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

Upon completion of this course, students 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; and
• describe and appraise the purposes and ethical concerns of science communication.

**Textbooks**


Other required readings will be posted in the “Required Readings” folder on LEARN.

**Course Requirements & Assessments**

**Overview of Assessments**

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Weight</th>
<th>Approx. Word Count</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-class Participation</td>
<td>10%</td>
<td>varies</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Engagement Self-reflection x 3</td>
<td>10%</td>
<td>300-500 each</td>
<td>#1 January 16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>#2 March 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>#3 April 3</td>
</tr>
<tr>
<td><strong>State of Science Project (40% total)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Article Summary</td>
<td>5%</td>
<td>800-1000</td>
<td>January 23</td>
</tr>
<tr>
<td>Annotated Bibliography</td>
<td>7.5%</td>
<td>750</td>
<td>February 4</td>
</tr>
<tr>
<td>Mini Report</td>
<td>15%</td>
<td>900-1200</td>
<td>February 11</td>
</tr>
<tr>
<td>Oral Presentation + Outline 15%</td>
<td>12.5%</td>
<td>5 mins</td>
<td>February 25 &amp; 27</td>
</tr>
<tr>
<td>Experiment.com Genre Analysis</td>
<td>15%</td>
<td>750</td>
<td>March 17</td>
</tr>
<tr>
<td>PCST Conference Abstract</td>
<td>7.5%</td>
<td>300</td>
<td>March 17</td>
</tr>
<tr>
<td>Poster Presentation</td>
<td>17.5%</td>
<td>750</td>
<td>April 2</td>
</tr>
</tbody>
</table>

NOTE: There is no exam for this course.

**In-class Participation (10%)**

In-class participation is evaluated according to the following criteria:

- Completion of in-class activities submitted by the end of class. You are allowed to miss two without penalty. (1 point each)
- Peer review sessions. You must come to class with a hard copy draft that meets the min. word count. (2 points each)
- Unannounced quizzes that test basic comprehension and retention of assigned readings. Usually, 1-3 questions, 1 point per question.
- You earn a full 5 points just for coming to class on time, participating in class activities/group work respectfully and diligently, and not engaging in behavior that is distracting or disruptive (e.g. non-class related phone/laptop usage, doing work for another class etc.). If there are issues in this area, I will first
address them with you in-person. If the behavior continues, then you will lose .5 in this category per occurrence.

**Engagement Self-reflection x 3 (10%)**
Engagement is more than just showing up and completing in-class assignments. Engagement describes your investment and agency in the learning process. Since students learn, engage, and participate through various styles, and in ways that tend to reflect their strengths and interests, I want to hear from you about your engagement pursuits. For this assignment, you will set some participation and science communication-related goals and work towards them. You will hand in three self-reflections, the first telling me about your goals, and the last two critically evaluating your progress.

**The State of Science Project (40%)**
In this scaffolded assignment, you will work towards writing a mini literature review and delivering an oral presentation on the state of (unfinished) science. You will pick a topic you are interested in and then situate that topic in the wider conversation surrounding the research.

**Article Summary (5%)**
Driven by a specific research question/area of inquiry, find a scholarly journal article on the topic you are interested in; this is your PRIMARY article. This choice is important as it determines the direction of your research. Scientific articles are difficult to comprehend for any non-specialized audience. As a first-year science student, you are not expected to have in-depth knowledge on the subject or understand everything you read. However, a basic understanding of your primary article is required for you to be successful in this assignment.

For this assignment you will summarize the Introduction, Methods, Results, and Discussion sections. Length: approximately 150-250 words for each section (600-1000 words, total).

**Annotated Bibliography (7.5%)**
Once you have decided on a primary article, and have a solid grasp of its content, you will then move on to situating the research in a wider conversation. For your annotated bibliography, find the following:

- Two secondary scholarly articles related to your primary article
- Two “good” popular sources (e.g. popular magazines, news articles, podcasts, blogs, books, etc.) related to your primary article

These sources should give you a sense of the other voices contributing to the larger conversation on your topic. Your annotated bibliography must include five sources in total (1 primary scholarly source + 2 secondary scholarly sources + 2 “popular” sources).

