

NEU 301: Introduction to Neuroscience I

Section 001 (Hybrid course) and Section 730 (Online Asynchronous course)

3 credits

Fall 2023

In-Person Meeting Location: Business N100

COURSE DESCRIPTION:

This is the first semester of a two-semester introductory neuroscience course sequence. The topics presented in NEU301 will cover the basic principles of cellular and systems neuroscience, including discussions focused on neurophysiology, chemical signaling, central nervous system and peripheral nervous system anatomy, visual systems, auditory systems, olfaction, and gustation. Information in this course will be presented as 1) recorded videos and 2) recitation activities that can be completed in synchronous sessions facilitated by teaching and learning assistants or completed asynchronously.

MY COURSE PHILOSOPHY:

I really enjoy teaching introductory level courses for students, because I get to witness first-hand the excitement as you learn about the breadth of topics in neuroscience. Our nervous system is responsible for amazing things and learning the mechanisms of nervous system function will allow you to better understand the physiology of the body and learn more about yourself! All of you have a reason that you pursued neuroscience as a degree, or as a course, and my hope is that you all develop an appreciation for the many topics that neuroscience encompasses.

I believe that you will learn best by engaging in this course in the following ways:

- 1) Keeping up with the weekly deadlines
- 2) Reading our short, assigned readings
- 3) Watching the lecture videos each week and taking notes
- 4) Completing the supporting assignments each week
- 5) Interacting with the instructors and peers

I recognize that as students you all have many things going on in your lives and I want to express that I want to support your learning in this course through any challenges that you may experience.

COURSE GOALS:

1. Develop an appreciation for the many sub-disciplines that exist in the field of neuroscience.
2. Learn the fundamental principles of the anatomy and physiology of the nervous system.
3. Define, articulate and model the molecular, cellular, and anatomical organization of the central and peripheral nervous systems.
4. Understand the properties of nervous system cells that allow them to use electrical and chemical signals for cellular communication and be able to predict how nervous system cells will function in different scenarios.
5. Understand, describe, and model the structure and function of brain systems (visual, auditory, olfactory, gustatory, balance) and predict how the function of these systems is altered following a stimulus.
6. Interpret primary data from scientific literature and be able to identify and assess the experimental approaches used in neuroscience.

INSTRUCTOR INFORMATION

Valerie Hedges, Ph.D. (She/her/hers)
208 Giltner Hall
Office hours: weekly and by appointment
hedgesva@msu.edu

STUDENT HOURS

Student hours are times that course instructors will be available to answer any questions that you have about the content or the course (or anything else).

Name	Instructor Type	Email	Student Hours Day and Time	Student Hours Zoom link and Password
Valerie Hedges, Ph.D. (she/her/hers)	Course Coordinator	hedgesva@msu.edu	Thursday 11:00am-1:00pm	https://msu.zoom.us/j/98631316108 Meeting ID: 986 3131 6108 Passcode: NEU301
Husn Abbasi (she/her/hers)	Assistant Instructor	abbasihu@msu.edu	Monday and Wednesday 3:00- 4:00pm	https://msu.zoom.us/j/94314493208 Meeting ID: 943 1449 3208 Passcode: NEU301
Lauren Kleyn (she/her/hers)	Teaching Assistant	wadelau2@msu.edu	Tuesday 3:00- 5:00pm	https://msu.zoom.us/j/92944376918 Meeting ID: 929 4437 6918 Passcode: NEU301
Kaiden Ditchman (he/him/his)	Undergraduate Learning Assistant	ditchma1@msu.edu	-----	-----
Lilly Kowalczyk (she/her/hers)	Undergraduate Learning Assistant	kowalc45@msu.edu	-----	-----

COMMUNICATION:

Email: I will communicate with you through your D2L email account. *Please forward your D2L email to your MSU email address to make sure that you receive the emails for our class!*

You are responsible for reading and responding appropriately to the emails sent to your account. In an effort to promote professionalism in communication, please be mindful of using respectful language in your emails and the teaching team will do the same.

- If an instructor reaches out to you requesting a reply, please reply within 24 hours of the email being sent on Monday-Thursday, or 48 hours of the email being sent Friday-Sunday
- Please allow 48 hours for an email *response from the course instructor*
 - If a response is not received, please email again as I can receive many emails in a given day
- Please make sure you are checking D2L daily for announcements and emails.

Private Discussion Forums: If you have questions about the course or content, you may ask them through the Private Discussion Forum on D2L to get a direct response from an instructor. Only the course instructors have access to this discussion forum (not other students).

Announcements: All emails in the class will be archived as “announcements” in D2L so that you always have access to the information sent via email.

PREREQUISITES: (BS 161 or BS 181H or LB 145) and (BS 162 or BS 182H or LB 144)

RECOMMENDED COURSES: PSY 101

CONTENT KNOWLEDGE REQUIREMENTS

Students should have a basic understanding of biology (homeostasis, diffusion, concentration gradients, molecular and cellular biology, including parts of the cell and their functions, basic genetics, and basic literacy in graph reading). These skills will be necessary to build on as we focus in on nervous systems function. If you feel that you need more review in these areas, then please review your notes from your introductory biology courses or freely available resources, such as Khan Academy.

COURSE PLATFORM/STRUCTURE:

For the fall 2023 semester, NEU 301 has two different sections.

- **Section 001** will be offered as a hybrid course with an in-person meeting once weekly on Wednesdays. This section is for students that are looking for an in-person component to the course and the ability to interact with their peers and instructors face-to-face.
- **Section 730** will be offered as an online asynchronous course. This section is for students that only wish to take this course as an online course. Assignments between the two sections are the same.

***If you are interested in switching sections, please contact Dr. Hedges**

Regardless of section, content will be delivered through:

- 1) Asynchronous online lecture videos on D2L
- 2) A recitation activity (can be completed online or in-person)
- 3) Reading from the course text

Lecture Videos: Why are they online and asynchronous?

- **More inclusive:** They allow for you to access them at any time, and don't require that you attend class at a specific time for access to the material (videos can be downloaded, sped up, or slowed down, rewatched). This benefits many students and accommodates students with caregiving needs, work responsibilities, illness, or those that commute during periods of bad weather.
- **More accessible:** Videos are captioned which allows for students to read along with the video, and there are multiple shorter videos broken up by topic, allowing you more flexibility of when and where you watch the videos. You can also pause and rewatch as needed.
- This content delivery method is not different between the hybrid section of this course or the online asynchronous section of the course.

