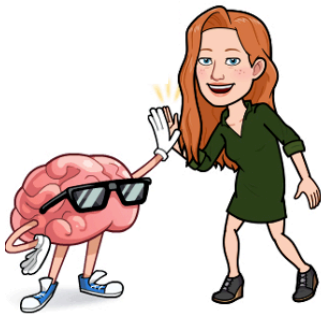


DR. MEREDYTH WEGENER  
NSC 3891-01

# NEUROLOGICAL DISEASE

**Course Description:** This course is an opportunity to explore the biological basis of several neurological diseases and their treatments. We will cover neurodevelopmental disorders, traumatic brain injury, motor disorders, prion disease, and neurodegenerative disorders. Discussion of each disease will include an overview of the accepted knowledge of the underlying mechanism, current patient experiences, pharmacological treatments, and ongoing research. Specifically, we will examine the cellular and molecular basis of each disease and consider how this is reflected in the symptoms and ameliorated by treatments. We will evaluate the current and ongoing research and interpret data from neuroscience primary literature.

**Course Promises:** You will be able to discuss how cellular molecular mechanisms lead to specific observed symptoms and how they are addressed through current treatment. You will gain knowledge of the ongoing research regarding the origin, diagnosis, epidemiology, or treatment of different disorders. You will be able to connect these findings to experimental data as presented in primary research literature and graphs/ figures. You will improve your ability to identify and contextualize important information supplied by patients or medical tests, and develop your problem-solving skills as you determine the next logical step or conclusion. You will build your metacognitive skills by reflecting back on your work and identifying where you want to improve and where you are already succeeding. You will be a part of a class community who values your contribution and supports your academic and personal goals.



**INSTRUCTOR:** DR. MEREDYTH WEGENER

**OFFICE:** 324 WILSON HALL

**CONTACT:** 443 690 6064

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[PROFMWEGENER@GMAIL.COM](mailto:PROFMWEGENER@GMAIL.COM)

**OPEN DOOR HOURS: WEDNESDAY 11-1PM OR BY APPOINTMENT**

**I'D LOVE TO MEET WITH YOU!**

[PROFMWEGENER.YOUCANBOOK.ME](https://PROFMWEGENER.YOUCANBOOK.ME)

TO TALK ABOUT THE CLASS, GRAD SCHOOL, BOARD GAMES, RESEARCH, CAREER PLANS, MY DOG OXFORD, PEDAGOGY, PROCRASTINATION, AND WEB COMICS.

**TA:** Danielle Adank **Zoom Office Hours:** Monday 4-5:30PM [danielle.n.adank@Vanderbilt.Edu](mailto:danielle.n.adank@Vanderbilt.Edu)

# HOW TO SUCCEED IN NEUROLOGICAL DISEASE

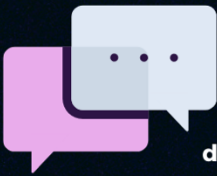
## SHOW UP

Having a schedule & regularly attending class will help you stay engaged & caught up on material.



## CONVERSE

Talk about material with your group, family, or friends. Discuss opinions during a case study or explain concepts to others to test your understanding.



## INQUIRE

Ask questions. Raise your hand. Pop it into the discussion. Challenge your classmates. Stop by open door hours. Google it. Never be afraid to ask.



## FOLLOW YOUR INTERESTS

When something catches your attention, pursue it. Find relevant research papers. Propose an assignment. Make your experience in the course more rewarding.



## BE HONEST WITH YOURSELF

Check in with yourself through the semester. Need rest? Need support? Need more of a challenge? Let us know.



## Course Format

### Groups

You will work in groups of 3-4 throughout the semester. You may choose who you want to work with but groups will not be finalized until the end of the Open Enrollment period. You will evaluate yourself and you group members 7 times through the semester, and the highest 5 scores will count towards your grade. We know everyone has bad weeks and may drop the ball. This system will allow you to own up to that and get honest feedback without having to worry about your grade. All assignments will be individual, but your group will be your mini class community.

