Communication in the Life Sciences (ENGL 193, Section 8797 LEC 002)

Fall 2019 Syllabus

Instructor: Dr. Heather Love
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Office: Hagey Hall 347
Office Hours: Wednesdays 11:30-1:30pm and by appointment
Course Meetings: MW 10:00-11:20 am, STC 3014

Course Description

In this course you will learn about effective written, oral, and visual communication in the life sciences. You will have the opportunity to shape these communication skills through iterative design processes that emphasize attention to your audience, the purpose of your communications, and student agency. You will work individually and collaboratively to craft messages for internal and external audiences, including scientists, government stakeholders, affected communities, or broader publics. You will learn a variety of genres such as research reports, grant proposals, conference abstracts, conference posters, public talks, blog posts, and podcasts. Overall, this course will help you enhance your capacity to conduct research and report research findings, communicate ethically, and thereby effect important change.

Course Goals and Learning Outcomes

By the end of the course, you should be able to:

- design, draft, and persuasively deliver scientific communications to expert and non-expert audiences;
- justify decisions about the language, content, and genre used when communicating scientific information;
- practice collaboration and peer review in support of iterative communication design processes, including revision;
- practice research processes to find, assess, document, incorporate, and cite research resources and communicate research findings;
- describe and appraise the purposes and ethical concerns of science communication.

Required Texts and Materials


Instructions for accessing additional readings will be available on the course LEARN site.
Assignments and Assessment

Bolded items = group work components (approx. 20% of course grade)
Italicized items = oral components (approx. 30% of course grade)

Summary of Assignments (and due dates)

10% Project #1: Communicating Science Persuasively
   2.5% Written Submission #1 – Experiment.com SWALES Analysis (11 Sept)
   2.5% Written Submission #2 – Experiment.com Lay Abstract/Summary (16 Sept)
   5% Group Presentation – Experiment.com Multimodal Communication (23 Sept)

20% Project #2: Communicating Science in Print and in Person
   5% Pre-Interview Planning & Questions (2 Oct)
   15% Written Submission – In-Print/In-Person Comparison Report (13 Oct, 11:59pm)

50% Project #3: Communicating Science to Broader Publics
   5% Written Submission #1 – Annotated Bibliography (4 & 11 Nov)
   10% Written Submission #2 – Project 3 Journal (Multiple submission dates)
   20% Written Submission #3 – Ethics Analysis (22 Nov)
   10% Science Communication Showcase Project (2 Dec)
   5% Written Submission #4 – Science Communication Showcase Reflection (9 Dec)

10% In-Class Activities & Homework (ongoing submissions during 1st half of semester)

10% Peer Review (Project #2: 9 Oct, Project #3: 18 Nov)

Note: there is no final exam for this course; however, as the assignment outline above indicates, the “Science Communication Showcase Reflection” will be due (to LEARN) during the exam period.

Assignment Descriptions

Project #1: Communicating Science Persuasively (10%)
Project #1 is designed to help you learn and practice the crucial communication skills of summary and analysis, as well as gain familiarity with some of the standard rhetorical moves of persuasive scientific communication (essential for scientists who want to secure funding for their projects), the multimodal tools available to science writers in online venues, and the art of effective collaboration.

Your work for Project #1 involves two individually authored writing assignments (2.5% each) and a group presentation (5%). Four informal homework assignments are also due during weeks 1-3 of the semester; they will help you form your group and connect your textbook readings to Project #1 tasks.

Project #2: Communicating Science in Print and in Person (20%)
This assignment introduces you to the genres of the IMRAD research article and the science presentation. It centers on a visit from a guest scientist who will present their research to our class on Wednesday, October 2nd. Like at a science conference, the presentation will be followed by a Q&A session—only this time the questions come from YOU.
The project is divided into two main components:

**#1 (5%)**: Before the scientist’s visit, you will read the published article that their presentation is based on, and you will work in a group to decide upon three questions you would like to ask them. Your final version of those questions (along with a completed “Group Assignment Checklist”) is due at the beginning of class on October 2; all members of the group will receive the same grade on the questions.

