISBN-10: 0470961619, there is also a 1st edition that will be cheaper and reasonably adequate). **Occasionally different texts and references use slightly different terms to define the same anatomical structures, so caution is given to branching out too wide.** You will be evaluated based on what is presented in class.

General Course Description/Goals:

This course emphasizes student learning outcomes related to understanding the anatomical makeup of the vertebrate nervous system with explicit emphasis on human structures and organization. Throughout the course, students will closely examine the details of central and peripheral neuroanatomy and explore their functional connections. Students will make regular comparisons with non-human vertebrate neuroanatomy with the goal of understanding general organizational principles in vertebrate nervous systems. Clinical and research perspectives will be regularly integrated into lectures to build critical thinking skills around the discussed content.

This course will challenge students in the study of vertebrate neuroanatomy, but the effort invested will be worthwhile. By the end of this course, students are expected to attain a deep understanding of human neuroanatomy and achieve a high level of familiarity with the overall architecture and integration of the nervous system.

Student Learning Objectives:

The big picture goal of this course is for students to be able to make connections between human neuroanatomy and function (essentially, to think like a neuroanatomist); however certain knowledge and skills are necessary to achieve this goal. After successful completion of this course, students should be able to:

1. **Identify** and **Describe** key pathways within human central and peripheral nervous systems and comparable systems in characteristic non-human vertebrates.
2. **Articulate** how neural pathways define functional organization.
3. **Integrate** their neuroanatomical knowledge to **Explain** how sensory and cognitive information produce a variety of human behaviors.
4. **Interpret** basic clinico-anatomical correlates of nervous system dysfunction to **Compare** with “typical” function.

Expectations: There is a large volume of material covered in this course and we will move at a high pace. In general, we expect that students will keep up with regularly assigned reading, attend all class sessions, and take notes to prepare for weekly class discussions. By the end of the course, we expect that you will

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appreciate the overall integration of the human nervous system and be able to understand how varying systems interact to produce behavior.

Technology Usage: Research on learning shows that unexpected noises and movement frequently divert people's attention (including the instructors'), which means everyone's learning experience is affected if a cell phone, pager, laptop, etc. makes noise or is visually distracting during class. The literature also demonstrates that hand-written notes lead to significantly enhanced recall due explicitly to the hand-writing process. Therefore, it is highly encouraged that you put your electronic devices away and take your notes using pen and paper.

There will still be times where students will need electronic device to take exams, answer poll questions, etc., so please bring your laptop, phone, iPad, or other electronic devices to class. The instructor will be clear about when we will be using the devices and provide sufficient time for you to get them out.

Use of Internet Resources: It is very common to utilize the internet as a study aid. However, neuroanatomy is a field of study that has naming conventions that are quite nuanced and may vary depending on the source of the information. **It is highly recommended to only utilize notes, the required text, and the associated course website in your studies.** Various websites utilize older and/or geographic specific naming convention that can be very confusing and lead to errors.

Recordings of Class Sessions and Required Permissions: Classes may not be recorded by students without the express consent of the instructor unless it is pursuant to an accommodation granted by the Office of Disability services. Class recordings, lectures, presentations, and other materials posted on Canvas are for the sole purpose of educating the students currently enrolled in the course. Do not post or otherwise share these materials on the internet.

Course Grading:

Exams (2)	100 pts each	200 pts
Final Exam (1)	150 pts	150 pts
Case Summaries (6)	100 pts each	600 pts
Case Summary Peer Evaluation (1)	50 pts	50 pts
	Total	1000 pts

Case Summaries: these will be regularly scheduled group in-class assignments, which will be clinical or behavioral sets based on lecture material. You will be arranged into small groups to work on the problem sets together. For cumulative grading, case summaries will account for 60% total. Peer evaluation of these case summaries accounting for 5% of the final grade will be based on a confidential, cumulative peer-assessment of your participation in ALL of the group work, assessed at the end of the semester. All summaries are due at the end of class. **If a summary is submitted late without prior notification and approval by the instructor, it will not be accepted, and your group will receive a 0 for that assignment.**

Case Summaries can NOT be made up. There are 7 scheduled Case Studies throughout the semester, meaning that a student may miss one without impact on their final grade, without requesting accommodation or providing documentation. If a student misses a second Case Study with documented, permissible (according to Institute policy) circumstances, they must communicate with the instructor as soon as a possible and a

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reasonable accommodation may be made to account for the missed group work. Students who attend and complete all 7 Case Study dates will have their lowest score dropped for final grade calculation purposes.