**Ability and Disability (as taken from Vanderbilt's Center for Teaching):** This class respects and welcomes students of all backgrounds, identities, and abilities. If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with me, or if you need specific arrangements in case the building needs to be evacuated, please let me know. I am committed to creating an effective learning environment for all students, but I can only do so if you discuss your needs with me as early as possible. I promise to maintain the confidentiality of these discussions. If appropriate, also contact Student Access Services to get more information about specific accommodations.

# ASSIGNMENTS IN NEUROLOGICAL DISEASE

## IN-CLASS TOPHAT QUESTIONS

- Approx 5 points offered per lecture
- Credit for thoughtful completion
- Not Assigned out of class
- 100 Points offered, 80 point max



## CASE STUDIES

- Questions exploring a real-world scenario related to course content
- Completed with group in and out of class
- Graded using a rubric
- 20 pts each, 120 points total

## ANNOTATED PAPER

- Pick a related research paper of interest to you, create annotations to explain the paper
- Checkpoints throughout the semester
- Graded by collaboratively-designed Rubric
- 100 points total



## UNDERSTANDING CHECKPOINTS

- Analyze research figures from a paper
- Self-assessed with reflection using source article
- 50 pts each, 150 points total
- Optional final UC worth 50 points

COMPASSIONATE GRADING IS IMPORTANT TO ME. THIS PLAN FOR EVALUATION IS A STARTING POINT. IF WE NEED TO SHIFT THIS TO ACCOMMODATE UNFORESEEN CHALLENGES, WE WILL. I WILL DO ALL I CAN TO PROVIDE FEEDBACK AND ASSESSMENT THAT WILL HELP YOU LEARN AND CONSIDERS ANY RELEVANT CIRCUMSTANCES.

WITH THIS STATEMENT, I HOPE TO PROVIDE YOU WITH SOME PEACE OF MIND, AND LEAVE SPACE FOR ALL OF US TO BE FLEXIBLE WITH OUR EXPECTATIONS FOR THE SEMESTER.

**Top Hat:** We will be using the Top Hat ([www.tophat.com](http://www.tophat.com)) classroom response system in class. You will be asked to answer questions during our synchronous meeting, or before our next synchronous meeting. All questions will be available for at least 24 hours. Also, you can miss 20 points of TopHat questions before your grade is affected, so no need to worry if you lose track once or twice. You can visit [Top Hat Guide](#) for the Student Quick Start Guide which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system. An email invitation has been sent to your school email account (if you didn't receive this email, you can register by visiting our course website:

<https://app.tophat.com/e/922317>)

**Case Studies:** Case studies provide great practice for extracting important information, identifying gaps in knowledge, and forming logical conclusions. We will use case studies to study the mechanism and issues surrounding specific disorders more in depth and use them as apply concepts in class to more real-world situations. You will work with your small group to complete the case studies, compare answers, and discuss possibilities. Initially, case studies will be graded on completion and you will receive feedback on the quality of your answers and demonstration of understanding. As we move through the semester and become more comfortable with case studies, the case studies will be graded using a rubric.

**Annotated research paper:** Students will select an original research paper on a neurological disease topic of their choice. They will annotate the paper to help others fully understand the work. This will include creating a glossary of terms within that paper, explanations of experiments, results, research on past experiments that informed this research. This assignment will take place over the semester so that we can guide your efforts. More detail on this assignment will be given at the end of the Open Enrollment period (September 7).

**Understanding Checkpoint (UC):** To practice skills and learn more about a topic introduced in class, students will analyze previously-unseen figures from a published scientific study accompanied by questions about the experiment, results, and interpretations. UCs will be completed on Brightspace during one class meeting (75 minutes). After students submit their work, we will provide the full publication and you will reflect on your answers. This self evaluation will give you a chance to re-examine the clarity, correctness, and completeness of your answers as well as provide additional detail to your original answer if you like. An example of answers and reflections for a fake UC question can be found in the Introduction module on Brightspace .