**#2 (15%)**: After the presentation and Q&A session, you will individually author a 4-5 page (1000-1200 word) report that compares the experiences of encountering scientific research “in print” and “in person.” Your overall task in the written submission is to use the experiences you had during this part of the course as the basis for a focused, analytical argument about the rhetorical choices scientists need to make when they communicate their work (a) in diverse genres and (b) to diverse audiences.

Four informal homework assignments are also due during weeks 4-6 of the semester; they will help familiarize you with the structure of a research article and develop your analytical comparison skills.

**Project #3: Communicating Science to Broader Publics (50%)**

During the second half of the course, you will undertake a multi-stage project to explore the rhetorical strategies and ethical dimensions of science journalism. The common text for the project is Angela Saini’s *Inferior: How Science Got Women Wrong – and the New Research That’s Rewriting the Story* (2017). As a class, we will all read the book’s “Introduction” and “Afterword”; beyond that, you will work individually and in small groups to read, study, reflect on, and present your own interpretation of one chapter of Saini’s book.

Over the course of Project 3, you will both encounter and create a range of science-communication genres that are geared towards different public audiences (e.g. blogs, podcasts, infographics) and scientific communities (e.g. research articles, lab books, posters). The project culminates in a group poster presentation at the “Science Communication Showcase” event that takes place during class time on December 2 and is open to the public.

**Homework Assignments & In-Class Activities (10%)**

Throughout the first half of the semester, you will complete seven small-scale homework assignments that are meant to (a) help you hone reading, writing, and analysis skills, and/or (b) keep you on track for completing larger projects. These assignments are typically linked to textbook readings and interactive in-class activities, and therefore their timely completion is crucial to accomplishing their purpose.

To earn full credit, each homework assignment must be completed in full and uploaded to the appropriate LEARN dropbox before class starts (5pts); you are also required to print and bring a hard copy of your work to class and to participate actively in the related in-class activity (5 pts).

Possible reasons for losing points on homework assignments and in-class activities include:

- Late submission to the LEARN dropbox (1-point deduction per calendar day)
- Minimal or incomplete work submitted (variable deductions)
• Failure to bring required hard copies of your work to class (automatic 2-point deduction)
• Obvious lack of participation (e.g. arriving late or not attending class; not being ready to contribute to group work; also includes using class time to work on non-class related tasks; variable deductions)

Your score for this portion of the course grade will be the percentage of points that you earn divided by 65. Since 70 points are available, this means that you may miss ONE homework assignment or in-class activity (5 pts) without penalty. Note that the “Project 3 Journal” assignment will be graded the same way and will serve a similar role to the homework assignments you complete for Projects 1 & 2.

Peer Review (10%) 
The main goal of this course is to help you improve your writing skills, and many of our activities are therefore devoted to tackling writing as a process that involves many steps (e.g. brainstorming, researching and note-taking, drafting, getting and giving feedback, and revising). As part of this process, you will be asked to workshop writing in collaboration with your peers. Formalized “Peer Review” activities will take place two times during the semester and will be assessed based on your:

A. Timely submission of complete drafts to LEARN (see course schedule for details).
B. Thorough preparation for the in-class workshop, according to the specific instructions you receive for providing feedback about your group members’ writing on each project.
C. Engaged participation during the in-class peer-review workshop discussions.

Course Policies & Related Information

Submission of Assignments
Unless otherwise stated on individual assignment sheets, all written work for this class must be BOTH submitted in hard copy AND uploaded to the appropriate LEARN dropbox by the beginning of the class in which it is due. As a general rule, plan to bring hard copies of your written work to class each day.

Extensions and Late Submissions

• Points associated with homework assignments/in-class activities may not be made-up after the fact. Please contact your instructor if unforeseen circumstances arise that affect your ability to attend class and/or upload your homework assignments.
• Deadlines for group assignments and presentations will not be rescheduled unless exceptional circumstances arise. Please contact your instructor as soon as possible if you anticipate requiring accommodations for a group assignment.
• For the course’s individually authored “Written Submission” assignments, each student may take up to three calendar-day extensions TOTAL at their own discretion (i.e. you could turn in three assignments one day late, OR one assignment three days late, OR a combination that adds up to three days overall). You are not required to ask permission for these extensions, but you must remember to (a) upload the completed assignment to the appropriate LEARN dropbox,
and (b) submit a hard copy of the assignment to your instructor by your revised deadline. Please contact your instructor via email if you need to arrange hard-copy submission on a day when the class does not meet. Assignments submitted after the three extension days have been used will incur a late penalty of 5% of total points per day (including weekend days). Please contact your instructor as soon as possible should you encounter circumstances that make the request of additional extension days necessary and reasonable.