For each entry provide an APA reference and a 150-200 word annotation that (a) summarizes the text (b) comments on the intended audience, (c) compares this work with others you have cited (synthesis), and (d) explains how this work is important to your research question/interest.

**Mini Report (12.5%)**
For this part of the assignment, you will write report based on your research thus far. You will begin with an introduction that follows the CARS model. Your body section will address one or two themes that came out of
your research and draw some conclusions. You can also discuss new research areas that come to light. End with a brief summary of your findings. (800-1000 words)

**Oral presentation: Present your Research (15%)**

Now it is time to tell the class about what you have found. In a 5-minute oral presentation, you will communicate your RQ, what you did, what you found, and why it matters in a way that is clear and engaging for your audience. You must also submit an outline at the time of your presentation.

**Experiment.com Genre Analysis (15%)**

For this assignment, you will pick three projects from the crowdfunding website Experiment.com. Paying attention to style and language patterns, you will do a genre analysis that addresses the rhetorical situation, rhetorical appeals, and discourse community. You will also assess how successful the projects are at meeting the genre conventions, providing specific examples for your claims. (750-850 words)

**Conference Abstract (5%)**

For this assignment, you will be writing an abstract for the upcoming 2020 Public Communication of Science and Technology (PCST) conference in Scotland. Read the PCST call for proposals (CFP) information carefully and then find an article that you think meets the conference’s criteria. Here are some journals that I recommend looking at for suitable articles:

- Science Communication: [http://journals.sagepub.com/home/scx](http://journals.sagepub.com/home/scx)
- Journal of Science Communication: [https://jcom.sissa.it/](https://jcom.sissa.it/)
- Public Understanding of Science: [http://journals.sagepub.com/home/pus](http://journals.sagepub.com/home/pus)

Decide on an article that you would like to (a) submit an abstract on and (b) could turn into a poster presentation. The article you pick will already have an abstract. Your task is to create a new abstract that appeals to the PCST audience.

**Poster Presentation on Science Communication (15%)**

*Note:* Students work in pairs and each student should expect to spend approx. $20 to create the poster.

Congratulations! Your poster has been accepted to 2020 PCST conference. Posters are an excellent way for early-stage researchers to communicate their research to others in their field. Moreover, poster presentations allow you to practice many aspects of science communication you have studied thus far: written communication, visual communication, oral communication, interpersonal communication, and working within a genre. Working with a partner, you will pick one article (from your two abstracts) to turn into an academic poster. Your poster presentation will take place at a showcase event on the last day of class.
Course Policies

Late Assignments
Assignments submitted after the due date will result in a 5% per day penalty. If you are not in class the day of the oral presentation, you will receive a zero. In-class activities, quizzes, and peer reviews cannot be made up.

Each student will be allowed one extension of 48hrs, if needed. An extension cannot be taken for the oral presentation or the poster presentation. Please e-mail me to request the extension before the deadline.

Submitting Assignments
All assignments must be submitted as both hard and soft copies by 5pm on the due date. BOTH formats must be submitted on time to avoid late penalties.

   Soft copies: Submit on LEARN dropbox. Word documents only—no PDFs!
   Hard copies: Submit assignment to me directly, either in class or during office hours. You may also submit via the English Office dropbox located in 2016 E, Hagey Hall.

Assignments should be stapled and clearly indicate the following:
   o First and Last Name
   o Assignment name
   o Date
   o Course Section (003/004/005)
   o Word count for the assignment
   o Instructor’s name (if using the English office dropbox)

Accommodations
Accommodations due to extenuating circumstances will be evaluated on a case-by-case basis and may require documentation of some kind. While prompt notification demonstrates professional courtesy, it does not guarantee your tardiness/absence will be excused/accommodated. Please see the University Policies, Guidelines, and Academic Regulations for Assignments, Tests, and Final Exams for more information on accommodations.