Recitation, Practice Questions, and Reflection Activities: What is the purpose?

- Low-stakes opportunities to practice the type of critical thinking and problem solving that you will encounter on exams.
- Opportunity to reflect on your preparation methods and assess the pros and cons of that method with a goal of honing your studying and preparation skills.

Reading: How much? How often?

- Our course text is FREE and online (you will always have access to it- even after our class).
- The chapters are short and pertain directly to what we are learning in class.
- Each week you will typically read 1-3 short chapters (less than 45 min of reading each week).

COURSE MATERIALS

You will need your MSU NetID to login to the course from the D2L homepage to access our course materials (<http://d2l.msu.edu>). In D2L you will access online videos, course materials, and additional resources. Activities will include readings, quizzes, discussion forums, and email among others. Links out to Google Classroom will also be available through D2L (for recitation access and submission).

Textbook

To reduce costs for students, we will be using a **freely available online Open Educational Resource (OER)** that I have prepared for our course. There will not be any materials that you need to purchase for our course. When accessing the OER, be aware that it can be downloaded, viewed in different accessible formats, and can be printed by the MSU library for a nominal fee if you wish to have a hard copy. Note that chapters in this text are much shorter than traditional textbooks and are more focused on the content that we will be covering in our course. If you are interested in recommendations for other Neuroscience textbooks (for recreational or supplemental reading) please contact me (Dr. Hedges) directly (I love books).

Text Link (be sure to bookmark it!): [Introduction to Neuroscience – Simple Book Publishing \(msu.edu\)](#)

DIVERSITY STATEMENT

Your experience in this class is important to me. I am committed to providing an inclusive learning environment for all members of our community, where students from diverse backgrounds and perspectives are recognized, respected and seen as a source of strength and a source of enrichment for our intellectual community. I strive to be respectful of diversity in gender, sexuality, disability, age, religion, socioeconomic status, ethnicity, race, and culture. Your suggestions for ways in which these areas in the class can be strengthened are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups.

We have all lived through an unprecedented time in the pandemic and tragedy on our campus, resulting in substantial challenges outside of the classroom. If you are experiencing any type of hardship that may impact your participation and engagement in this class, please reach out. You do not need to share details that you are not comfortable sharing. We can work together to create a plan to move forward.

LAND ACKNOWLEDGEMENT

Michigan State University occupies the ancestral, traditional and contemporary lands of the Anishinaabeg – Three Fires Confederacy of Ojibwe, Odawa and Potawatomi peoples. In particular, the university resides on land ceded in the 1819 Treaty of Saginaw. We recognize Michigan's 12 federally recognized Native Nations, historic Indigenous communities in Michigan, Indigenous individuals and communities who live here now, and those who were forcibly removed from their homelands. In offering this land acknowledgement, we affirm Indigenous sovereignty, history and experiences.

Take Action: Visit the [Nokomis Cultural Heritage Center](#) near the Meridian Mall in Okemos to learn more about the indigenous peoples of this area.

LEARNING PACT

The Learning Pact is taken from *Liquid Syllabus* course provided by [CVC-OEI/@ONE](#) and authored by Michelle Pacansky-Brock.

INSTRUCTOR EXPECTATIONS

1. I will provide you with a clear, organized course that is designed to ensure you meet our course outcomes in a meaningful manner.
2. I will provide a variety of assignments to ensure your learning needs are met.
3. I will be actively present in your learning.
4. I will provide a supportive and safe environment for you to share and discuss ideas with your peers.
5. I will reach out to you when I sense that you need support.
6. I will treat you with dignity and respect and be flexible to support your individual needs.
7. I won't be perfect. I am human and will make mistakes at times. I will view mistakes as an opportunity to learn and grow.

STUDENT EXPECTATIONS

1. You strive to be an active participant in this course and strive to meet due dates.
2. You will maintain an open line of communication with me so I understand how to support you.
3. You will contact me if you have a concern with meeting a due date.
4. You strive to regularly contribute to collaborative activities to ensure other members of the community have ample opportunity to read/listen, reflect, and respond to your ideas.
5. You will treat your peers with dignity and respect.
6. You will do your best to have patience with technology. There will be hiccups, expect them. We will get through them together.
7. You will give yourself grace. Expect to make mistakes. You are human and you are stressed.

COMPUTER SKILLS AND DIGITAL INFORMATION LITERACY

- Using the learning management system, D2L
- Using email with Attachments
- Copying/pasting and editing text
- Basic word processing skills necessary for completion of recitation assignments via Google Doc through Google Classroom
- Basic internet literacy skills to efficiently navigate D2L, Google Classroom, and email

COURSE SPECIFICS

You will need your MSU NetID to login to the course from the D2L homepage to access our course materials (<http://d2l.msu.edu>). In D2L you will access online videos, course materials, and additional resources. Activities will include readings, quizzes, discussion forums, email, and other online activities. Links out to Google Classroom will also be available through D2L (for recitation submission). This is not a self-paced course- that is, there will be assignments that are due at specific times throughout the week. Students that do not meet these deadlines will not earn credit for those assignments.

(Section 001) IN PERSON MEETING- WEDNESDAYS (SEE SCHEDULE) 10:20 AM-11:40 AM

During the in-person meeting students will have an opportunity to work through a recitation worksheet with their peers and instructors. Recitation worksheets do not count toward student grades, but rather are low-stakes formative

assessments for students to improve their learning of the course content. This time will be used as work time, with lots of one-on-one interaction from instructors. There will also be time during the in-person meeting for students to speak with instructors and ask questions about course content outside of the recitation questions if desired. Attendance at our in-person meeting is highly encouraged, but attendance will not be recorded.

*Note that if you have an interest in being an LA for NEU 301 in the future, I will give a preference to students that I get to know through recitation attendance

The Recitation Worksheets can be completed:

- 1) In person during our meeting on Weds with peers and instructors
- 2) Synchronously over Zoom with TAs available to answer questions during the time set for our in-person meeting
- 3) Online and asynchronously throughout the week
- 4) Not at all (failure to complete will not negatively affect student grade).