Academic Integrity

**Academic Integrity:** In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the UWaterloo Academic Integrity webpage for more information.

**Discipline:** A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. Check the Office of Academic Integrity for more information. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline. For typical penalties check Guidelines for the Assessment of Penalties.

**Grievance:** A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4. When in doubt, please be certain to contact the department’s administrative assistant who will provide further assistance.

**Appeals:** A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 - Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 - Student Appeals.

**Accommodation for Students with Disabilities**

**Note for students with disabilities:** The AccessAbility Services office, located on the first floor of the Needles Hall extension (1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.

**Information on Plagiarism Detection (Turnitin®)**

**Turnitin.com and alternatives:** Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students’ submissions are stored on a U.S. server, therefore students will be given an alternative, if they
are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit an alternate assignment.

**Basic Needs**
Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students in their faculty for support. Furthermore, please notify your professor if you feel comfortable doing so.

**Children in Class**
Although the University of Waterloo does not have a formal policy about children in the classroom, I recognize the complex and rich lives students with families have. Thus I have the following policies about babies and children in class:
- All exclusively breastfeeding babies are welcome in class as often as is necessary to support the breastfeeding relationship.
- I understand that children get sick and that child care arrangements fall through. Occasionally bringing a child to class is acceptable, though obviously not a long-term childcare solution.
- In all cases where babies and children come to class, I ask that you sit near the door so that if your child needs special attention and is disrupting other students, you can step outside until the need has been met.

**Writing and Communication Centre (WCC)**
The Writing and Communication Centre works with students in all faculties to help you consider your audience, clarify your ideas, develop your voice, and write in the style appropriate to your discipline. WCC staff offer one-on-one support for writing papers, delivering presentations, citing research, and revising for clarity and coherence. Group appointments for team-based projects, presentations, and papers are also available.

You can pre-book appointments with WCC staff, or drop in at the Library for quick questions and feedback from WCC peer tutors. To book an appointment and to see drop-in hours, visit [www.uwaterloo.ca/wcc](http://www.uwaterloo.ca/wcc).

Please note that communication specialists guide you to see your work as readers would. They can teach you revising skills and strategies, but will not change or correct your work for you. Please bring hard copies of your assignment instructions and any notes or drafts to your appointment.
Mental Health Support
All of us need a support system. The faculty and staff in Arts encourage students to seek out mental health supports if they are needed.

On Campus
- Counselling Services: counselling.services@uwaterloo.ca / 519-888-4567 ext. 32655
- MATES: one-to-one peer support program offered by Federation of Students (FEDS) and Counselling Services
- Health Services Emergency service: located across the creek from Student Life Centre

Off campus, 24/7
- Good2Talk: Free confidential helpline for post-secondary students. Phone: 1-866-925-5454
- Grand River Hospital: Emergency care for mental health crisis. Phone: 519-749-4300 ext. 6880
- Here 24/7: Mental Health and Crisis Service Team. Phone: 1-844-437-3247
- OK2BME: set of support services for lesbian, gay, bisexual, transgender or questioning teens in Waterloo. Phone: 519-884-0000 extension 213

Full details can be found online on the Faculty of Arts website
Download UWaterloo and regional mental health resources (PDF)
Download the WatSafe app to your phone to quickly access mental health support information

Academic freedom at the University of Waterloo
Policy 33, Ethical Behaviour states, as one of its general principles (Section 1), “The University supports academic freedom for all members of the University community. Academic freedom carries with it the duty to use that freedom in a manner consistent with the scholarly obligation to base teaching and research on an honest and ethical quest for knowledge. In the context of this policy, 'academic freedom' refers to academic activities, including teaching and scholarship, as is articulated in the principles set out in the Memorandum of Agreement between the FAUW and the University of Waterloo, 1998 (Article 6). The academic environment which fosters free debate may from time to time include the presentation or discussion of unpopular opinions or controversial material. Such material shall be dealt with as openly, respectfully and sensitively as possible.” This definition is repeated in Policies 70 and 71, and in the Memorandum of Agreement, Section 6.

