# PSYC409: Topics in Neuroscience Seminar

Amanda Chicoli, Ph.D

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Web: [course webpage](#)  
Office Hours: TBD  
Class Hours: W 2:00pm – 3:50pm  
Office: BPS 1107 F  
Class Room: BPS 1238  
[校園地圖](#)  
pronouns: she/her

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## 1 Course Description

Neuroscience Seminar is an undergraduate seminar designed to expose Neuroscience Minors to a broad range of original research currently being investigated at the University of Maryland, College Park and nearby research institutes. The overall goal of this course is to expose students
to the active neuroscience community via attendance of research seminars given by senior graduate students, postdoctoral scientists, and professors. This course will focus on comprehending and discussing scientific research.

2 Required Materials

All required readings will be posted to the ELMS course webpage.

3 Course Objectives

After taking this course, students should be able to do the following:

1. **Describe** examples of neuroscience research on and off campus and list laboratories involved.
2. **Summarize** scientific presentations including hypotheses, goals, methods and results.
3. **Question** scientific interpretations and methods.

Psychology Program Learning Objectives

In addition to the specific course content learning goals, this course includes assessments and activities designed to help meet the learning objective’s of the psychology major.

1. **Describe** key concepts, principles and themes in neuroscience
2. **Describe** applications of the study of neuroscience
3. **Use** scientific reasoning to interpret psychological phenomena
4. **Engage** in innovative and integrative thinking and problem solving
5. **Demonstrate** effective writing for different purposes
6. **Apply** psychological content and skills to career goals

Course Assessments have been designed to meet the above learning objectives.

4 Assessments & Activities

Lecture structure

The course meets once per week. The course is (mostly) divided into 2-week modules. During the first week of each module, students will be introduced to the topic through a review article and presentation of the literature, key themes and questions. The second week of the module, there will be a more formal scientific presentation.

Attendance and participation are a key component of this class and factors into your final grade. Attendance is mandatory, although we realize things happen and that unexpected events come up, which is why students are allowed to skip a research summary over the course of the
semester. This class is discussion oriented and students are expected to ask a minimum of 12 questions to the speakers over the course of the semester. Clarifying questions (i.e., “what is a stereotax?”) are encouraged, especially during the first week. During week 2 of each module, questions need to be thoughtful and discussion oriented to count for credit (i.e., “how do you know what brain region you are targeting when doing surgeries?” or “what do you think your work means for patients suffering with addiction?”).

Reflection assignments - written assignments for week 1 of the module

To aid learning and in-class discussions, there is required reading that must be completed before each class meeting. For week 1, this will often be a literature review or book chapter. Reflection assignments are due BEFORE CLASS. Assignments may be submitted earlier. However, late assignments will lose 10% of the total assignment grade for each day they are late starting immediately after the deadline. The format of these reflections will be a 3-2-1 reflection assignment. In class, we will discuss the background information necessary to understand the scientific journal article and seminar the next week. Students are expected to write a research summary for 6 of the 7 modules.

Research summaries- written assignments for week 2 of the module

Over the course of the semester we will hear 7 research seminars. Students are expected to write a research summary for 6 of the 7 speakers. Research summaries should be concise, demonstrate considerable thought and be no more than 1 page single-spaced. Summaries should include information on 1) what the broad objective of the research was, 2) what hypotheses were tested (where applicable), 3) a summary of the methods used, 4) a summary of the results/ the researcher’s interpretation of the results, 5) and finally a brief synthesis of what you think the results mean. Try to think about whether you feel the question the researcher(s) set out to answer was really answered, were the methods employed suitable for answering that question, was the researcher’s interpretation of the results fair? In short, we want to know what your takeaway from the presentation was. Summaries are to be submitted by 5 pm Monday following the presentation on ELMS. Late assignments will lose 10% of the total assignment grade for each day they are late starting immediately after the deadline. Students may submit research summaries on all 7 speakers, but only the 6 highest grades will be counted towards your final grade. Students may not submit research summaries for classes they did not attend.

Further details on the written assignments and rubrics are in each module, as well as the assignment page on ELMS.

5 Grading Policy

Grades are not given, but earned. Your grade is determined by your performance on the learning assessments in the course and is assigned individually (not curved). If earning a particular grade is important to you, please speak with me at the beginning of the semester so that I can offer some helpful suggestions for achieving your goal.
All assessment scores will be posted on the course ELMS page. If you would like to review any of your grades (including the exams), or have questions about how something was scored, please email me to schedule a time for us to meet in my office.

I am happy to discuss any of your grades with you, and if I have made a mistake I will immediately correct it. Any formal grade disputes must be submitted in writing and **within one week** of receiving the grade.

Final letter grades are assigned based on the percentage of total assessment points earned. To be fair to everyone I have to establish clear standards and apply them consistently. It is unethical to make exceptions for some and not others. **Grades will not be rounded up.** If you earn a 97.9%, you have earned an A in the course. Incomplete grades, which are awarded at the end of the semester, will not be given based on unsatisfactory performance. Students who are performing poorly should be mindful of the deadline to drop a course. You are encouraged to consult with me well in advance.