(Section 001 and 730) SYNCHRONOUS ZOOM SESSION- WEDNESDAYS (SEE SCHEDULE) 10:20-11:40 AM

All students have the option to attend a synchronous Zoom meeting during our regular in-person class time. You will have the opportunity to work on the Recitation activity with other students on Zoom. A course instructor will moderate the Zoom room and address any questions. You will also get to hear any discussions that occur with the in-person students. If you are an online asynchronous student and you wish to attend our in-person meeting, that can typically be accommodated. Please just email me (Dr. Hedges) to inquire about that possibility.

NEU 301 Synchronous Zoom Meeting Weds 10:20am- 11:40am

Join Zoom Meeting

<https://msu.zoom.us/j/93381628358>

Meeting ID: 933 8162 8358

Passcode: NEU301

COURSE OUTLINE/SCHEDULE:

The detailed course schedule is available as a separate document on D2L. This schedule lists topics, assigned readings, quizzes, exams, recitations, and practice questions. Due dates are indicated on the schedule.

Each part of the course is detailed in the following sections, but below are general guidelines regarding your routine in this course.

Our weeks will “start” on Friday, then we will have our in-person Recitation meeting the following Wednesday, and the quiz for that unit will be due the following Friday.

Friday Morning at 8:00 AM:

- Lecture videos for the upcoming week open and will always remain open
- Weekly quiz for the upcoming week opens
- Recitation and Practice Questions for the upcoming week open

Wednesday at 10:20-11:40 AM

- In-person and Synchronous Zoom meeting time
- Dedicated time to speak with instructors and peers and work on recitation assignment

Friday at 5:00 PM:

- Quiz from previous week is due
- Recitation and Practice Questions from previous week are due

Exams will open on the first date indicated in the schedule at 1:00 PM and close on the second date indicated in the schedule at 11:59 PM.

LATE WORK POLICY

Please note that there are due dates for our weekly D2L quizzes for the purpose of 1) keeping students on track over the course of the semester and 2) so that students can complete exams during the indicated time on the course schedule. We have seen how students can quickly get behind on their course work if there are no deadlines for any assignments.

I understand that sometimes circumstances might prevent you from completing quizzes by the indicated due date. To help you in these situations, a 48-hour submission grace period will be offered for all Quizzes that will allow you to turn in quizzes up to 48 hours after the indicated due date. *No additional extensions will be available to make sure that everyone stays on track with the course material and our schedule.*

If you have a more serious or long-term problem that prevents you from completing assignments by the indicated due dates, this needs to be communicated with me (Dr. Hedges) as soon as possible so that alternative arrangements can be made.

Due Dates for Recitation and Practice Problems assignments are only for those that potentially want feedback from instructors on their assignments.

COURSE CONTENT

Students will be responsible for the content that is covered in lecture videos, recitations, and the text.

LECTURE VIDEOS

- Lecture videos will have captions available, can be downloaded, and can be sped up or slowed down.
- Each week there will be multiple shorter videos broken up by topic, rather than one long lecture video. This has been done so that students may easily re-watch videos on topics of their choosing.
- Videos may request that you pause your video and complete an activity. These activities are short exercises that are meant to help students think through material.

Please understand that the schedule that is on D2L is only tentative and may be changed by the instructor to accommodate better learning of the material. I recommend that students read the assigned text before watching the lecture videos to help facilitate learning.

ASSIGNMENTS THAT DIRECTLY CONTRIBUTE TO COURSE GRADE

I have been making an effort to improve grading equity within this course. For grades to be more equitable, they should only reflect a student's performance rather than their behavior (like participation or attendance). Towards this effort, student grades will no longer incorporate any required participation grades.

Your grade in this course will only reflect the knowledge and understanding that you have demonstrated on content-based assessments in the course.

1) D2L WEEKLY QUIZZES

The purpose of D2L weekly quizzes is to give you a low-stakes opportunity to assess their understanding of the content. Quizzes should be used as a tool to keep up with content presented weekly in the course and to assist in exam preparation.

You get 3 attempts on each quiz, with the idea that you will study your mistakes and then try to understand and correct those mistakes through resubmitting the quiz with the correct answers.

- Quizzes are due Friday at 5:00 PM
- Quizzes will have a 48 hour grace period for submission, allowing you to turn them in by Sunday at 5pm if circumstances prevent you from completing the quiz prior to the due date. You do not need to inform me if you intend on using this submission grace period.
- Each Quiz will consist of 10 questions (multiple choice, multiselect) and are not timed
- You will have 3 attempts on each quiz, and only the highest grade will be recorded
- You can review feedback on quizzes as soon as you earn a "satisfactory" grade, or after 3 attempts (regardless of score)
- A short video is available on D2L under "How to Videos" that shows you how to see your quiz feedback. If you miss a quiz, the quiz answers cannot be reviewed.

I recommend that you study prior to taking each weekly quiz as if you are preparing for an exam.

The first week of class there will be a special quiz covering the syllabus. It is 20 questions. There is no time limit on this quiz. It will also have 3 attempts available.

2) EXAMS

The bulk of your grade in our course will be determined by summative assessments (exams) that assess learning and understanding of the material. For complete details see 'Exam Information' module on D2L

- There will be five exams in this course that will be graded out of 40 points each. These points are only used to determine what level was achieved on the exam (details in grading section)
- Each exam will cover the material covered since the previous exam (lecture videos, recitations, course text) and will not be cumulative. This includes the Final Exam which will NOT be cumulative.
- Permitted Resources for Exams: Course notes, Recitations assignments, Course Text (open note/open book)
- You are NOT permitted to use the internet as a resource on your exams. Answers received from internet sources are a violation of academic honesty and will result in issuance of an academic dishonesty report. Use of generative AI is also not permitted on exams.
- Exam dates are noted in the schedule posted on D2L.

- Exams will be administered through D2L and consist of multiple-choice questions and multiselect questions that will be graded automatically by D2L.

Missed Exams:

You are given a window of time to complete the exam to provide flexibility. Exam dates are located in the syllabus and in the course schedule posted to D2L. Reminder emails will also be sent for each exam.

It is the responsibility of the student to complete the exam during the specified time. If an exam is missed due to a circumstance outside the control of the student, this must be communicated with me (Dr. Hedges) as soon as possible, but must be done within 24 hours of the missed exam.