Territorial Acknowledgement
We acknowledge that we are living and working on the traditional territory of the Attawandaron (also known as Neutral), Anishinaabe and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes ten kilometres on each side of the Grand River.

For more information about the purpose of territorial acknowledgements, please see the CAUT Guide to Acknowledging Traditional Territory (PDF).
# Course Schedule (Fall 2019, Communication in the Life Sciences, ENGL 193)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Readings, Homework, and Assignments</th>
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<tbody>
<tr>
<td>1</td>
<td>4 Sept</td>
<td><strong>Course Intro:</strong> Who/What is a Scientist? Science Biographies Rhetorical Sci Comm: Combining Narrative &amp; Persuasion</td>
<td><strong>Hmwk 1.1 Due to LEARN by noon on Fri 6 Sept</strong></td>
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<td><strong>Project #1: Communicating Science Persuasively</strong></td>
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<td>2</td>
<td>9 Sept</td>
<td><strong>Project 1 Intro:</strong> Grants &amp; Grant Writing Experiment.com Proposals Swales Model of Rhetorical Intros Meet P1 Groups</td>
<td><strong>Thaiss Introduction and Ch. 1: “Writing to Reach Readers” Swales Handout (print, read, bring to class) 3 hard copies of Hmwk 1.1 Due Hmwk 1.2 Due</strong></td>
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<td></td>
<td>11 Sept</td>
<td><strong>Group Swales Analysis Lay Abstracts</strong></td>
<td><strong>Thaiss Ch. 2: “Building Experience and Confidence in Writing Science” P1-Written Submission #1 Due</strong></td>
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<tr>
<td>3</td>
<td>16 Sept</td>
<td><strong>Group Rhetorical Analysis Presentations 101</strong></td>
<td><strong>Thaiss Ch. 3: “‘Writing’ Redefined Multimodally” P1-Written Submission #2 Due Hmwk 1.3 Due</strong></td>
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<td></td>
<td>18 Sept</td>
<td><strong>Presentation Prep</strong></td>
<td><strong>Thaiss Ch. 11: “Creating Oral-Visual Presentations” Hmwk 1.4 Due</strong></td>
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<tr>
<td>4</td>
<td>23 Sept</td>
<td><strong>Presentations</strong></td>
<td><strong>P1-Group Presentation Materials Due</strong></td>
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<td><strong>Project #2: Communicating Science in Print and in Person</strong></td>
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<td>25 Sept</td>
<td><strong>Project 2 Intro:</strong> Diverse genres &amp; audiences IMRaD research article structure Conferences, Presentations, Q&amp;A Meet P2 Groups</td>
<td><strong>Thaiss Ch. 5: “Writing the Research Article, Part I” “How to Read a Scientific Article” (LEARN) P2 Article (Focus: Abstract, Intro, Methods) Hmwk 2.1 Due</strong></td>
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<td>5</td>
<td>30 Sept</td>
<td><strong>Research Article Analysis Q&amp;A Prep</strong></td>
<td><strong>Thaiss Ch. 6: “Writing the Research Article, Part II” P2 Article (Focus: Results, Discussion) Hmwk 2.2 Due</strong></td>
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<td>2 Oct</td>
<td><strong>VISITING SCIENTIST</strong></td>
<td><strong>P2-Pre-Interview Plans &amp; Questions Due</strong></td>
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<td>6</td>
<td>7 Oct</td>
<td><strong>In-Print vs. In-Person Comparison Workshop</strong></td>
<td><strong>Thaiss Ch. 4: “Writing Science Ethically” “Analytical Comparison” Handout (LEARN) Hmwk 2.3 Due</strong></td>
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<td>9 Oct</td>
<td><strong>P2 Peer Review</strong></td>
<td><strong>P2 Written Submission draft Due to LEARN by noon on Tues 8 Oct</strong></td>
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<td></td>
