



MICHIGAN STATE UNIVERSITY

NEU 403: Communication in Neuroscience (W)

Course Term	Spring 2025
Time & Place	Mondays 9:10 AM-10:30 AM – Natural Science Room 205 Important! This is a “flipped” class. In addition to in person sessions (Mondays), students will have 80 min of required course work (“pre-work”) each week. Pre-work is completed remotely (online) prior to class. Please plan accordingly! Successful completion of both online pre-work and attending class in person are required to earn course credit.
Credit Hours	3
Pre-Requisites	NEU 301 & NEU 302
Instructor	Kathryn Irish, PhD, LMSW, CAADC (<i>she/her</i>)
Communication	Email is the best way to reach me: irishkat@msu.edu <i>Please expect a response within 48 hours (weekdays).</i> <i>Time-sensitive updates will be sent out via email.</i> <i>All other course information will be posted on D2L; please ensure your notifications are set to alert you when announcements are posted.</i>
Office	5009 ISTB
Office Hours	Mondays 11AM-12PM (email to confirm); before/after class and/or by appointment.

Overview of the Course

Course Description

This Tier II, writing-intensive course offers students an in-depth exploration of contemporary topics in neuroscience while advancing their skills in scientific literacy and communication. In this course, students will learn strategies for identifying, organizing, synthesizing, and critically evaluating peer-reviewed literature, as they develop skills to produce clear, compelling scientific writing for both technical and general audiences. The course focuses on both the impact and importance of responsible authorship and intellectual integrity in science communication; students will develop critical reflective skills to support effective communication of scientific concepts, with consideration of the greater social and cultural context.

Coursework emphasizes multiple forms of scientific writing and communication, including annotated bibliographies, literature reviews, abstracts, and conference posters, alongside verbal and multimedia dissemination of scientific content, tailored to diverse audiences. Through lectures, readings, in-class exercises, and collaborative projects, students will critically analyze a broad range of scientific information as presented in both peer-reviewed papers, grey literature, and in the media. By the end of the course, students will be prepared to integrate knowledge across disciplines, communicate complex ideas effectively, and apply their expertise to address both scientific and societal challenges.

Course Objectives & Competencies

By the end of this course, students will be able to...

Scientific Literacy & Critical Thinking

- Locate, organize, and critically evaluate peer-reviewed neuroscience literature.
- Synthesize findings from multiple sources into coherent, evidence-based arguments.
- Assess the quality, validity, and limitations of research and other forms of scientific communication(s).

Scientific Writing & Communication

- Produce clear, compelling writing tailored to both scientific and general audiences.
- Demonstrate proficiency in multiple written formats, including annotated bibliographies, literature reviews, research summaries, abstracts, and conference posters.
- Revise and edit scientific writing for clarity, coherence, and precision.

Oral & Visual Communication

- Develop and deliver effective oral presentations for diverse audiences, including grant reviewers, colleagues, and the general public.
- Translate complex neuroscience concepts into accessible language without oversimplification.
- Create professional visual materials (e.g., figures, slides, posters) to support scientific communication.

Interdisciplinary Integration

- Integrate neuroscience concepts with insights from related disciplines to address contemporary scientific and societal challenges.
- Contextualize scientific knowledge within cultural, ethical, and social frameworks.

Professional & Ethical Standards

- Apply principles of responsible authorship, citation, and intellectual integrity.
- Recognize and uphold ethical standards in the dissemination of scientific information.
- Demonstrate collaborative skills through peer review, group projects, active exchange of constructive feedback and critical self-reflection.

Course Design

This is a hybrid or “flipped” course, meaning the total number of course contact hours are divided between in person meetings, and work completed remotely, online. **We will be meeting in person on Mondays 9:10 AM – 10:30 AM. Additionally, you will have another 1 hour 20 min of required pre-work to complete online, prior to attending class.**

Students will also need to dedicate additional time to the completion of assignments.

Assignments are separate from the online pre-work; please review this syllabus in advance and plan accordingly. This class moves quickly; it will be very difficult to catch up if you fall behind.

I strongly recommend students set aside a recurring time each week to complete required pre-work before class; in addition to time necessary to work on assignments.

This course involves a significant amount of independent research and preparation (pre-work) followed by in-class experience-based learning. The pre-work you do before class, is typically used to launch our in-person activities each week. So, it’s critical to come prepared. Please refer to universal pre-work grading policy below. I strongly recommend students set aside a regular, recurring time each week, just as they would for an in-person course, to complete the required pre-work, and assignments.

Course Requirements

Textbook & Class Materials

There is no required textbook. All required readings, pre-recorded lectures, demonstration videos and all materials you will need for this class can be found on D2L. All materials are organized by unit, and each unit can be accessed from the D2L homepage.

Important: Each week you will have approximately 1 hour and 20 minutes of required pre-work to be done **before** attending class that week. All materials labeled “pre-work” are to be completed **prior to class** each week.

Example: Pre-work 1 is scheduled for the first week of class, so all materials labeled “Pre-Work for Unit 1” should be completed **before** our first class.

This is because we will be applying the concepts and skills introduced in the pre-work during the class meeting that same week. If you have not completed the required pre-work, you may not be able to fully participate in class that week.

Each weekly unit is organized into sections: one for pre-work (to be done prior to the scheduled class session), as well as a section for in-class activities and links to assignment descriptions. Everything you need to do to be prepared for class that week is described in the “pre-work/flipped” section of the unit; the other section labeled “in-class” is where you can access materials, links and prompts which you will need during class that week.

Desire 2 Learn (D2L)

All materials and resources for this course will be posted on D2L, including lectures, readings, quizzes and assignments. **Please check your notification preferences on D2L to make sure you will receive alerts when new announcements are posted.** This is how any major changes, updates and/or other time-sensitive information will be communicated.

If you have any difficulty with D2L access or technology, please reach out to Distance Learning Services.