A scheduled event is not outside your control. These events need to be communicated with me (Dr. Hedges) prior to the exam as soon as possible.

Exam Revisions:

An exam is a learning tool and learning from your mistakes on an exam is a powerful way to improve your learning of the course content. For this reason, each of you will have the opportunity to complete Exam Revisions. Exam Revisions will consist of a second attempt on the exam that will be opened after the first attempt has been graded and posted.

The grades from the first attempt and second attempt on the exam will be averaged together to determine the final grade on the exam. You will have the opportunity to review your incorrect responses and feedback on those incorrect responses prior to your submission of your second attempt. **A document is posted on D2L under the "Exam Information" Module that has the details for how to complete Exam Revisions.**

Reviewing Exam Feedback:

- You will be emailed with details specifying the dates for exam review and exam revisions through your D2L email account
- All students interested in completing Exam Revisions will need to first complete an Exam Reflection assignment that will be made available on D2L.
- After submission of the Exam Reflection, a second attempt will be made available on the exam

Completing Revisions on Exam:

- Exam revisions are not required but are available for students that wish to improve their score on each exam.
- When taking the second attempt on the exam, you will only be able to answer the questions that were previously incorrect. A red exclamation mark will denote questions that can be retaken.
- You may attempt to correct as many questions as you would like and have the **chance to earn back 50% of the points missed on the exam.**
- Note that you are only able to potentially move up one grading category by completing exam corrections (moving from an 'unsatisfactory' to a 'satisfactory' or moving from a 'satisfactory' to a 'strong').

The scores on the first attempt and second attempt will be averaged to determine the Final grade on the Exam.

Example Grade Determination:

Attempt 1:

Overall *attempt 1* score = 29/40 or 72.5%

On attempt 1 of the exam, this student earned a “Satisfactory” on the Exam. If they were satisfied with this score, then no further action is needed.

Attempt 2:

Let’s pretend that this student decided to complete the second attempt and earned the following grade:

Overall attempt 2 score = 39/40 or 97.5%

Determination of final score on Exam

Final Exam Score = Average of attempt 1 and attempt 2 = $(29+39)/2 = 34/40$ or 85%

In this example, the student increased their grade to a 34/40 and now has a grade of “Strong” on the Exam.

SUPPORTING ASSIGNMENTS

This section of the syllabus will detail assignments that will not directly determine your grade but are important in understanding the material and are critical to promote success in the course.

I am giving you the choice regarding how you interact with this course. If you do not see the personal benefit of completing these assignments, then you do not need to concern yourself with these assignments. But it is my honest belief that it is in your best interest to engage with the course content as much as possible to support your learning.

I would personally recommend that you complete ALL of the following assignments to best support learning of the material and keeping a consistent schedule in the course. I believe that completion of these assignments will help to support your success in this class and promote your understanding of our course content, allow you to potentially recognize and address your misunderstandings prior to an exam, and reflect on your most successful studying strategies.

1) RECITATION WORKSHEETS

It is my belief that completion of recitation supports student success in the course. As such, all students are encouraged to complete the recitations weekly and turn them in through Google Classroom.

I consider Recitations to be incredibly important within our course. Recitations allow for opportunities for students to practice their critical thinking and problem solving for exams. It is in your best interest to actively complete your recitation assignments and put effort into understanding the recitations.

Please note that the due dates indicated for Recitation will only be for those that wish to receive feedback from an instructor on their recitation worksheet.

Add yourself to our Google Classroom

- We will be using [Google Classroom](#) to complete Recitation Exercises, which will be posted as Google Docs through the MSU Google Apps agreement.
- To access Google Classroom, go to <https://classroom.google.com/u/0/h> and be sure to sign in using your MSU username and password. By default, if you are not signed in, on the page that says, “You need permission,” it will tell you which account is being used. **Instead of clicking the “Request Access” button, choose to “Switch Account”**. If your MSU email still doesn’t appear, choose “Add Account,” and sign in using your MSU username and password.
- Use the “+” sign located on the upper-right hand side of the page to add a class. Enter the following class code: **tczf4oc**

Guidelines for Using Google Classroom

- When using Google Classroom, you will complete your answers directly on the Google Doc by typing into the text boxes, uploading images, or editing images. When you finish the document, you will submit it by using the “Turn In” button on the assignment page in Google Classroom.
- Do not submit the Google Doc until you are completely finished. Once you turn it in, you will no longer have editing access for the document. If you turn it in early on accident, the “Turn In” button will change so that you can un-submit it.

Recitation Assignments

- The Recitation assignment will be the focus of our in-person meeting
- In-person students should bring a laptop, tablet or other computer that will allow them to electronically complete a Google Document
- You are encouraged to work collaboratively in small groups weekly (up to 5 people per group) to work through the recitation
- You are encouraged to review and start working on recitation assignment before attending the in-person meeting.
- Recitations will open on Google Classroom on Friday morning at 8:00 AM and will be due the following Friday at 5:00 PM most weeks of class (see schedule). This due date is only for students that wish to receive instructor feedback on their recitation worksheet
- Video Key and Key documents for the recitation exercises will be located on D2L and will be available following the due date. It is the responsibility of each student to check that their recitation exercise answers are correct against the provided keys.

2) Practice Questions

Practice Questions are a short assignment that will allow students to practice answering a couple of questions related to the topics of the week.

- Practice Questions will be set up as written response quizzes on D2L.
- Practice Questions open on Friday at 8:00 AM and are due the following Friday at 5:00 PM (one week later). This due date is only for students that would like feedback on their Practice Questions

3) Reflections

Reflection assignments are guided reflection assignments that students will complete 3 times over the course of the semester during Synthesis Weeks and at the end of the semester (see course schedule).

- Completion of Exam Reflections will be required to complete Exam Revisions
- Each exam will have a separate Exam Reflection
- Exam Reflections will be completed as an assignment on D2L and will be open for the entire Synthesis Week

GRADING

WHY THIS STRUCTURE?

Research has shown that grades promote extrinsic motivation rather than intrinsic motivation. This means, that for many students, the focus of a class is about earning “X” number of points over the joy of learning and thoroughly understanding the material. My hope is that with this scoring system, the focus can be placed on learning and practicing scientific skills and improving on those skills from the start of the semester to the end.