Group Nature of Assignments: Case summaries will be done in groups of 5-6 people. To encourage you to meet more of your classmates and gain more experience working with diverse colleagues, students will be placed into groups at random. You will receive your assignments at the start of week 2. Do note that group assignment is not binding and adjustments may be made at the instructor's discretion. As well, groups may or may not change throughout the semester, at the instructor's discretion.

Exam Policies: All exams will be in-person and taken in the Canvas platform. They will include multiple choice and short answer questions, graded for accuracy and clarity of thought (i.e. not grammar, spelling, etc.). More details will be provided as we get closer to Exam 1.

If you miss an exam or case study deadline (with no prior arrangement) the work cannot be made up.

Make up exams (with confirmed arrangement prior to the exam) may be given at the discretion of the instructors, upon receipt of appropriate verification of absence. Confirmed arrangement means that the instructors must verify the arrangement prior to the start of the exam. Confirmation must come through the Dean of Students Office.

Georgia Tech Inclusive Values Statement

At Georgia Tech, we see different backgrounds and perspectives as essential to learning, discovery, and creation. We strive to remove barriers to student success, and to build a welcoming community where everyone has the opportunity to contribute to our mission. As outlined in [our strategic plan](#), we want to create an environment of holistic learning where all individuals can grow and learn to lead healthy, purposeful, impactful lives.

We will work together to set classroom climate and norms on the first day of the course.

Criteria to Determine Course Grade: This course is graded on a straight scale – you are not competing against anyone else for your grade.

Your final grade will be assigned as a letter grade according to the following scale:

A	90 – 100 %	900+ pts
B	80 – 89.99 %	800 – 899 pts
C	70 – 79.99 %	700 – 799 pts
D	60 – 69.99 %	600 – 699 pts
F	0 – 59.99 %	< 600 pts

Academic Integrity: Students are expected to abide by the Honor Code (<http://honor.gatech.edu/>). The objective of the honor code is “to prevent any students from gaining an unfair advantage over other students through academic misconduct”. It is the instructors’ understanding and expectation that the student’s written or signed name on any assignment, quiz, or test means that the student contributed to the assignment in question and that they neither gave nor received unauthorized aid. Please ask us directly if you are unclear about expectations. All cases of potential academic misconduct will be reported to the Dean of Students.

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Plagiarism will not be acceptable on any assignment and will result in failure of the assignment and reporting to the Dean of Students office. If you are not certain whether an activity constitutes plagiarism, please communicate proactively with instructors or TAs for clarification.

Use of AI (ChatGPT and similar tools): This course values independent thinking, critical analysis, and genuine effort in your coursework. Assignments are intended to foster intellectual growth and strengthen essential skills. The use of digital tools and online resources to supplement your study is encouraged.

But, the objective of assessments is to gauge your understanding and application of the course material, not to rely on automated responses. Your engagement with the course materials, active participation in discussions, and independent work are fundamental aspects of the learning process.

Submissions found to be generated or heavily influenced by AI tools will be considered a breach of academic integrity and will be addressed according to the institute's policies on academic misconduct. Approach assignments as opportunities for personal growth and learning. If you require clarification or assistance, please reach out for guidance.

Academic Accommodations: If you need teaching or learning accommodations in order to do well in this course, you must register with the Georgia Tech Office of Disability Services (<https://disabilityservices.gatech.edu/>). According to their guidelines, you must make an appointment to talk with one of us one-on-one. We are very happy to make accommodations that we are allowed to make because we want every student to be successful in this course. However, we will not make accommodations without proper documentation, registration, and notification via the Office of Disability Services.

Attendance Policy: Classes will be held in person and attendance is expected. To receive credit for case summary days, students must be in attendance.

Absence Policy: Students are responsible for all material covered in their absences, and they are responsible for the academic consequences of their absences (<http://catalog.gatech.edu/rules/4/>). Excusable absences include emergency medical treatment, family emergencies (such as death in the family), approved institute activities (such as student athlete travel) and job interviews. Manufacturing a false excuse is a violation of the Honor Code. In the event of any such excusable absence, please provide documentation to the instructor before, or upon returning to class. If no documentation is provided the absence will be considered unexcused.