D2L Help Site: <http://help.d2l.msu.edu/>

D2L Help via Phone: 1 (800) 500-1554 or (517) 355-2345

Submit a Ticket for IT Support: <https://tdx.msu.edu/TDClient/32/Portal/Home/>

iClicker Student

We will be using iClicker student during our in-class sessions for attendance and various in-class activities. Students can download the iClicker Student app and create an account **for free.**

Join NEU 403 via QR →



Or by:

- Going to join.iclicker.com and entering join code: **CRAY**
- clicking this link: <https://join.iclicker.com/CRAY>

Zoom, Microsoft 365 Suite, Google Drive & Adobe Reader

Most of our class readings will be uploaded as PDFs, so please ensure are familiar and comfortable using Adobe (reader) and/or have a way to open PDFs on your devices. It will also be important to familiarize yourself with the Microsoft 365 Suite (e.g. MS Word, PowerPoint, etc.) as well as Zoom. We also may use Google Drive (Docs, Forms, Slides, etc.) for some in class activities and assignments.

Attendance & Absences

Attendance will be taken daily, via the iClicker & Name Cards, for all in-person classes. Attendance and participation are both graded (100 points); please refer to the rubric below to see how points are assigned.

Active participation and experiential learning are central to this course, making consistent attendance essential. Many in-class activities rely on collaboration and **cannot be made up** outside of class. That said, **if you are ill, do not attend class**. You **do not** need to provide a note, or any other proof of illness.

Students may miss up to two classes without penalty to their participation grade. This allowance is intended to cover typical illnesses or unavoidable events. **Each additional absence beyond the two permitted will result in a 20-point deduction from the participation grade per class missed.**

Exceptions to this policy will only be considered in **extreme circumstances**, such as medical or bereavement leave, or other situations that require formal involvement from

advisors or support services. In such cases, students must coordinate with the appropriate parties to arrange accommodations.

If you are unable to attend class for any reason, please notify me via email. While you are not required to provide proof of illness, it's important to reach out so I can share any key updates or materials from the class you missed. Staying in communication ensures you remain informed and engaged, even when you're unable to be present.

Attendance is required; please refer to the [University Attendance Policy](#). Students whose names do not appear on the official class list for this course may not attend this class. Students who fail to attend the first four class sessions or class by the fifth day of the semester, whichever occurs first, may be dropped from the course.

Domain	Full Credit Criteria
Attendance 50 Points	• Attends class consistently (no more than 2 absences) • Arrives on time • Returns from breaks in a timely manner • Stays for the full duration of class <i>Students may miss up to two classes without penalty. Each additional absence results in a 10-point deduction from the overall participation grade, per class missed. Please see attendance policy for details.</i>
Preparedness & Engagement in Class 50 Points	• Comes to class consistently prepared, with all required materials and any assigned prework completed. • Actively participates in class by staying focused (e.g., not distracted by devices, unrelated tasks, or side conversations). • Regularly contributes to discussions—this can include volunteering ideas, asking questions, or offering thoughtful feedback to peers. • Shows effort and care in assignments, which are completed on time. Important Notes on Engagement: I understand that engagement looks different for everyone. You don't need to be constantly speaking in large group discussions to be considered engaged. Participation can show up in many ways (i.e., through small group work, reflective writing, active listening, or thoughtful contributions in other formats.) I try to keep an open mind about how students show up in class. When Points May Be Deducted: Points in this category are typically lost due to clear signs of disengagement, such as working on assignments for other classes, online shopping, holding side conversations during lectures or presentations, or other off-task behaviors. If I notice this kind of disengagement, I may not call it out directly (unless it's disruptive), but that doesn't mean I don't see it. I trust you to make your own choices about how you engage, but repeated patterns of being "checked out" will be reflected in your engagement score.

Class Schedule

Please refer to the schedule below (and on our D2L home page) for an overview of what to expect in class each week. Details of this schedule may change, and any changes will be discussed during class. Please refer to D2L for the most up-to-date information and course materials.

Very Important! Pre-Work & Assignments

Many assignments are due the following week before class, and they build directly on the pre-work materials. The pre-work lectures contain essential information you'll need to successfully complete these assignments. **This means you should start the pre-work several days before the assignment deadlines.**

I strongly recommend beginning the pre-work for the upcoming week no later than Wednesday prior to the next class session. Personally, I would start right after Monday's class to stay ahead. Keep in mind that assignments require substantial time and effort beyond the pre-work. In some weeks, you may need the entire week to complete them.

Please review all due dates carefully and set aside time consistently. Plan for assignments to take 2–4 hours and note that presentations may require several days of preparation. Work ahead and manage your time proactively!

Date	Topic	Content & Activities	To Do
1/12	Course Introduction	Welcome to Class! • Name Cards & Introductions • Course Structure & Logistics: Attendance, iClicker • Main Assignments Overview In-Class Activities • Topic Brainstorming • Co-Created AI Policy	Review • <i>Universal Pre-Work Grading Policy</i> • <i>Attendance & Participation</i> • <i>iClicker Set Up</i> • <i>Syllabus</i>
Pre-Work 1	Introduction	Lecture(s) • Welcome to Class [34:41] • Searching with a Purpose (MSU Library) [5:52] • Embracing Uncertainty (MSU Library) [4:50] Reading(s) • Shrimp on a Treadmill, Greenfieldboyce (2011)	Pre-Work Quiz 1 Due 1/26 at 9:10AM