I have observed how the focus on earning points can greatly increase stress in students and diminish the learning environment overall. So, in our class I will instead be grading most assignments using a more general scale where

performance is categorized into 2 or 3 grading categories. This will allow students to understand whether they are meeting the expectations for the course, while allowing for students to make some mistakes that do not necessarily lower their grade.

To allow students the opportunity to improve their performance, students will have the chance to review and revise their assignments to promote all students reaching a level of satisfactory performance. My hope is that this will allow students to enjoy learning about the topics in the course and better understand the purpose and benefit of the different assignments. Recognizing that student preparedness can vary widely in our course, the overall goal of this structure is to make grades more equitable, increased inclusiveness by providing opportunities to improve, decrease student stress, promote intrinsic student motivation, and provide all students the opportunity to improve their science skills.

Please refer to the “advice from past students” on D2L to read about past students’ experiences in this course and the advice that they have to bestow upon new students in the course.

QUIZ GRADING (Total of 13 quizzes)

Quizzes are 10 questions each (except the first quiz over the syllabus that is 20 questions). Students get **3 attempts on each quiz**, with only the highest score being recorded. Quizzes will be graded as Credit or No Credit.

To earn “Credit” on a quiz:

- The quiz must be completed within the allowed grace period of submission on D2L
- The submission must earn a minimum grade of 70% correct

If any of the above criteria are not met, then a grade of “No Credit” will be given.

EXAM GRADING (Total of 5 Exams)

Exams will be graded out of 40 “points”. These points do not count towards your final grade, but instead will be used to determine what grading level was achieved on the exam. Exams will be graded as “Strong”, “Satisfactory”, or “Unsatisfactory”.

To earn a grade of “Strong” on an exam (and a score of 2):

- The exam must be completed on time within D2L
- The submission must earn a **minimum grade of 32/40 (80%)**

To earn a grade of Satisfactory on an exam (and a score of 1):

- The exam must be completed on time within D2L
- The submission must earn a **minimum grade of 24/40 (60%)**

Exams that are not completed on time, or that earn less than 60%, will earn a grade of Unsatisfactory (and a score of 0)

- For each Strong Exam, a student earns a score of 2.
- For each Satisfactory Exam, a student earns a score of 1
- For each Unsatisfactory Exam, a student earns a score of 0

Scores will be used when calculating final grades.

**Students will have the opportunity to review and submit revisions to earn back points lost on their exam with the goal of achieving either a “Strong” or a “Satisfactory grade”. (See Exam Corrections)

Final Grade Calculation:

- The MSU 4.0 grading system is used report final course grades. Grades for assignments will be posted electronically to D2L within one (1) week of the completed assignment/assessment due date.
- Refer to D2L often to determine your progress in the course. Instructors are not able to predict the grade that you will earn in this class prior to the completion of all assignments.
- In order to earn a particular final grade level, you must meet the minimum requirements in every category listed in the table below.
- Exams will be determined to be Strong (2), Satisfactory (1) or Unsatisfactory (0) AFTER Exam Correction scores have been determined. If you elect to not complete Exam Corrections, then your first attempt score will be determined to be Strong, Satisfactory or Unsatisfactory.

Minimum # of Credit Quizzes (total of 13)	Total Score* from top 4 Exams (lowest exam dropped)	Grade in Course
11	8	4.0
11	7	3.5
9	6	3.0
9	5	2.5
7	4	2.0
7	3	1.5
7	2	1.0
Less than 7	Less than 2	0.0 (not passing)

* Your "Score" on the exam is a 2, 1, or 0 based on the definitions in the syllabus

Example Final Grade Calculation:

A student has the following grades:

- 2 "Strong" exams, and 3 "Satisfactory" exams
- 12 "Credit" Quizzes

In this example the student has completed more than the minimum number of "Credit" quizzes to get any grade in the course, which means that the grade will ultimately be determined by exam performance. The lowest exam will be dropped, which in this example would be one of the "satisfactory" exams. With 2 "Strong" exams (each with a score of 2) and 2 "Satisfactory" exams (each with a score of 1) the total exam score will be 6. According to the table, this will result in a final grade of a 3.0 in the course.

CLASS POLICIES

CONTESTING GRADES

You are expected to review your feedback for exams and quizzes, posted keys and posted videos on D2L before bringing your concerns to the instructors. Honestly self-assess whether you perhaps misunderstood or overlooked something, and if that mistake led to your grade. You are encouraged to contact your instructor to help clarify misunderstandings of

the material. If a genuine grading error has been made, it would be appropriate to email or attend office hours to discuss your concern. However, I will not re-grade individual elements of an assignment/exam.

If you believe that the grade you received did not reflect the overall quality of the assignment/exam, you may formally request a re-grade of the entire assignment by Dr. Hedges within 7 days that the grade was posted to D2L. Please email Dr. Hedges stating as such, and that you understand the new grade will stand. It may be lower, higher, or the same as your initial grade.

STATEMENT OF OWNERSHIP

As members of a learning community, you are expected to respect the intellectual property of course instructors, like me. All course materials presented to you are my copyrighted property and are subject to the following conditions of use:

- You **may not** post recordings or other course materials online through sites such as Course Hero, Chegg, etc. or distribute them to anyone not enrolled in the class without the advance written permission of the course instructor and, if applicable, any students whose voice or image is included in the recordings.
- You **may not** commercialize lecture notes and university-provided course content. This includes posting any course materials to online sites.

GENERATIVE AI USE

The use of generative AI on exams in this course is not permitted. I have purposefully tried to make our course a less stressful environment, but I understand how ubiquitous this technology is. Please use only the notes generated from the content videos and the online course text as resources on our exams. Among other issues such as biased responses, generative AI does not always provide accurate responses, is prone to providing incomplete information about a topic, and foremost is not a representative indication of your understanding of our course content.

My goal is for you to enhance your problem solving and critical thinking skills in our course, and you will have many opportunities to hone these skills.

Please see the following link for MSU guidance about the use of generative AI: [Guidelines and Policies on Generative AI Use at MSU](#)

Any students found violating the conditions described in “statement of ownership” or “generative AI use” will face academic disciplinary sanctions, including receiving a penalty grade in the course, and issuance of an academic dishonesty report.