The following grading scheme will apply:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage Range</th>
<th>Letter Grade</th>
<th>Percentage Range</th>
<th>Letter Grade</th>
<th>Percentage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>98.0 – 100%</td>
<td>C+</td>
<td>77.0 – 79.9%</td>
<td>F</td>
<td>0 – 59.9%</td>
</tr>
<tr>
<td>A</td>
<td>93.0 – 97.9%</td>
<td>C</td>
<td>73.0 – 76.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A−</td>
<td>90.0 – 92.9%</td>
<td>C−</td>
<td>70.0 – 72.9%</td>
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<td></td>
</tr>
<tr>
<td>B+</td>
<td>87.0 – 89.9%</td>
<td>D+</td>
<td>67.0 – 69.9%</td>
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<td></td>
</tr>
<tr>
<td>B</td>
<td>83.0 – 86.9%</td>
<td>D</td>
<td>63.0 – 66.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B−</td>
<td>80.0 – 82.9%</td>
<td>D−</td>
<td>60.0 – 62.9%</td>
<td></td>
<td></td>
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</tbody>
</table>

- **41.67%** of your grade will be determined by 3-2-1 reflection assignments (6 / 6 graded * 5 pts each = 30 pts / 72 pts total)
- **41.67%** of your grade will be determined by research summaries (6 / 7 graded * 5 pts each = 30pts / 72 pts total)
- **16.67%** of your grade will be determined by discussion questions posed during class (12 questions * 1 pt each = 12 pts / 72 pts total)

**Marking System**

The University’s marking system is as follows:

- A+, A, A- denotes excellent mastery of the subject and outstanding scholarship
- B+, B, B- denotes good mastery of the subject and good scholarship
- C+, C, C- denotes acceptable mastery of the subject
- D+, D, D- denotes borderline understanding of the subject, marginal performance, and it does not represent satisfactory progress toward a degree
- F denotes failure to understand the subject and unsatisfactory performance
6 Campus & Course Policies

Campus Policies

It is our shared responsibility to know and abide by the University of Maryland’s policies that relate to all courses, which include topics like:

- Academic integrity
- Student and instructor conduct
- Accessibility and accommodations
- Attendance and excused absences
- Grades and appeals
- Copyright and intellectual property

Please visit www.ugst.umd.edu/courserelatedpolicies.html for the Office of Undergraduate Studies’ full list of campus-wide policies and follow up with me if you have questions.

Students with Disabilities

The course staff is committed to providing appropriate accommodation for students with recognized disabilities. If you have been evaluated by Disability Support Services (DSS) and qualify for specific services, please inform me at the beginning of the semester. If you think that you may qualify for some accommodation but have not yet been evaluated, please contact DSS at 301-314-7682 to arrange a consultation.

Religious Observances

The University System of Maryland policy “Assignments and Attendance on Dates of Religious Observance” provides that students should not be penalized because of observances of their religious beliefs; students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is the student’s responsibility to inform me in advance of any intended absences and late assignments for religious observances as soon as possible. Please note that travel time is not an excused absence.

Course Policies

Research shows that hand-taking notes improves retention of material (Mueller & Oppenheimer, 2014). However, I understand that the electronic recording of notes may be routine for some students and computer usage will be permitted for course related activities only. Phones may not be used during class. If computer usage is disrupting the class or students around you, you may be asked to put the technology away during class. Also, please see youtu.be/WwPaw3Fx5Hk for how digital technology poses a significant distraction during class.
7 Resilience and Academic Success

You all belong in this class and can be successful! Taking personal responsibility for your own learning means acknowledging when your performance does not match your goals and doing something about it. I will do whatever I can to help remove barriers to your success and encourage you to visit the following campus resources for additional help:

- Tutoring, general: tutoring.umd.edu
- Writing Center, for help with written assignments: ter.ps/writing
- Student Resources: go.umd.edu/assistance.
- Counseling Center - Includes DSS, learning assistance, & traditional counseling services: counseling.umd.edu. (Note: I am a Responsible University Employee and any and all disclosures of different types of sexual misconduct disclosed to me I am obligated to report to the Title IX Office.)
- Academic Achievement Program - http://www.aap.umd.edu AAP provides academic and counseling services to promote the access and success of low income, first generation immigrant college students at the University of Maryland.
- Office of Civil Rights & Sexual Misconduct (Title IX Office)- https://www.ocrsm.umd.edu/

Most services free because you have already paid for it, and everyone needs help. I encourage all students to ask for help both in and outside of the classroom! Also see the following article encouraging students to visit office hours or make a one-on-one appointment with your professors: Office hours

8 Basic Needs & Security

If you have difficulty affording groceries or accessing sufficient food to eat every day, or lack a safe and stable place to live and believe this may affect your performance in this course, please visit go.umd.edu/basic-needs for information about resources the campus offers you and please let me know if I can help in any way.