1/19	NO CLASS – MLK DAY		
Pre-Work 2	Seeking Information	Lecture(s) - Seeking Information [38:10] - Popular, Scholarly or Trade? (MSU Library) [5:16] - Evaluating Online Information (MSU Library) [3:22] Reading(s) - Some Commonly Used Databases [Handout]	Pre-Work Quiz 2 Due 1/26 at 9:10AM
1/26	Importance & Stakeholders	Importance & Stakeholders - Pre-Work Re-Cap - Topic Check - iClicker! - Introduce Annotated Bibliography Assignment - The Role of the Introduction in Science Writing In-Class Activities Establishing Importance & Defining Impact - Follow Along Example – Establishing Importance & Defining Impact Worksheet	Establishing Importance & Defining Impact Worksheet Due 1/28
Pre-Work 3	Organizing Information	Lecture(s) - Organizing Information [55:26] - Annotated Bibliography Assignment Walk-Through [11:36] - When do I cite? (MSU Library) [3:07] - Anatomy of a Citation (MSU Library) [2:48] - Citation Management (MSU Library) [1:31] - Microbiologist Maria Elena Bottazzi Counters Vaccine Misinformation [6:29] Reading(s) - How To Read [Handout]	Pre-Work Quiz 3 Due 2/2 at 9:10AM
2/2	Context & Social Narratives	Content & Social Narratives - Pre-Work & Assignment Re-Cap: Organizing Information; Synthesis Grid Assignment – Q & A - Annotated Bibliography: How did it go? In Class Activities - Communicating across Audiences: Engaging Misinformation - Social Narratives Become Systems: MAT Examples - Walk Through via Topical Weather Map - Start in class	Annotated Bibliography Due 2/2 Topical Weather Map Due 2/4
Pre-Work 4	Synthesis	Lecture(s) - Synthesizing Information [59:56] - Synthesis Grid Assignment Walk-Through [14:36]	Pre-Work Quiz 4 Due 2/9 at 9:10AM

2/9	Basics of Science Communication	Basics of Science Communication - Pre-Work Re-Cap: Synthesizing Information - Assignment Feedback: Synthesis Grid - Introduce Elevator Pitch Assignment In Class Activities - Basics of Science Communication: Follow Along!	Synthesis Grid Due 2/9 at 9:10 AM Sign Up to Present Elevator Pitch Here
Pre-Work 5	Elevator Pitch	Lecture(s) Elevator Pitch [52:15]	Elevator Pitch: Part 1 Due 2/12 Pre-Work Quiz 5 Due 2/16 at 9:10AM
2/16	<i>Live!</i> Elevator Pitch	<i>Live!</i> In-Class Elevator Pitch - Quick questions before we begin? - Peer Feedback QR In Class Activities - Student Elevator Pitch & Peer Feedback	Elevator Pitch Part 2 (Done in Class) Elevator Pitch Part 3 Peer Feedback & Reflection Due 2/23 <i>Optional:</i> Share a Poster (link to upload)
Pre-Work 6	Tailoring to Audiences	Lecture(s) - Tailoring to Audiences [48:00] Reading(s) - Review Scientific Presentation Assignment	Pre-Work Quiz 6 Due 2/23 at 9:10AM
2/23	Presenting to a Scientific Audience	Scientific Presentations - Instructor Feedback: Elevator Pitch - Part 3 Scientific Presentations: Roundtables, Posters, Grants & Manuscripts - Review & Sign Up for Scientific Audience Presentation Assignment In Class Activities - Components of Academic Posters & Examples - Roundtable Discussion Example: Ethical Implications of BrainNet	Sign Up for ONE [link]: Roundtable, Grant Proposal or Manuscript Group 1 Roundtable Materials Due 2/26
3/2	NO CLASS - SPRING BREAK		
Pre-Work 7	Channels for Scientific Communication	Lecture(s) Channels for Scientific Communication [28:07]	Pre-Work Quiz 7 Due 3/9 at 9:10AM
3/9	<i>Live!</i> Roundtable Presentations 1	<i>Live!</i> Roundtable Presentations 1 Arrange room in Circle or Horseshoe	Group 2 Roundtable Materials Due 3/11

		• Student-Led Roundtable Discussions • Audience role Volunteers • Peer Feedback Link	Group 1 Roundtable Reflection Due 3/11
Pre-Work 8	Grant Writing	Lecture(s) • Grant Writing [53:21] Reading(s) • Review Grantor Descriptions & Requirements	Pre-Work Quiz 8 Due 3/16 at 9:10AM
3/16	Live! Roundtable Presentations 2	Live! Roundtable Presentations 2 • Arrange room in Circle or Horseshoe • Student-Led Roundtable Discussions • Audience role Volunteers • Peer Feedback Link	Group 2 Roundtable Reflection Due 3/18 Grant Proposal Materials Due 3/18
Pre-Work 9	Preparing & Submitting a Manuscript	Lecture(s) • Scholarly Manuscripts [54:10] Reading(s) • Review Journal Descriptions & Calls for Submissions	Pre-Work Quiz 9 Due 3/23 at 9:10AM
3/23	Live! Grant Proposal Review	Live! Grant Proposal Review • Students arranged by-agency group • Individual scoring of proposals & interview sign-up • Funding Agency Preliminary Discussion • Prospective Grantee 5 min Interviews • Funders make final determinations, notify prospective grantees and submit feedback	Grant Proposal Reflection Due 3/25 Manuscript Submission Due 3/25
3/30	Live! Manuscript Review	Live! Manuscript Review • Form editorial boards & select editors-in-chief • Reviewer 1 – Packet Scoring • Reviewer 2 – Packet Scoring • Editorial Board Discussion & Decision • Decisions Released with Feedback	Manuscript Reflection Due 4/1 Sign Up for General Audience Presentations Group 1 - General Audience Presentation Due 4/2
Pre-Work 10	General Audiences	Lecture(s) • General Audiences [1:01:28] Reading(s) • Harm Reduction Principles for Healthcare Settings (Hawk et al., 2017)	Pre-Work Quiz 10 Due 4/6 at 9:10AM

4/6	Live! General Audience Presentations 1	Live! General Audience Presentations 1 • Brief Announcements • Student General Audience Presentations & Peer Feedback QR	Group 2 - General Audience Presentation Due 4/8
4/13	Live! General Audience Presentations 2	Live! General Audience Presentations 2 • Brief Announcements • Student General Audience Presentations & Peer Feedback QR	Group 3 - General Audience Presentation Due 4/15
4/20	Live! General Audience Presentations 3	Live! General Audience Presentations 3 • Brief Announcements • Student General Audience Presentations & Peer Feedback QR	Final Reflection & Final Annotated Bibliography Due 4/22 <u>Remember to Complete Course Evaluations!</u>

Assignments

All required assignments for this course are described below. Detailed assignment descriptions (including any changes/updates) and rubrics, as applicable, can also be found on D2L. Attendance is also included in the final grade, as described above.