REQUESTING A RECOMMENDATION LETTER:

I receive many requests for letters of recommendation, and usually end up writing 50-60 letters every year. I will only agree to write letters of recommendation after the semester is complete, and I have observed your performance in the course. Letters of recommendation are important as you pursue various programs. It is in your best interest to only ask individuals that know you personally to be letter writers and have verbal assurance from the individual that they can write you a strong and positive letter.

I require that students earn a 4.0 in the course and have a 3.5 GPA overall and that they have demonstrated course engagement by participating in bonus work and interacting with the instructional team. You will need to submit your CV or resume, a personal statement, a copy of your transcripts, and a completed questionnaire (that I will send to you

after I agree to write the letter). I will be unable to complete letters if the student fails to submit these materials within 2 weeks of the due date of the letter.

HOW TO BE AN LA FOR NEU 301/302:

If you are interested in being an LA for 301/302, then you should contact me (Dr. Hedges) via email during the spring semester. You will be asked to fill out a questionnaire and return it to be placed in the pool of other interested students. I will choose LAs based on their responses to that questionnaire, demonstrated ability to interact well with their peers during in-person meetings, and demonstrated mastery of the subject matter through performance on assessments. I will make these decisions after the successful completion of both NEU 301 and NEU 302 (typically by the end of May).

HONORS OPTION

Please see Honors Option module on D2L for details.

TECHNOLOGY RESOURCES AND REQUIREMENTS:

TECHNOLOGY REQUIREMENTS AND RESOURCES

- Internet connection (preferably high speed)
- Access to D2L homepage: [D2L Home Page](#)
- Access to Google Classroom page: [Google Classroom Home page](#)
- See the Student Handbook under Policies and Procedures for Computer Technology and Laptop requirements
- The [MSU Tech Store](#) offers special computer hardware and software pricing for students.
- Microsoft Office 365 if available (for free) to all students by logging in through this website: [Microsoft 365 MSU](#) with your MSU username and password

TECHNICAL ASSISTANCE

- If experiencing a problem, you are required to contact the help desk first.
- If you require technical assistance, or need to report a problem:
 - Visit the IT support site: [MSU IT Support](#)
 - Visit the D2L Help site: [D2L Help Site](#)
 - Call IT Help Line at 517-432-6200 or toll free (844) 678-6200
- If you have any technology difficulties accessing D2L, contact the IT Help Line, explain the situation, and ask for assistance.
- Faculty is not responsible for assisting in resolving technology difficulties
- You are required to notify me via email regarding any technical difficulties, **after** speaking with IT Help Desk

RESOURCES FOR MSU STUDENTS:

[The Resource Center for Persons with Disabilities](#) – RCPD offers resources, support, and accommodations to students with disabilities. This can include, but is not limited to, autism spectrum disorders, blindness and visual impairment, brain injury, chronic health disabilities, deaf / hard of hearing, learning disabilities and attention deficit, mobility disabilities psychiatric disabilities, and temporary conditions. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at www.rcpd.msu.edu.

Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation ("VISA") form. **Please present this form to Dr. Hedges as soon as possible.**

[Counseling and Psychiatric Services](#) - CAPS is the place on campus for students seeking help for a wide range of concerns, including depression, anxiety, stress management, homesickness, adjustment or acculturation, relationships, gender identity and sexual orientation (LGBTQ) concerns, substance abuse, trauma, eating or body image concerns, and other personal mental health concerns.

[Student Advocates for Essential Needs Security \(SAENS\)](#) is a registered student organization within MSU that is open to currently enrolled undergraduate and graduate students. SAENS works with MSU's on and off-campus resources to raise awareness and support the needs of students related to housing, food, and basic care items. SAENS advocates on behalf of students for the equitable distribution of essential need items to students including affordable housing, access to healthy food options, and access to hygiene resources to promote student success.

[The Student Parent Resource Center](#) offers a supportive environment to obtain information and resources for all student parents and their families on and off campus. Within Resource Center is the [Student Parents on a Mission \(SPOM\)](#), a registered student organization for MSU students with children. This support system connects student parents through parent meetings, family fun events, scholarship awards, and a holiday adoption program.

[Office of the University Ombudsperson](#) - Whether you are a student, faculty member, or staff, the Office of the University Ombudsperson offers a confidential place to discuss both academic and nonacademic concerns including, administrative issues, workplace issues, or any concern that may relate to Michigan State University students.

The [Online Engagement Center](#), part of the [Neighborhood Student Success Collaborative](#) – We promote academic proficiency, institutional navigation and socio-emotional engagement, which support student success. We do this through: Academic advising and academic success coaching, Engagement Center resources, our student success programs (Spartan Success Scholars, DOW STEM Scholars Program, and Detroit M.A.D.E. Scholars Program) and Collaborative Learning Center (where we train peer educators across the university, provide success skill workshops, and are experts on non-cognitive indicators of academic success)

[The Spartan Strong Foundation](#) has been created to provide support for the evolving needs of individuals impacted by tragic events. The Spartan Strong Fund exists to harness Spartans' collective will to take action and support one another.

The [Lesbian, Bisexual, Gay, and Transgender Resource Center](#) – We lead and collaborate on university-wide initiatives that prepare students to thrive in our diverse world, and enhance the campus climate and support services for students marginalized by their sexuality or gender identity.

The [MSU Food Bank](#)- MSU Student Food Bank was founded to help students who are dealing with [food insecurity](#) (having limited food availability with a reduction in the quality or variety of food intake that often results in disrupted eating patterns). A lack of food security can be a considerable obstacle to academic success. The MSU Student Food Bank is a non-profit and serves over 6,000 students, many with families, and distributes over 110,000 pounds of food. See their site about eligibility and use of this service. [The Greater Lansing Food Bank](#) also offers mobile distribution and food pantries.

[The Campus Meditation Map](#) was created by Beal Scholar Anhad Viswananth as part of the Garden's Wellness program. Go to the link for a map and a list of meditation sites.

MSU POLICIES

ATTENDANCE:

Students are expected to participate in all course activities. See the Ombudsperson's web site for a discussion of student observance of major religious holidays, student-athlete participation in athletic competition, student participation in university-approved field trips, medical excuses and dean's drop for students who fail to attend class sessions at the beginning of the semester.

THE SPARTAN CODE OF HONOR ACADEMIC PLEDGE:

"As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing to endeavor to build personal integrity in all that I do."