9 Inclusive Learning Environment

Positive class community and climate is important for everyone’s personal and academic success in the course. Students will be invited to share their thoughts in class; a diversity of opinions is welcome. Respectful communication is expected, even when expressing differing perspectives. Supporting one’s statements with research findings is encouraged. In accordance with free speech statutes, speech that contains threats of violence is prohibited.
10 Names/Pronouns & Self Identifications

The University of Maryland recognizes the importance of a diverse student body, and we are committed to fostering inclusive and equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to both in terms of your name and your pronouns (he/him, she/her, they/them, etc.). Please note that the pronouns someone indicates are not necessarily indicative of their gender identity. Visit trans.umd.edu to learn more.

Additionally, how you identify in terms of your gender, race, class, sexuality, religion, and dis/ability, among all aspects of your identity, is your choice whether to disclose (e.g., should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed. I will do my best to address and refer to all students accordingly, and I ask you to do the same for all of your fellow Terps.
# 11 Course Outline

**Note:** This is a tentative schedule, and subject to change as necessary. Monitor the course ELMS page for current deadlines. In the unlikely event of a prolonged university closing, or an extended absence from the university, adjustments to the course schedule, deadlines, and assignments will be made based on the duration of the closing and the specific dates missed. All assignments and lectures will be posted on ELMS.

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Tentative Topic</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 29</td>
<td>Amanda Chicoli</td>
<td>Course Introduction</td>
<td>Read Syllabus</td>
</tr>
<tr>
<td>Feb. 5</td>
<td>Rachel Altshuler</td>
<td>Neurobiology of drug relapse and craving</td>
<td>3-2-1 reflection #1 due at 2pm</td>
</tr>
<tr>
<td>Feb. 12</td>
<td>Rachel Altshuler</td>
<td>Neurobiology of drug relapse and craving</td>
<td></td>
</tr>
<tr>
<td>Feb. 17</td>
<td>Monday - no class</td>
<td></td>
<td>Research summary #1 (Altshuler) due 5pm</td>
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<tr>
<td>Feb. 19</td>
<td>Amanda Chicoli leading background for Behtash Babadi</td>
<td>Statistical and adaptive signal processing</td>
<td>3-2-1 reflection #2 due at 2pm</td>
</tr>
<tr>
<td>Feb. 26</td>
<td>Behtash Babadi</td>
<td>Statistical and adaptive signal processing</td>
<td></td>
</tr>
<tr>
<td>Mar. 2</td>
<td>Monday - No class</td>
<td></td>
<td>Research summary #2 (Babadi) due 5pm</td>
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<tr>
<td>Mar. 4</td>
<td>Amanda Chicoli leading discussion for Colin Saldanha</td>
<td>Induced Synthesis of Oestrogens by Glia in the Songbird Brain</td>
<td>3-2-1 reflection #3 due at 2pm</td>
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<tr>
<td>Mar. 11</td>
<td>Colin Saldanha</td>
<td>Central administration of indomethacin mitigates the injury-induced upregulation of aromatase expression and estradiol content in the zebra finch brain</td>
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<td>Mar. 16</td>
<td>Monday - No class</td>
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<td>Research summary #3 (Saldanha) due 5pm</td>
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<td>Mar. 18</td>
<td>SPRING BREAK</td>
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<td>Mar. 25</td>
<td>Khara Ramos</td>
<td>NeuroEthics in the National Institute of Health BRAIN initiative</td>
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<tr>
<td>Mar. 30</td>
<td>Monday - No class</td>
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<td>Research summary #4 (Ramos) due 5pm</td>
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<tr>
<td>Apr. 1</td>
<td>Jon Schenk</td>
<td>Neuromodulation of sensory circuits</td>
<td>3-2-1 reflection #4 due at 2pm</td>
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<tr>
<td>Apr. 8</td>
<td>Jon Schenk</td>
<td>Neuromodulation of olfactory circuits in <em>Drosophila</em></td>
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<tr>
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<td>Details</td>
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<tr>
<td>Apr. 13</td>
<td>Monday - No class</td>
<td>Research summary #5 (Schenk) due 5pm</td>
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<tr>
<td>Apr. 15</td>
<td>Amanda Chicoli leading background for Melissa Caras</td>
<td>Auditory perceptual learning and changes in the conceptualization of auditory cortex</td>
<td>3-2-1 reflection #5 due at 2pm</td>
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<tr>
<td>Apr. 22</td>
<td>Melissa Caras</td>
<td>Top-down modulation of sensory cortex gates perceptual learning</td>
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<tr>
<td>Apr. 27</td>
<td>Monday - No class</td>
<td>Research summary #6 (Caras) due 5pm</td>
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<tr>
<td>Apr. 29</td>
<td>Felix Bartsch</td>
<td>Sensory coding in primary visual cortex</td>
<td>3-2-1 reflection #6 due at 2pm</td>
</tr>
<tr>
<td>May 6</td>
<td>Felix Bartsch</td>
<td>Sensory coding in primary visual cortex</td>
<td></td>
</tr>
<tr>
<td>May 11</td>
<td>Monday - No class</td>
<td>Research summary #7 (Bartsch) due 5pm</td>
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</table>