Pre-Work – Due Weekly

10 Weeks of Pre-Work (100 points)

Required weekly pre-work is linked directly within the D2L Homepage. It can also be accessed by-unit, individually. Each week there will be a variety of activities (quizzes, lectures, readings & reflection prompts, etc.) to help you prepare for class discussion and to demonstrate engagement and completion of the work before class.

During class, we will be discussing and applying material discussed in pre-work lectures and readings. Credit is earned weekly by completing the designated activities each week **prior to class.**

Important! Universal Grading Policy for Pre-Work

There are 10 weeks of pre-work, each worth 10 points and due before the start of class each week. **Pre-work can be turned in late any time, for any reason, during the semester, for half-credit.** There is no need to notify me.

This policy is designed for flexibility, so students can manage schedules without requesting extensions. Occasional late work (1–2 times) won't significantly affect your grade, but frequent lateness will. Timely pre-work matters because it supports meaningful class participation.

This applies only to pre-work and was co-created with students using universal design principles to meet diverse needs. Accountability is yours, with built-in flexibility.

Work ahead! Pre-work often precedes assignments, which may take several days. Give yourself 5-7 days to complete both. *If you have an extreme circumstance, you feel falls outside this policy, contact me early: irishkat@msu.edu.*

General Assignments

Establishing Importance & Defining Impact (20 points) – Due 1/28

This short worksheet (via Google Form) intended to support students as they clarify the direction of their topic and outline a strategy for researching and gathering information. The goal of this planning exercise is to guide students as they begin to explore: **(1)** the greater importance of the topic selected **(2)** Its potential impact on science, policy, or practice.

Students will define their research approach and plan, as they respond to prompts.

Annotated Bibliography (20 points) – Due 2/2

This assignment is intended to help students begin a system to organize their articles as they continue to research and dive deeper into their topic. **Students will continue to add to the annotated bibliography independently throughout the semester.** There will be numerous occasions and assignments that will require you to continue researching different elements of your topic; as you do so, add each source to your annotated bibliography. **A final version of your annotated bibliography will be turned in at the end of the semester.**

For this assignment, however, you will simply practice (1) seeking viable sources of different types and (2) structuring the citation and the annotation. As we move forward, any annotations you add after this assignment you can structure as you like (i.e., you do ***not*** have to follow these formats for future annotations – only for this assignment.)

- **Assignment Goal:** Create an annotated bibliography ([Annotated Bibliography Template](#)) with three types of sources:
 1. **Grey Literature** (public-facing reports, government sites, etc.)

2. **One Literature Review** (scholarly narrative, like a literature review, scoping review, systematic or meta-analysis on your topic)
3. **Two Peer-Reviewed Research Articles**

This will help you track information and organize notes efficiently for your topic. **Step-by-step instructions, and templates for formatting are available below and on D2L under “assignments.”** A grading rubric is on D2L.

Topical Weather Map (20 points) – Due 2/4

This assignment is a planning and analysis exercise, also completed via Google Forms, linked on D2L. We will begin working on this during class time. The aim of this assignment is to help you anticipate challenges and develop strategies for effective science communication across diverse audiences.

Communicating scientific information effectively to diverse audiences requires deliberate effort, knowledge, self-reflection, humility, and understanding. This activity is designed to help you examine the social narratives and overall “climate” surrounding your topic across different audiences.

Purpose: The goal of this assignment is to begin identifying potential barriers to communication and strategies for overcoming them. You will explore how different groups perceive your topic and consider approaches for tailoring your message to each audience.

Instructions:

- Use a variety of sources - scholarly, grey literature, and general media - to research perspectives from different groups related to your topic.
- Document what you find in the Google Form provided.
- Reflect on:
 - What narratives or attitudes exist around your topic?
 - What barriers might arise when communicating with these audiences?
 - What strategies could help mitigate these barriers?
- **Add citations and brief annotations for any sources you use during this exercise to your Annotated Bibliography.**
 - Remember, annotations do not need to follow the original “grid” format – rather, anything after the annotated bibliography assignment can be structured as you see fit, as long as it’s short (<150 words) and speaks to what the source is and how you’ll use it.

Synthesis Grid (20 points) – Due 2/9

The Synthesis Grid is a flexible, research-based tool designed to help students organize and connect claims to supporting evidence in a clear, structured format. This assignment guides students through synthesizing information across multiple sources to build a compelling, evidence-based narrative around a scientific issue of their choice.

This assignment requires students to engage in **independent research** using MSU library and other strategies discussed in class and in pre-work. **Remember! You'll want to add any new sources and information you find during this assignment to your annotated bibliography.**

Resources

- **Both a template (i.e., you will fill this out and turn it in) and an example (completed template, for you to reference) are available for you on D2L within the assignment.**

When writing, it's very common to focus on some areas more than others. You will want to plug in the research you've completed already (from your annotated bibliography assignment) into this grid, first – and notice any blank spots. These are gaps, and they may point to areas where you'll need to search for additional evidence to support your claims. You will not need to fill in every cell on the grid, but you may notice patterns, and these generally point to a need to research more, within a specific domain.

Assignment Instructions

- **Use the [SYNTHESIS GRID TEMPLATE](#)**

Students will complete three parts in the grid:

Problem & Impact

- Clearly describe the problem being addressed.
- Provide relevant facts, context, and background.
- Explain the impact of the problem - why it matters and who is affected.
- Support claims with citations from grey literature and scholarly sources (e.g., reviews, meta-analyses).

Central Claims

- Identify the central claim and break it down into sub-claims.
- Support each sub-claim with main ideas and evidence from peer-reviewed literature.
- Use this section to build the core of the argument.