ACADEMIC INTEGRITY

The "Academic Freedom for Students at Michigan State University" document (found at <http://splife.studentlife.msu.edu>) is a legal document that you, as a member of the MSU community, should be familiar with. The welcome letter at the beginning reads, in part:

"As an academic community, it is necessary to set standards that will promote an environment conducive to learning. The first part of the Spartan Life presents the policies, regulations and guidelines developed to provide an atmosphere that furthers opportunities for intellectual and personal development while protecting individual freedoms. As a student you are encouraged to exercise your rights and you are expected to meet your responsibility to adhere to the standards set. The second part of this guide serves to inform you of the rules, regulations, rights and responsibilities that have been established in the interest of all member of the University community."

Academic misconduct, including but not limited to plagiarizing, cheating, and submitting falsified data will not be tolerated in this course. Individual student assignments that contain portions that are deemed by Dr. Hedges to be highly similar to an assignment submitted by another student in current or previous semesters or to an internet or published source may be considered a violation of academic integrity. See "Section 1.00 PROTECTION OF SCHOLARSHIP AND GRADES and Student Academic Integrity FAQs" for detailed information about definitions of academic integrity, examples of misconduct, and advice about how to avoid it.

In this class, you are NOT permitted to share answers or materials with other students (past, present or future) nor are you permitted to collaborate on any quizzes or exams in this course with any other students (past, present, or future). You are not allowed to obtain assignments from another student enrolled in the current or a previous semester. When required to use information from published papers or other sources, it must be re-stated in your own words and cited as specified in class.

Suspected violations of the MSU policies will result in a meeting with Dr. Hedges. Depending on the severity of the violation, penalties for academic dishonesty may range from 0 points for an item on the assignment, to 0 points for the entire assignment, to a failing grade for the class. If a penalty grade is administered, Dr. Hedges is required to submit an academic dishonesty report to the university, which will be added to the student's record. The student will be required to complete a course on academic integrity, and the Dean may choose to impose other sanctions. Providing your completed assignments and answers to quizzes and assignments, to other students currently enrolled in NEU301 or those who may take NEU301 in the future is considered a violation of academic integrity and may subject you to sanctions by the university even if you are no longer enrolled in the class.

TITLE IX: OUR COMMITMENT:

“Michigan State University is committed to fostering a culture of caring and respect that is free of relationship violence and sexual misconduct, and to ensuring that all affected individuals have access to services. For information on reporting options, confidential advocacy and support resources, university policies and procedures, or how to make a difference on campus, visit the Title IX website.”

LIMITED CONFIDENTIALITY:

“Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, may not be able to maintain confidentiality when it conflicts with their responsibility to report certain issues to protect the health and safety of MSU community members and others. As the instructor, I must report the following information to other University offices (including the Department of Police and Public Safety) if you share it with me (in writing or in person), if I overhear it from others, or if I am informed by others:

- Suspected child abuse/neglect, even if this maltreatment happened when you were a child
- Allegations of sexual assault or sexual harassment when they involve MSU students, faculty, or staff
- Credible threats of harm to oneself or to others

These reports may trigger contact from a campus official who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like to talk about these events in a more confidential setting you are encouraged to make an appointment with the MSU Counseling Center.” <http://oie.msu.edu/mandatory-reporting.html>

RELIGIOUS OBSERVATION POLICY

We will honor the [Religious Observance Calendar](#) for the University. Students who are absent from classes on these days will not be disadvantaged in any way. I have made an effort to avoid scheduling major assignments during the major holidays of religions on campus when possible.

- Exams that do fall on a religious holiday can be reasonable rescheduled without any penalty.
- You do not need to use a late pass for an assignment that falls on an observed religious holiday.
- **You must inform me (Dr. Hedges) at least 2 weeks prior to the due date of the assignment or exam that it falls on an observed religious holiday to make arrangements in advance for that assignment/exam**

GRIEF ABSENCE POLICY

The faculty and staff should be sensitive to and accommodate the bereavement process of a student who has lost a family member or who is experiencing emotional distress from a similar tragedy so that the student is not academically disadvantaged in their classes or other academic work (e.g. research). For undergraduate students it is the responsibility of the student to: a) notify the Associate Dean or designee of their college by completing the grief absence request form <https://reg.msu.edu/StuForms/Stuinfo/GriefAbsenceForm.aspx> in a timely manner, but no later than one week from the student's initial knowledge of the situation, b) provide appropriate verification of the grief absence as specified by the Associate Dean, and c) complete all missed work as determined in consultation with the instructor. It is the responsibility of the Associate Dean or designee to: a) determine with the student the expected period of absence – it is expected that some bereavement processes may be more extensive than others depending on individual circumstances, b) notify the

faculty that the student will be absent, and c) receive verification of the authenticity of a grief absence request upon the student's return. It is the responsibility of the instructor to work with the student to make reasonable accommodations and to include appropriate language describing such accommodations in their course syllabus, so that the student is not penalized due to a verified grief absence. Students who believe their rights under this policy have been violated should contact the [MSU Office of the University Ombudsperson](#) for information on the academic grievance procedures.

DISRUPTIVE BEHAVIOR

Article 2.III.B.4 of the Student Rights and Responsibilities (SRR) for students at Michigan State University states:

"The student's behavior in the classroom shall be conducive to the teaching and learning process for all concerned."

Article 2.III.B.10 of the SRR states that

"The student and the faculty share the responsibility for maintaining professional relationships based on mutual trust and civility."

General Student Regulation 5.02 states:

"No student shall . . . interfere with the functions and services of the University (for example, but not limited to, classes . . .) such that the function or service is obstructed or disrupted."

Students whose conduct adversely affects the learning environment in this classroom may be subject to disciplinary action.

Found in [Student Rights and Responsibilities](#) opens in new window

COURSE DROPS AND ADDS

Can be found on the academic calendar at: <https://reg.msu.edu/ROInfo/Calendar/academic.aspx>

COURSE SCHEDULE: NEU 301 Fall 2023 (Section 001 and Section 730)

Refer to the course calendar (below) for a schedule of topic dates and due dates. Activity and assignment details will be explained in detail within each week's corresponding learning module (week) of the course. If you have any questions, please contact your instructor.

