

Group Project: Communicating Neuroscience to a Broad Audience

One of the most important skills a scientist can develop is the ability to communicate complex ideas to people outside the field. Neuroscience findings have the power to change how people understand themselves, but only if those findings can be explained clearly, accurately, and compellingly to a broad audience. In this capstone project, your group will choose a neuroscience topic, dig into the science behind it, and create something that communicates it to the world.

Groups

You will work in groups of approximately 4. This is a collaborative project. *The final product should reflect the thinking and effort of the whole group, not just one person.*

Instructions

1. Choose a Topic

Your topic should be a neuroscience finding or area of research that your group finds interesting. It should be broader than just a single brain fact. It can be based on a single landmark paper, or it can be a broader area with a body of evidence behind it. Good topics have a clear finding or insight at their center and are relevant or interesting to a general audience. Some examples to spark ideas:

- How the brain changes structurally during pregnancy
- What sleep deprivation does to memory consolidation
- How early childhood adversity shapes neural development
- The neuroscience of placebo effects
- How the brain processes music across cultures
- What we know (and don't know) about the neuroscience of gender
- How bilingualism affects brain structure and function
- The neural basis of habit formation and why habits are hard to break
- What psychedelic-assisted therapy does to the brain
- How loneliness affects the brain over time

You are not limited to this list. If you have a topic in mind, run it by us in your checkpoint.

2. Find Your Sources

Your topic must be grounded in at least two credible sources. These may include review articles, textbook chapters, or well-sourced science journalism that links to primary research (e.g., Quanta Magazine, Scientific American, The Atlantic's science section). You may engage with primary research papers if your group wants to go deeper and draw from the original literature, but it is not required. Whatever your sources, you should understand them well enough to explain the key ideas in your own words. Include your full source list in your checkpoint assignment and final submission.

3. Create Your Communication Piece

Choose a medium that fits your topic and your group's strengths. Your piece should be designed for a specific audience that is not neuroscientists. Some potential options:

- Short documentary or explainer video (5–8 min)
- Illustrated essay or longform article written for a general audience (e.g., in the style of Quanta, The Atlantic, or Vox)
- Lesson plan + materials designed for a high school class
- Visual art piece with an accompanying artist's statement explaining the science
- Podcast episode with a script or transcript submitted alongside
- Infographic or visual explainer (must be substantive, not just facts on a page)

If your group has a different idea for a medium, feel free to pitch it to the teaching staff. The key criteria are that it is creative and accessible to a non-expert audience.

4. Share Your Piece with a Real Audience

Before your final presentation, each person in the group must share your communication piece with at least one person outside this class — a friend, family member, roommate, or anyone who is not a neuroscientist. Ask them to engage with it and note their reactions: What did they understand? What confused them? What surprised them? What questions did it raise for them? You don't need a formal survey. A conversation is fine. Your group should share what you learned from those exchanges to your presentation.

5. Present to the Class (10 minutes in Week 6 or 7)

Each group will present their work during the final week of the course. Your presentation should:

- Briefly introduce your topic and why you chose it
- Walk the class through your communication piece (or a highlights version of it)
- Share what happened when you shared it with a real audience (what landed well, what didn't, and what you'd change)
- Reflect on one broader challenge you encountered, either in understanding the science or in communicating it

You do not need slides. The presentation can be a live walkthrough of your piece itself.

6. Submit as a Group

Along with your communication piece, submit a brief group note (one paragraph) describing how you divided the work and what each person contributed.

****A note on accuracy vs. accessibility:** The tension at the heart of science communication is this: making something simple enough for a broad audience often means leaving some things out or smoothing over complexity. That's okay, but your piece should still be accurate even when it's simplified. If something is contested or uncertain in the field, you can say so. Intellectual honesty is part of good science communication. ******

Mid-Term Checkpoint (*due Friday of Week 4!*)

This checkpoint is designed to make sure your group has a clear direction before investing significant time in the project. It is low-stakes and completion-based. The goal is simply to get your plan in front of the teaching staff early enough to course-correct if needed. Submit as a group (one submission per group).

1. Your Topic (3-5 sentences)

What neuroscience finding or area of research is your project about? State it specifically enough that someone could understand what your piece will be about. "Memory" is too broad; "how sleep deprivation affects memory consolidation" is about right.

2. Your Proposed Medium (2-3 sentences)

What form will your communication piece take, and who is your intended audience? E.g., "We are creating a short explainer video aimed at high school students" or "We are writing a longform illustrated article for a general adult audience."

3. Your Sources

List at least two credible sources you've identified so far. These don't necessarily need to be your final sources. They just need to show that your topic is grounded in real science and that you've started looking. For each source, write one sentence explaining what it contributes to your understanding of the topic.

4. One Question or Concern (1–2 sentences)

Is there anything you're uncertain about — the scope of your topic, whether your medium will work, how to find good sources? This is your chance to flag it early.

Rubric (15 Points Total)

Checkpoint (3 points)

Topic is an appropriate level of depth (1 point)

Medium and audience are identified (1 point)

At least two sources listed with one-sentence annotations (1 point)

Final Project (12 points)

Scientific accuracy & depth: The finding is represented accurately; sources are credible; complexity isn't misrepresented; uncertainty in the field is acknowledged where relevant (4 points)

Quality of communication: The piece is clear, engaging, and accessible to a non-expert audience; the medium is used well; the intended audience would understand and care about this (4 points)

Creativity & craft: The piece shows intention in how it's made (not just what it says but in how it's presented); the choice of medium fits the topic (2 points)

Presentation: Clear and confident delivery; includes reflection on the real-audience share; reflects honestly on at least one broader challenge (2 points)