Action & Contribution

- Propose an action or recommendation based on your synthesis.
- Explain how this action contributes to solving the problem or advancing understanding.
- Cite relevant sources that support the proposed action or its potential impact.

Important Notes

- The grid is **adaptable**; students are **encouraged to add or delete rows/columns** as needed.
- Some boxes will be blank as not all sources will address all main points. This is expected.
- The completed grid should demonstrate **thoughtful synthesis, clear organization, and appropriate citation** of sources.

Completed [templates](#) can be turned in, on D2L under assignments.

Elevator Pitch

This assignment is where students combine their research and knowledge collected in class thus far and translate it to give the class an “elevator pitch” on their topic, which will both introduce us all to the topic you will be discussing throughout the semester, and also generate enthusiasm about learning more.

This assignment has in 3 parts: (1) Preparing a written draft of your elevator pitch, (2) delivering your pitch in class, and (3) reflecting on the feedback you received from the instructor and peers in a written piece, including a visual representation of peer-feedback (i.e., a graph, or other visual interpretation of data)

Part 1 - Preparing a Written Draft (20 points) – Due 2/12

Goal & Audience: The goal of this pitch is to introduce your topic to the class (a group of undergraduate juniors and senior neuroscience and physiology students) for purposes of generating broad interest and enthusiasm about your topic.

This is important, because you will continue to be working with this topic in various ways throughout the semester, and as such, your peers will be hearing more and more about this subject matter from you as the semester progresses – so, getting everyone interested in learning more will make it more exciting for everyone!

Remember! Enthusiasm resonates – simply sharing your interest and knowledge with genuine enthusiasm will garner interest.

Your pitch should be close to 60 seconds. This is a critical challenge of crafting a strong elevator pitch. Students will have a 10 second standard deviation, when presenting - no less than 50 seconds, and no more than 70.

A 60 second pitch is around 130-170 words. You will want to speak slowly enough to be clearly understood but also while following a natural cadence. Time yourself to make sure your text fits within these limits!

OVERVIEW OF REQUIREMENTS: 60 seconds; appx. 130-170 words

- **Greeting:** Greet your audience and introduce yourself
- **Introduction:** Introduce the topic in a compelling manner, one that will resonate and engage your audience
 - Define the **PROBLEM**: Why is this issue scientifically relevant or timely?
 - Illustrate **IMPORTANCE**: Consider using analogies, metaphors, visual aids or statistics to illustrate the importance
- **Main Points:** What do you want your audience (in this case, your peers in this class) to know about this topic? Why? What **IMPACT** is this knowledge likely to have?
- **Conclusion & Follow Up:** What specific actions can they take to help? Is there anything they can do now? What resources can they use to learn more about this topic?

Part 2 - Delivering Elevator Pitch in Class (30 points) – Due 2/16

Students will present their elevator pitch in class. **Pitches should be approximately 60 seconds;** there will be a 10 second standard deviation (50-70) over/under allotment.

You are welcome to have a note card or a printed or other version of your written pitch with you when you speak, however – **students are strongly discouraged from bringing laptops, phones or other screens with them when speaking.** Looking at a screen, even just as a reference inhibits connecting with your audience.

If you don't have access to a printer – just write it out by hand, or if your handwriting is hard to read and messy (mine is) then, ask someone else to write it out for you in a readable way. **In most circumstances, carrying your laptop, iPad or phone or any other screen up with you to give your pitch will negatively impact your grade.**

During your presentation, your peers and instructor will provide you with feedback via this [Peer Feedback - Google Form](#). **The feedback will be emailed directly to you. Please ensure your email address is correct when you sign up to present in Google forms.**

Presentation Guidelines:

- Deliver your elevator pitch in class (approx. 60 seconds, with a 10-second flexibility).
 - You may use a note card or printed copy to reference; **please do not** bring phones, iPads, laptops or other screened devices, to use when speaking – these can be distracting and may impact your grade
- Feedback from peers and your instructor will be collected via a Google Form and emailed to you. **Ensure your email is correct when signing up to speak!**

Part 3 Reflection on Elevator Pitch (20 points) – Due 2/23

This reflection has two parts: **(1)** reporting out peer feedback and **(2)** reflecting on this feedback.

Reporting Feedback Visually

Compile the feedback reports you received from peers into a **single visual representation** that shows trends across the following domains:

- **Introduction**
- **Main Points**
- **Conclusion**
- **Audience Engagement**
- **Include sections for strengths and areas for improvement**

You may choose any format (e.g., bar graph, chart) as long as it clearly represents consolidated data for each question.

Example: A simple bar graph showing averages for each domain can be created easily in MS Word.

Describe Chart(s)/Graph(s)

Write a brief description that describes the feedback you have compiled. Simply report what the graphs show – **no need to interpret** at this stage (that comes next). Stick to the facts of the data – what do people say about your presentation?

Reflecting on Feedback

Discernment is key when it comes to integrating feedback. For this section, you will create some space to think through the feedback you've received and share your thoughts on it.

Here are some prompts to consider including in your reflection. You **do not** have to respond to each one – this is more or less to just give you an idea about what this section should look like.

- *How do you think you did overall?*
- *What was it like for you to present? How did you feel before, during and after?*

- *Do you think peer feedback was basically accurate? What do you accept? What are you hesitant to accept?*
- *What do you think your strengths and/or area(s) to improve are? How is this similar or different than the peer or instructor feedback you received?*
- *How can you use this information to continue to refine how you go about framing this topic in future assignments?*

The reflection section should be in a narrative form (e.g. written out in full sentences in paragraph form). Please **do not** submit a list or outline – this should look more like a journal entry, or an informal essay. This section is about expressing your thoughts and processing the experience.

Formatting: Please use either 1.5 or double space, any font that is readable in a reasonable size (11-12) is fine. This section should be close to 2 pages in length, but if you need a little more or a little less anything from 1.5 pages up to 3 pages is fine.