- Readings are from our course Open Educational Resource that is freely available to students: [Introduction to Neuroscience – Simple Book Publishing \(msu.edu\)](https://openstax.org/r/introduction-to-neuroscience-simple-book-publishing). Be aware that you can download the book in different formats, or have it printed through the MSU Library for a nominal fee

Exams are all online through D2L. Note opening and closing dates/times on schedule.

<i>Week</i>	<i>Dates</i>	<i>Topic</i>	<i>Reading: Introduction to Neuroscience</i>	<i>Weds class meeting- Recitation (in-person or synchronous Zoom option)</i>	<i>Quizzes and Practice Questions</i>	<i>Exams</i>
1	Mon 8/28-Fri 9/1	Class Introduction	Chapter 1	Date: 8/30/23 Week 1 Recitation, Course Introduction Grade Agreement Form DUE 9/1 @5PM	Week 1 Quiz DUE 9/1 @5PM Week 1 Practice Q's DUE 9/1 @5PM	
2	Friday 9/1- Friday 9/8 Labor Day 9/4	Unit 1: Neurons and Glia	Chapter 2, 3, 4	Date: 9/6/23 Week 2 Recitation DUE 9/8 @5PM	Week 2 Quiz DUE 9/8 @5PM Week 2 Practice Q's DUE 9/8 @5PM	
3	Friday 9/8- Friday 9/15	Unit 2: Resting Membrane Potential	Chapters 5, 6, 7	Date: 9/13/23 Week 3 Recitation DUE 9/15 @5PM	Week 3 Quiz DUE 9/15 @5PM Week 3 Practice Q's DUE 9/15 @5PM	EXAM 1 (Unit 1 and Unit 2) - Opens Sun. 9/17 @8am - Closes Mon. 9/18 @ 11:59 pm
4	Monday 9/18- Friday 9/22	Unit 3: Action Potential	Chapters 8, 9, 10	Date: 9/20/23 Week 4 Recitation DUE 9/22 @5PM	Week 4 Quiz DUE 9/22 @5PM Week 4 Practice Q's DUE 9/22 @5PM	

Week	Dates	Topic	Reading: Introduction to Neuroscience	Weds class meeting- Recitation (in-person or synchronous Zoom option)	Quizzes and Practice Questions	Exams
5	Friday 9/22- Friday 9/29	Unit 4: Synaptic Transmission	Chapters 11, 12	Date: 9/27/23 Week 5 Recitation DUE 9/29 @5PM	Week 5 Quiz DUE 9/29 @5PM Week 5 Practice Q's DUE 9/29 @5PM	EXAM 2 (Unit 3 and Unit 4) -Opens Sunday 10/1 @8am -Closes Monday 10/2 @ 11:59 pm
6	Monday 10/2- Friday 10/6	Synthesis Week- Reflections, Exam Corrections No new content		Date: 10/4/23 <ul style="list-style-type: none"> • Class meeting to ask questions/review • No Recitation or quizzes due 		
7	Friday 10/6- Friday 10/13	Unit 5: Neurotransmitters	Chapters 13, 14, 15, 16, 17, 18, 19, 20	Date: 10/11/23 Week 7 Recitation DUE 10/13 @5PM	Week 7 Quiz DUE 10/13 @5PM Week 7 Practice Q's DUE 10/13 @5PM	
8	Friday 10/13- Friday 10/20	Unit 6: CNS Anatomy	Chapters 21, 22, 23, 24, 25	Date: 10/18/23 Week 8 Recitation DUE 10/20 @5PM	Week 8 Quiz DUE 10/20 @5PM Week 8 Practice Q's DUE 10/20 @5PM	
9	Friday 10/20- Friday 10/27 Fall Break 10/23-10/24	Unit 7: Peripheral Nervous System	Chapters 26, 27	Date: 10/25/23 Week 9 Recitation DUE 10/27 @5PM	Week 9 Quiz DUE 10/27 @5PM Week 9 Practice Q's DUE 10/27 @5PM	EXAM 3 (Unit 5, Unit 6, Unit 7) -Opens Sun. 10/29 @8am -Closes Mon. 10/30 @11:59 pm
10	Monday 10/30- Friday 11/3	Unit 8: Visual System: The Eye	Chapter 28, 29	Date:11/1/23 Week 10 Recitation DUE 11/3 @5PM	Week 10 Quiz DUE 11/3 @5PM Week 10 Practice Q's DUE 11/3 @5PM	

Week	Dates	Topic	Reading: Introduction to Neuroscience	Weds class meeting- Recitation (in-person or synchronous Zoom option)	Quizzes and Practice Questions	Exams
11	Friday 11/3- Friday 11/10	Unit 8: Visual System: Central Visual Systems	Chapter 30	Date:11/8/23 Week 11 Recitation DUE 11/10 @5PM	Week 11 Quiz DUE 11/10 @5PM Week 11 Practice Q's DUE 11/10 @5PM	EXAM 4 (Unit 8) - Opens Sun. 11/12 @8am - Closes Mon. 11/13 @ 11:59 pm
12	Monday 11/13- Friday 11/17	Synthesis Week- Reflections and Exam Corrections No new Content		Date: 11/15/23 <ul style="list-style-type: none">• Class meeting to ask questions/review• No Recitation or quizzes due		
13	Friday 11/17- Friday 11/24 Thanksgiving Week	Unit 9: Auditory System	Chapter 31, 32	Date: 11/22/23- NO CLASS MEETING No Recitations due	No Quiz Due No Practice Questions Due	
14	Monday 11/27- Friday 12/1	Unit 9: Auditory System cont. Unit 10: Vestibular System	Chapter 32, 33	Date: 11/29/23 Week 14 Recitation DUE 12/1 @5PM	Week 14 Quiz DUE 12/1 @5PM Week 14 Practice Q's DUE 12/1 @5PM	
15	Friday 12/1- Friday 12/8	Unit 10: Olfactory System Unit 11: Gustatory System	Chapter 34, 35	Date: 12/6/23 Week 15 Recitation DUE 12/8 @5PM	Week 15 Quiz, DUE 12/8 @5:00PM Week 15 Practice Q's, DUE 12/8 @5PM End of the semester Reflection (necessary to complete corrections on Exam 5)	
16	Monday 12/11- Friday 12/15	FINALS WEEKS			EXAM 5 (Unit 9, 10, 11) - Opens Monday 12/11 @8am - Closes Friday 12/15 @ noon (12 pm)	