<td>13 Oct</td>
<td><strong>(NOT A CLASS MEETING)</strong></td>
<td><strong>Thaiss Ch. 13: “Editing Sentences” Completed P2 Peer-review feedback forms</strong></td>
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<td>11:59pm</td>
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<td><strong>P2 Written Submission Due to LEARN</strong></td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Activity</td>
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<td>7</td>
<td>21 Oct</td>
<td><strong>EDGE Workshop (50 min)</strong>&lt;br&gt;Project 3 Intro:&lt;br&gt;The Science of Gender&lt;br&gt;STEM Journalism: New Genres</td>
<td>Thaiss Ch. 8: “STEM Journalism—Writing, Reading, and Connecting with Broader Audiences”&lt;br&gt;Science &amp; Gender Bias sources (LEARN)</td>
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<td></td>
<td>23 Oct</td>
<td>Saini Introduction Discussion:&lt;br&gt;Content (rhetorical features)&lt;br&gt;“Research Review” genre&lt;br&gt;<em>P3 Group Selection</em></td>
<td>Thaiss Ch. 7: “Writing the Research Review”&lt;br&gt;Saini: “Introduction”&lt;br&gt;<em>P3 Journal Entry #1 Due</em></td>
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<td>8</td>
<td>28 Oct</td>
<td>Saini Chapter Group Discussion:&lt;br&gt;Rhetorical Analysis&lt;br&gt;<em>Chapter sections for P3 Research Article research assigned</em></td>
<td>Selected Saini Chapter&lt;br&gt;Review Thaiss Ch. 1 Part I: “Six Categories of Rhetorical Analysis”&lt;br&gt;<em>P3 Journal Entry #2 Due</em></td>
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<td>30 Oct</td>
<td>Saini Chapter Group Discussion:&lt;br&gt;Ethical presentation of science</td>
<td>Review Thaiss Ch. 4: “Writing Science Ethically”&lt;br&gt;Your 2 Research Articles&lt;br&gt;<em>P3 Journal Entry #3 Due</em></td>
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<td></td>
<td>6 Nov</td>
<td>Group Discussion: Multimedia sources, ethics, and rhetoric</td>
<td>Your 1 infographic, 1 podcast, and 1 blog&lt;br&gt;<em>P3 Journal Entry #4 Due</em></td>
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<tr>
<td>10</td>
<td>11 Nov</td>
<td>Class Discussion of “Afterword”&lt;br&gt;Chapter Highlights (group activity)&lt;br&gt;Workshop: Ethics Analysis</td>
<td>Saini: “Afterword”&lt;br&gt;<em>Annotations for Multimedia Sources Due</em></td>
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<td></td>
<td>13 Nov</td>
<td>Workshop: Ethics Analysis</td>
<td>Thaiss Ch. 12: “Writing Science with Style and Styles”&lt;br&gt;<em>P3 Journal Entry #5 Due</em></td>
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<tr>
<td>11</td>
<td>18 Nov</td>
<td><strong>P3 Peer Review</strong></td>
<td>Ethics Analysis draft Due to LEARN by 11:59pm on Fri 15 Nov&lt;br&gt;P2 Peer-review feedback forms (in class)</td>
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<tr>
<td></td>
<td>20 Nov</td>
<td>Group Planning for Science Communication Showcase</td>
<td>Thaiss Ch. 10: “Creating Posters and Infographics”</td>
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<tr>
<td></td>
<td>22 Nov</td>
<td>(NOT A CLASS MEETING)</td>
<td>Ethics Analysis Due to LEARN</td>
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<tr>
<td>12</td>
<td>25 Nov</td>
<td>Group Work: Showcase Project</td>
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<tr>
<td></td>
<td>27 Nov</td>
<td>Group Work: Showcase Project</td>
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<tr>
<td>13</td>
<td>2 Dec</td>
<td><strong>Science Communication Showcase</strong></td>
<td>Science Communication Showcase Project Due</td>
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<tr>
<td>14</td>
<td>9 Dec</td>
<td>(NOT A CLASS MEETING)</td>
<td>Science Communication Showcase Reflection Due to LEARN</td>
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**Thanksgiving/Reading Break (14-18 Oct)**