Scientific Audience Presentation (100 points)

By now, you’ve mastered the essentials—researching, organizing, synthesizing information, and communicating to diverse audiences. You’ve explored stakeholder perspectives and how influence shapes scientific conversations. Now it’s time to apply these skills!

Choose **ONE** option:

- (1) Facilitate a roundtable discussion
- (2) Prepare a grant proposal packet
- (3) Draft and submit a manuscript

Each option includes:

- Materials submitted before class
- In-class facilitation or review
- A reflection integrating peer and instructor feedback

These simulated activities build practical science communication skills. When not presenting, you’ll act as reviewers, editors, and audience members—representing funding agencies, editorial boards, and other stakeholders. Active participation in these roles counts toward your grade.

Important: You are **not graded on outcomes** (e.g., whether proposals are “funded” or manuscripts “published”). Grades reflect preparation, engagement, and thoughtful reflection. **Read all descriptions and due dates carefully before selecting.** Space is limited, and most topics fit at least two options.

Option 1 - Roundtable Facilitation (10 students) – Due Dates Below

Students will facilitate a 15–20-minute discussion around an area of scientific debate, community uncertainty or another emerging subject, conducive to active, audience-engaged discussion. Non-presenting students will act as specific roles in the “audience” representing different stakeholders.

Deliverables:

- **Brief (2-4 pages)** providing background information to contextualize the area of discourse, research on key stakeholders, their proportionate presence in a typical audience and their core arguments, motives and actions, and identify areas likely to result in active discussion
- **Set of 3 “audience cards”** describing 3 key players – which the audience will act out, delivering core positions/ideas and arguments
- **3-slide deck to guide the presentation:** overview of topic & areas of debate/uncertainty, audience background, 3 discussion prompts
- **In-Class facilitation** of a 15–25-minute discussion
- **Reflection** – Review peer & instructor feedback and reflect on strengths & areas to improve

Group 1 – up to 5 students

- **Materials Due 2/26**
- **Presenting on 3/9**
- **Reflections Due 3/11**

Group 2 – up to 5 students

- **Materials Due 3/11**
- **Presenting on 3/16**
- **Reflections Due 3/18**

Option 2 - Grant Proposal & Review (10 Students) – Due Dates Below

Students will prepare a proposal requesting funding for implementation of a project or educational initiative related to their topic. Students must select from one of four mock “grantors,” representing different funding agencies – each with different missions/aims, formatting and submission criteria, calls for proposals and budgets.

- **National Research Advancement Agency (Governmental)**
- **InnovateTech Solutions (Private Sector)**
- **Local Research Impact Fund (Non-Profit)**
- **Horizon Scholars Foundation (Foundation)**

Students who did not submit a grant proposal will act as members of each of the funders, reviewing and scoring proposals in accordance with their unique priorities and

requirements. Grantors also will conduct brief, guided interviews with prospective grantees to learn more about their proposed project(s).

Deliverables: Grant Proposal – *Refer to guidance in pre-work lecture & slides*

Cover letter

- **Template is provided.** Expressing why the student selected this funding source, alignment, etc.

Proposal

- Introduction & Background/Importance
- Clearly stated feasible aims
- A description of the project & timeline proposed, including evidence supporting implementation methods
- Clearly defined outcome measures, and evidence-based tools to measure outcomes

Budget

- Comprehensive budget – **Template is provided**

In-Class “Interview” with grantor groups – **Interview Questions are Provided in Advance**

Reflection – Review peer & instructor feedback and reflect on strengths & areas to improve

Due Dates for Grant Proposal

Proposal Materials Due 3/18

In-Class Review on 3/23

Reflection Due 3/25

Option 3 - Manuscript Submission & Review – Due Dates Below

Students will prepare a scholarly manuscript, using guidelines from lectures on “non-empirical science communication.” Manuscripts will reflect a review and synthesis of literature on their topic – such as a theoretical paper, a conceptual article, a narrative review or a perspective piece.

For this activity, all students will participate on editorial board(s) for a journal.

Students who submitted manuscripts will review for a journal other than the one they submitted to. Each manuscript will undergo 2 reviews in class (reviewer 1 & reviewer 2) and reviews will be discussed by the editorial board, where feedback will be summarized and decisions released at the end of class.

Each mock “journal” has its own unique submission criteria, impact and calls for submissions. Students must select which journal best fits their manuscripts, based on the journal description(s) and calls for submission, using tools and information from class.

- **Cognitive Systems Review**
- **Frontlines in Clinical Neurophysiology**
- **Journal of Integrative Neurophysiology**
- **Neuroscience & Physiology Educational Review**

The central requirement(s) for submitted article(s) are that it must **(1)** represent a well-written synthesis of literature on the topic and **(2)** apply this information to yield new ideas, insight, perspectives and/or frameworks from which the topic can be examined or better understood.

Deliverables: Manuscript Packet (per unique journal requirements) including...

Cover letter – Template provided; detailing alignment with journal aims and this paper

Scholarly Manuscript (2,000-3,000 words) following journal guidelines

- **Abstract** – main ideas & significance
- **Introduction** – Topic, importance & What you are doing (new theory, synthesis of existing information, advocating a new perspective?)
- **Background/Literature Review** –What is known, identify gaps, controversies and limitations
- **Conceptual Frame** – Lay out your model/argument logically, define key terms and principles, themes, components and relationships between them
- **Supporting Evidence** – Evidence for claims (scientific literature, data or reports)
- **Implications & Applications** – Impact & applications to research, policy or practice
- **Conclusion** – Summarize key takeaways, highlight limitations, next steps

Reflection – Review peer & instructor feedback and reflect on strengths & areas to improve

Due Dates for Manuscript Submission

Manuscript Materials Due 3/25

In-Class Review on 3/30

Reflection Due 4/1

General Audience Presentation - Due Dates Below

Facilitate a 10-minute presentation for a stakeholder group of your choice. Instructor feedback will be given in real time; peer feedback will be provided via Qualtrics.