GRADE	RANGE
A	93.5-100
A-	90-93.49
B+	87-89.99
B	83-86.99
B-	80-82.99
C+	77-79.99
C	73-76.99
C-	70-72.99
D+	67-69.99
D	63-66.99
D-	60-62.99
F	0-59.99

**Academic Integrity:**

Vanderbilt’s Honor Code governs all work in this course. If you have any questions about how the Honor Code applies, please ask Dr. Wegener -- not another student or the T.A. -- for clarification. Uncertainty about the application of the Honor Code does not excuse a violation. Anyone who violates the Vanderbilt Honor Code will be dealt with as the Honor Council deems appropriate. There are no exceptions.

**A PIECE OF ADVICE:** If you ever feel the slightest bit tempted to engage in academic dishonesty in this course to earn a better grade, please set up a meeting with me through <https://profmwegener.youcanbook.me/> and we can discuss strategies and approaches to help you achieve the grade you want to earn.

If you cheat instead of reaching out, you are risking all you have already accomplished at Vanderbilt. Additionally, you are sacrificing my trust and force us both into the terrible bureaucracy and emotional stress of an academic integrity inquiry. Please don’t. Life is hard enough.

**Absolutely *nothing* is more important than your health and well-being.** If you find that you are falling behind or struggling in class due to mental health issues, sexual assault or partner violence, family responsibilities, inability to find safe stable housing or food, please reach out so I can support you. I am most helpful if you communicate your needs early and often. For additional information and support, please contact Center for Student Wellbeing ([healthydores@Vanderbilt.edu](mailto:healthydores@Vanderbilt.edu) 615-322-0480), Project Safe Center ([projectsafe@Vanderbilt.edu](mailto:projectsafe@Vanderbilt.edu) 615-322-7233), or Student Care Coordination ([studentcare@Vanderbilt.edu](mailto:studentcare@Vanderbilt.edu) 615-343-9355)

Responsibilities as a member of this course: *It is entirely your choice to take this course. If you do opt to join our classroom community, it is expected that you will be respectful of all members of our community and listen thoughtfully to their contributions, questions, and confusion. Expressing your thoughts or concerns is essential for your learning and helpful for your classmates. In return, we will strive to create a valuable learning environment/ experiences for you and ensure that you are heard and treated respectfully as well. If you feel there is something we could be doing to improve your learning or capture your interest, we welcome your feedback in person, through email, or anonymously.*

### **Class Schedule (Subject to Change)**

<b><u>Module &amp; Date</u></b>	<b><u>Lecture Topic</u></b>
Module 0: 8/26	Introduction to Class, Group Formation, Practice UC
Module 1 8/31 & 9/2	Neural Development & Neural Tube Defects Developmental Disorder Case Study
Module 2 9/7 & 9/9	Autism Autism Case Study
Module 3 9/14 & 9/16	Tourette's/Obsessive Compulsive Disorder (OCD) Tourette's/OCD Research
<b>9/21: Understanding Checkpoint 1</b>	
<b>9/23: UC1 Reflection</b>	
Module 4 9/28 & 9/30	Epilepsy Epilepsy Case Study
Module 5 10/5 & 10/7	Traumatic Brain Injury/ Chronic Traumatic Encephalopathy CTE Research - Annotated Paper
Module 6: 10/12	Prion's Disease
<b>10/14: Fall Break</b>	
<b>10/19: Understanding Checkpoint 2</b>	
<b>10/21: UC2 Reflection</b>	

Module 8: 10/26	Sleep Disorders (Insomnia/Narcolepsy)
Module 9 10/28 & 11/2	Neurodegeneration Case Study
	Amyotrophis Lateral Sclerosis (ALS)
Module 10: 11/4	Parkinson's
<b>11/9: Understanding Checkpoint 3</b>	
<b>11/11: UC3 Reflection</b>	
Module 11 11/16 & 11/18	Huntington's Case Study
	Huntington's
<b><i>Thanksgiving Break: 11/22 - 11/26</i></b>	
Module 12 11/30 & 12/2	Alzheimer's
	Alzheimer's Research - Annotated Paper
Module 13 12/7 & 12/9	Tuskegee Syphilis Case Study
	Neurosyphilis
<b>12/13: Final Understanding Checkpoint</b>	