Grade Repair: Out of fairness, extra credit must be offered to all students and will not be offered on an individual basis. These grade repair options provide opportunities to add an extra 2% to the overall final semester grade. Each of the options are worth 10 pts/1%.

Course Surveys: If $\geq 80\%$ of students do the midterm survey (5pts) and the final CLOS (5pts), all students will earn 1% toward their course grade.

Discussion Board Activity (Piazza Platform): Each student can earn 1% toward their grade by posting two (2) content-based questions AND responding to four (4) classmate-posed questions at some point throughout the semester. There are a few stipulations for these points. At least one question and two responses must be posted before the mid-point in the semester (October 26th) and at least one question and two responses must be posted after

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this date. Questions and responses are required to be substantive and relevant to course goals to earn credit.

Grade Changes: Grades are not negotiable commodities. However, mistakes can and do occur. If you feel an assignment or exam has been incorrectly scored, notify us by email as soon as possible. Any requests for adjustment of grades must be submitted in writing **no more than one week** after the work has been returned. In all cases, the entire assignment will be re-evaluated, and a final, revised grade (higher or lower) will be assigned, if warranted.

Do not ask us for additional points or “grade rounding.” This type of request is asking your instructor to alter the academic grade or rating so as to obtain unearned academic credit, which is a violation of the Academic Honor Code. We will not answer any emails making these types of requests.

Submitted Work Policy: It is your responsibility to ensure that the TAs and instructor will be able to grade your work. This means that you need to check the formatting of your work after you submit it in Canvas. If your work is blank, the document converted your text into symbols, the file format is corrupted, etc., that work cannot be assessed and will be scored as a zero (0).

Freedom of Expression: The instructors of this course support academic freedom and freedom of expression in the context of this class and our classroom to foster a learning environment where open inquiry and the vigorous debate of a diversity of ideas are encouraged. Students will never be penalized for the content or viewpoints of their speech as long as student expression in a class context is germane to the subject matter of the class and conveyed in an appropriate manner.

Academic Support

- There are many options for extra help:
 - Office hours for your course instructors and TAs
 - [Peer Led Undergraduate Study \(PLUS\)](#)
 - [Help-Desks](#) for 3C's (Calculus, CS, & Chem) and Physics
 - [Office of Minority Educational Development](#)
 - [Learning Assistance Program](#) in First Year Learning Centers located in the residence halls
 - [1-to-1 tutoring](#) through the Center for Academic Success supports more upper division courses
- The [CommLab](#) can help with writing reports or presentations
- The Center for Academic Success offers [on-demand workshops](#) for time management, test prep, etc.
- [Academic Coaching](#) to work with you individually to discuss goals AND formulate strategies to reach them to improve academic skills, motivation, and confidence.

Personal Support

- The [Center for Career Discovery and Development](#) (C2D2) can help you explore potential careers, craft resumes & cover letters and prepare for interviews
- The [pre-graduate and pre-professional](#) advising group in C2D2 that can help you learn about applying for grad or med school
- The [Office of Disability Services](#) can help you arrange accommodations for a learning disability or a service animal
- The [Center for Assessment, Referral, and Education](#) CARE is your primary resource for mental health support, and they can refer you to appropriate resources which can include:

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- [Health Initiatives](#) for issues regarding self-care, stress management, thriving, and resilience
- The [Counseling Center](#) for a variety of services, including group, couples, and individual counselling, workshops, psychoeducational screens, and crisis intervention
- [Stamps Psychiatry Clinic](#) for psychiatric evaluations and medication management
- The [Stamps Health Services](#) provides primary care, pharmacy, women's health, immunization, and allergy shots.
- The [Students' Temporary Assistance and Resources \(STAR\)](#) can assist with food, housing, interview clothing needs, and even interest-free emergency loans.
- There are a variety of resource centers for minority students on campus
 - [OMED](#) for underrepresented racial and ethnic groups on campus
 - [Women's Resource Center](#) for women on campus
 - [LGBTQIA Resource Center](#) for LGBTQIA students on campus
 - [Veterans Resource Center](#) for veterans, military, reservist, guard members, and dependents on campus

The [Dean of Students Office](#) can connect you with specific resources if you are still unsure of where to go for help. The request assistance form is helpful for sharing documentation from Stamps with your professors among other things.