Presentation Breakdown (10 min)

- **2 min:** Introduce context and audience using two PowerPoint slides.
- **5–6 min:** Deliver your presentation.
- **2–3 min:** Class provides feedback (Qualtrics). Feedback will be emailed after class.

Choose ONE Context (or create your own):

- **Clinical/Professional:** Provider-focused education or instruction.
Example: Workshop, introducing a new drug or technology.
- **Patient/Caregiver:** Education for patients, families, or caregivers.
Example: Condition-specific session or caregiver workshop.
Direct Patient Communication: Recruit a volunteer to act as the patient; provide a script with realistic questions and concerns based on first-person narratives.
- **General Media:** Public campaigns or interviews. *Example:* News interview, health campaign materials (flyers, videos).
Media Interview: Recruit a partner and provide scripted questions.
- **K–12 Education:** STEM-focused presentation for youth.
Example: Classroom demo to spark interest in science.
- **Community Members:** Role-specific education for groups like police, librarians, or local leaders. *Example:* Teaching Narcan administration or hosting a Q&A on water contamination.

Group 1

Presentation Materials Due 4/2

Present in class on 4/6

Group 2

Presentation Materials Due 4/8

Present in class on 4/13

Group 3

Presentation Materials Due 4/15

Present in class on 4/20

Presentation Materials (60 Points)

(1) **Written Presentation Description:** 2-3 pages describing the following...

- **Context:** Briefly describe the context of this presentation. **Select One:**
Clinical/Professional, Patient/Family/Caregiver, General Media, K-12 Education, Community Provider
- **Audience:** Who are you presenting to, and why?
 - **Audience Description or Volunteer Instructions:** The class will serve as a proxy for your audience, along with any volunteers who act out the scenario. Please prepare information necessary for the class to assume the “audience” role. **Gather first-person or close perspectives from your audience to avoid stereotypes or one-dimensional portrayals.** People and their opinions are complex; represent those nuances accurately!

- **Specifically, audience materials must inform the observers about:**
 - Audience's interest & knowledge about this topic
 - Any other relevant information including areas of controversy, misconception and/or barriers unique to each group.
- **Topic & Problem:** What is your topic? Why is it important to share this, with ***this*** audience?
- **Content:** Describe main points you hope to communicate, and how/why you believe this information may help in this specific context.
- **Overcoming Barriers/Limitations:** What are some anticipated barriers and limitations? Consider different levels (1) individual participant barriers (2) group-level and/or (3) institutional or systemic barriers and/or (4) multi systemic barriers
- **Strategic Approach:** Describe your planned communication style and approach; describe why you think this will be most effective.

(2) Infographic and/or Social Media Post: Create audience-facing content describing main points & action steps that summarize your presentation, visually.

(3) 2 Power Point Slides:

- **Slide 1: Context:** *What is the context of this presentation?*
- **Slide 2: Audience Description:** *Describe your audience.*

In-Class Presentation (40 points)

PRESENTATION SCHEDULE (10 Minutes)

- **2 Minutes** - The presenter will briefly introduce the context and audience description via the two power point slides (2 min max) before beginning the presentation.
- **5-6 Minutes** – Student presentation
- **2-3 Minutes** - Peer observers (i.e., the class) will provide feedback to the student (Qualtrics).
- **Peer Feedback QR Code**

Final Reflection & Final Annotated Bibliography

Final Reflection Paper (20 points)

This final reflection paper is intended to provide students with an opportunity to think about their time and experience in class this semester.

Please respond to the following prompts:

- What was your experience like in class this semester, overall? Was this class what you expected it to be? Share your thoughts.
- Say something about your engagement and effort in this class.
 - What do you feel you did really well?
 - What are some areas you could've put more into?
- Describe your approach to managing this course.
 - Did you fall into a routine with the pre-work?
 - How did you navigate assignments?
 - How did you manage the annotated bibliography and adding in your references throughout the course?
- Which, if any, assignments, materials or class experiences did you find most useful to your future career?
- Share some stars (strengths/positive aspects of class) and some wishes (areas you wish were different or could improve).

Final Annotated Bibliography (30 points)

The first annotated bibliography you turned in at the beginning of the semester had only 4-6 annotations - but by this point you will have several more! **Please upload your final annotated bibliography here.**

Overview of Assignments

Assignment	How to Submit	Due	Points
Attendance & Participation	<i>iClicker</i>	Ongoing	100
Pre-Work	<i>Quizzes on D2L</i>	Weekly	100
Establishing Importance & Defining Impact	<i>Google Form on D2L</i>	1/28	20
Annotated Bibliography	<i>Assignments in D2L</i>	2/2	20
Topical Weather Map	<i>Google Form on D2L</i>	2/4	20
Synthesis Grid	<i>Assignments in D2L</i>	2/9	30
Elevator Pitch – Part 1	<i>Assignments in D2L</i>	2/12	20
Elevator Pitch – Part 2	<i>In Class</i>	2/16	30
Elevator Pitch - Part 3	<i>Assignments in D2L</i>	2/23	20
Scientific Communication: <i>Roundtable, Grant Proposal or Manuscript</i>	<i>See Assignment Description</i>	Various Dates	100
General Audience Presentation(s)	<i>See Assignment Description</i>	Various Dates	100
Final Reflection & Annotated Bibliography	<i>Assignments in D2L</i>	4/22	50
TOTAL			600

Late Work, Grading & Grading Scale

Late Work

For pre-work, please refer to the universal pre-work policy. For all other assignments, if you are unable to meet the deadline, **please reach out to me via email** as soon as possible so we can work together to find a solution.

Please ensure your email is brief and includes a date and time when you anticipate the assignment will be completed. Late work may impact your grade on the assignment, and multiple instances of late work will impact your participation grade in class.