Team Work
When working in a team, it is crucial that you discuss roles, goals, timelines, and expectations early on. Make sure that you have exchanged contact information and are available to meet outside of class to work on assignments. Any issues with your partner(s) should be brought to my attention as soon as possible as complaints issued after assignments are complete are difficult to resolve.

Electronic Device Policy
Students may use electronic devices (laptops, tablets, phones etc.) for class-related activities only (i.e. note-taking, group projects, conducting research, LEARN etc.). Electronic devices used for any other purpose is not
permitted. The instructor reserves the right to request electronic communication to be turned off and put away if it is distracting. Repeat instances of inappropriate use of electronics in the classroom will negatively affect your participation grade. Recording or photographing any part of a classroom lecture/activity is not permitted unless you’ve been given special permission.

Grading Scale

<table>
<thead>
<tr>
<th>Letter grade</th>
<th>Percentage ranges</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>90-100</td>
<td>The “A” range is exceptional. Work exceeds expectations by being creative, compelling, comprehensive, and mostly error-free.</td>
</tr>
<tr>
<td>A</td>
<td>85-89</td>
<td>The “B” range meets expectations. Work is competent but limited in originality and depth. Occasional errors do not undermine the overall integrity of the work.</td>
</tr>
<tr>
<td>A-</td>
<td>80-84</td>
<td>The “C” range meets minimal expectations. Work tends to be underdeveloped in several aspects. Errors may undermine the overall integrity and/or comprehension of the work.</td>
</tr>
<tr>
<td>B+</td>
<td>77-79</td>
<td>“D” or “F” range does not meet expectations. Work is inadequate in several aspects. Errors tend to be frequent and may undermine the overall comprehension of the work.</td>
</tr>
<tr>
<td>B</td>
<td>73-76</td>
<td>NOTE: The passing grade for this course is 50%</td>
</tr>
<tr>
<td>B-</td>
<td>70-72</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>67-69</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>63-66</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>60-62</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>50-59</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0-49</td>
<td></td>
</tr>
</tbody>
</table>

Student Resources

**Student Success Office:** The mandate of the Student Success Office (SSO) is to provide and facilitate strategic student support for academic and personal success. Information available online at [https://uwaterloo.ca/student-success/about-student-success](https://uwaterloo.ca/student-success/about-student-success)

**Student Counselling Services:** University can be a challenging environment. Meeting with an experienced and friendly counsellor can help students address their questions and concerns, set goals and develop strategies and skills to manage stress or other concerns. Information is available online at Campus Wellness [https://uwaterloo.ca/campus-wellness/counselling-services](https://uwaterloo.ca/campus-wellness/counselling-services) and UW MATES peer counselling [https://uwaterloo.ca/campus-wellness/counselling-services/uw-mates-peer-counselling](https://uwaterloo.ca/campus-wellness/counselling-services/uw-mates-peer-counselling)

**Nutrition Services:** [https://uwaterloo.ca/campus-wellness/health-services/nutrition-services](https://uwaterloo.ca/campus-wellness/health-services/nutrition-services)
Health Services: https://uwaterloo.ca/campus-wellness/contact-us

Writing and Communication Centre: The Writing and Communication Centre is an inclusive, creative, and collaborative writing space. The service supports writing and communication for undergraduate and graduate students and the entire University of Waterloo community. They offer writing resources, individual and group appointments, drop-ins across campus, workshops, and course support. Where possible, services are available online for distance learners. Information available at https://uwaterloo.ca/writing-and-communication-centre/

Accommodation for Students with Ability Challenges: The AccessAbility Services (AS) Office, located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with ability challenges without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of an ability challenge, please register with the AS Office at the beginning of each academic term: https://uwaterloo.ca/accessability-services/

University Policies on Academic Integrity

Academic Integrity: To maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect, and responsibility.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. 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 student misconduct has 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 http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm

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 http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 - Student Appeals http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

Academic Integrity Website (Engineering): https://uwaterloo.ca/engineering/current-undergraduate-students/academic-support/academic-integrity

Academic Integrity Office (University): http://uwaterloo.ca/academicintegrity/