Grading

Your grade is comprised of all assignments described above. Grades are given in accordance with the rubric for each assignment, along with feedback. Grades can be viewed on D2L, but participation and attendance are not included until the end of the term. If your grade and/or points are in between (e.g., within a fraction of the point) I round to the nearest whole point when determining final grade.

Grading Scale

Grade	Percentage	Points
4.0	90-100%	537-600
3.5	85-89%	507-536
3.0	80-84%	477-506
2.5	75-79%	447-476
2.0	70-74%	417-446
1.5	69-65%	387-416
1.0	60-64%	357-386
Not Passing	Below 60%	0-356

Important Course Communications

Please ensure your D2L settings are set to push notifications to you! Any changes to our course meeting(s) such as in the instance of severe weather or other unexpected events will come to you through D2L and/or email. **Please make sure to check your email as well.**

Recording & Commercialization of Course Materials

Audio and/or video recording of lectures and discussions **is prohibited** without the advance written permission of the instructor. Students with an approved accommodation permitting the recording of class meetings must present documentation to the instructor **in advance** of any recording; please make such requests at least 1 week in advance. The instructor reserves the right to disallow recording when privacy is a special concern. The instructor will decide which classes, if any, are recorded, what portion of each class is recorded, and whether a recording is made available on the course management website. Students will be notified if a class will be recorded in advance. Commercialization of course lectures, content or materials is **strictly prohibited**. Class recordings and course materials may not be reproduced, sold, published or distributed to others, in whole or in part, without the written consent of the instructor.

Use of Generative AI

Students are responsible for reviewing and following [MSU Guidelines for the Use of GenAI](#). This is a writing course, so the topic of Generative AI use will be discussed in class, at length. We will work together to create class guidelines regarding how to engage effectively with GenAI in this course. Unauthorized and/or unacknowledged collaboration on any work, or the presentation of someone else's work, is considered academic misconduct. This includes content generated by Generative Artificial Intelligence (AI) models, such as Chat-GPT and others, without proper attribution. If you are unsure about whether collaborating with others, including the use of Generative AI is allowed on assignments or in class, please reach out to the instructor for clarity as soon as possible.

Student Wellness & Resources

Office Hours

I am available to meet in my office (5009 ISTB) or via zoom after class on Mondays from 11:00AM – 12:00 PM. **Please let me know in advance, via email, if you plan to attend.** I am also happy to meet before or after class in person, and/or by appointment.

Mental Health & Crisis Resources

If you or someone you know is in crisis, please contact 911.

Mental health is an important aspect of student life (and regular life, too!) Michigan State University has a wide range of resources to support student wellness. Students are encouraged to check out what services and supports are available via the [MSU Counseling Center \(CAPS\)](#) and/or [MSU Crisis Services](#).

24/7 Crisis Text Line: Text START to 741-741

National Suicide Prevention Line: 988

Mental Health and/or Substance Use: [SAMHSA Treatment Locator](#)

Basic Needs

Students who would like to learn more about food, housing, health and other community-based resources can check out this student-group developed: [Student Basic Needs Guide](#).

Resource Center for Persons with Disabilities (RCPD)

To make an appointment with a specialist, contact: (517) 353-9642 or TTY: (517) 355-1293. [From the Resource Center for Persons with Disabilities](#) (RCPD): Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. 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 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 me at the start of the term and/or two weeks prior to the accommodation date (test, project, etc.). Requests received after this date will be honored whenever possible.

Religious Observance

Please let me know in advance, via email, if our course schedule and/or activities overlap with a religious observance. Refer to the [University Religious Observance Policy, linked here](#).

Academic Supports & Resources

MSU offers students many different support services and resources; check them out here [Student Resources](#). [The English Language Center](#) is located in the [Office of Student Services](#). The Writing Center (300 Bessey Hall) also offers student support; for more information, or to schedule an appointment, please visit: [The Writing Center](#). For support and information regarding research strategies, please connect with the [MSU Library](#).

Academic Integrity

Article 2.III.B.2 of the [Academic Rights and Responsibilities](#) states that "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and

professional standards." In addition, the *[insert name of unit offering course]* adheres to the policies on academic honesty as specified in [General Student Regulations 1.0](#), Protection of Scholarship and Grades; the [all-University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations](#). See [Spartan Life Online](#) (splife.studentlife.msu.edu) and/or the [MSU Web site](#) (msu.edu) for more.

Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework, lab work, quizzes, tests and exams, without assistance from any source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Also, you are not authorized to use the www.allmsu.com Web site to complete any course work in this course. Students who violate MSU academic integrity rules may receive a penalty grade, including a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work. (See also the [Academic Integrity webpage](#).)

Title IX & Campus Safety

Title IX prohibits discrimination on the basis of sex, which includes sexual misconduct such as harassment, domestic and dating violence, sexual assault, and stalking. 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 at <https://civilrights.msu.edu/>.

Limits to Confidentiality

Materials submitted for 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:

- Suspected abuse/neglect of a child and/or vulnerable adult (**Please note:** Some circumstances may require mandated reporting, even if the incident(s) occurred in the past)
- 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 \(CAPS\)](#). If you would like more immediate support, please reach out to [MSU Crisis Services](#), or contact 911.

Honors Option

There is no honors option available for this course Spring 2025.

Add/Drop

Students may add/drop courses for the first 5 days after the semester starts. If you need to make changes after this date, I strongly encourage students to follow up with their academic advisor for details, guidance and options. For additional information and enrollment and add/drop dates, including important dates related to fees and tuition refunds, please refer to [MSU's Academic Calendar](#) for the current academic year.

Additional University Policies

Students are expected to adhere to the policies of Michigan State University whether noted in this syllabus or not. Instructors have the right to add or adjust policies within limits for the specifics of their courses. While the below may appear at first glance to be common policy boilerplate there may be nuances or course specifics within it that the student must be aware of and adhere to.

Applicable policies, syllabus statements, and resources for students:

- [Spartan Code of Honor](#)
- [Mental Health](#)
- [Religious Observance Policy](#)
- [Student Athletes](#)
- [Pronouns](#)