Communication for (Life or Physical) Sciences

Course Overview

Course Description. ENG 193 Communications in the Life Sciences. The sciences expand our understanding of the world by posing questions and by collecting evidence to address these questions. In order to have an impact, the information and insights generated by scientific research also need to be effectively communicated, whether to publics, policymakers, or to other scientists. This course will teach written and oral communication tailored to the life/physical sciences. The course will give you an opportunity to shape your oral, written, and visual communication skills through iterative design processes that emphasize student agency and confidence, individually and collaboratively. You will craft texts 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 papers, conference posters, public talks, blog post, podcasts, and/or town halls. Overall, this course will help to enhance your capacity to share research findings, communicate effectively and ethically, and thereby, bring about effective changes.

Course Overview and Objectives:
Communication is essential for scientists, and scientists communicate in many different ways for many different audiences. In this course we will introduce you to a variety of ways scientists communicate, giving you the basis to begin sharing the importance of science in more tailored, concise, and effective ways. By the end of the course, you should be able to:

• Design and persuasively deliver scientific communications to expert and non-expert audiences;
• Differentiate and justify the language, content, and manner of delivery when communicating scientific information;
• Apply best practices in collaboration and peer review, including giving and receiving feedback in support of revision;
• Practice research processes to find, assess, document, incorporate, and cite research resources and communicate research findings;
• Reflect critically about science communication and its purposes and ethical dimensions.

Required Texts and Materials:

/

Michael D. Jones & Deserai Anderson Crow, “How can we use the ‘science of stories’ to produce persuasive scientific stories?” Palmgrave Communications 3, Article No: 35 (2017). Available at [http://www.nature.com/articles/s41599-017](http://www.nature.com/articles/s41599-017)

Jeanne Fahnestock. “Accommodating Science: The Rhetorical Life of Scientific Facts.” Available at [http://wcx.sagepub.com/content/3/3/275](http://wcx.sagepub.com/content/3/3/275)

Stine Lombog. “Social Media as Communicative Genres.” Available at [www.mediekultur.dk](http://www.mediekultur.dk)

Aristotle’s “Rhetoric.” Available at [www.jstor](http://www.jstor)

KJELDSEN, E, JENS. “What the Metaphor Could Not Tell Us About the Prime Minister’s Bicycle Helmet Rhetorical Criticism of Visual Political Rhetoric.” Available at [https://www.academia.edu/2429331/What_the_Metaphor_Could_Not_Tell_Us_About_the_Prime_Minister_s_Bicycle_Helmet_Rhetoric](https://www.academia.edu/2429331/What_the_Metaphor_Could_Not_Tell_Us_About_the_Prime_Minister_s_Bicycle_Helmet_Rhetoric)

**Communication for (Life or Physical) Sciences | Fall Term | Course Assignments and Requirements**

**Assignment and Evaluation Overview**
In this course a passing grade is 50%. You will need to complete the required assignments and activities. In addition, due to the importance of the revision process in writing and communication design, there is no exam:

- **Discussions Posts/Contributions (Comments and peer reviews) & Blogposts** – 20%
- **Report: State of Science** – 20%
- **Grant Proposal** – 20%
- **Conference Paper** – 20%
- **Public Communication or Engagement: Group Poster/Presentation** – 15%
- **One-page Final Reflection of the feedback/the group assignment** – 5%

**Assignment Descriptions**
Here is the interesting thing about this course: the assignments will draw upon a range of genres that are employed in scientific writing. You’re going to present your work to a bunch of different audiences. It might be to other scientists, it might be to non-scientists who are just interested in learning about your research, or it might be to people who will give you money to complete your research. We have provided a list of articles and topics that can be used, and we have developed this list in consultation with faculty members in science. If you’d like to choose other texts, you’ll have to have it approved.
**Contribution Evaluation**

Contribution isn’t just about posting things. Think of the discussion board post and engagement as an evaluation of some aspects of inter-personal communication. Generally, the expectation is that you treat the discussion board as a professional space and your peers as your colleagues.

- **100 points—Exceptional:** Frequent, substantive, formative, and original contributions to the discussion board; consistently engaged and participatory comments; outstanding peer feedback
- **90-99 points—Excellent:** Only minor exceptions to the criteria described above
- **80-89 points—Good:** Regular contributor to discussions; consistent engagement; good peer feedback
- **60-79 points—Satisfactory:** Occasional contributions and inconsistent engagement; good peer feedback
- **50 - 59 points—Marginal:** Minimal contributions and/or significant lack of engagement
  - **50 points—Failure:** Repeated disrespectful engagement with others; consistent lack of commitment and/or effort

**Assignments Overview**

It’s a little early for original research, so we’re going to begin with getting you up to speed on engaging with other scientific/non-scientific texts. You will choose an article from Nelson-McDermott, Catherine, Laura Buzzard, and Don LePan. *Science and Society: An Anthology for Readers and Writers*, and you will work with this article for your report. You’re going to summarize it and communicate it to both expert and public audiences by writing about it and tearing this article apart by identifying a gap in the article. Afterward, you will need to identify a problem in the society, do a research on how to resolve that problem, design a grant proposal to help you raise money for your research (virtual research), and come up with your findings. You will write a conference paper that is argumentative in native to help you persuade your audience on why this problem you are engaged with is important. To engage with the assignments of Report, Grant Proposal, and Conference Paper, imagine you’re a research assistant (RA), and these exercises will be the work you’re learning about for the term you are hired on to work as an RA.

**Introduce Yourself**

Write a short introduction of yourself, more like short biography, and include a short video of about 5 minutes. This bio should be no more than 500 words and should include your name, where you are from, degree title, hobbies, and anything else that is interesting about you.

**State of Science Report**

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Your first major assignment will be a report on the state of science of the article you have chosen. Your goal here is to understand what research is presented in the article you have chosen and how it is situated in a broader research effort. Which other experts are working on this topic? What are they saying? What is the significance of the article that you have chosen for this research topic? First, you will want to read and re-read your article. You will need to know the general field, the topic of the article, and why that topic is important. Draft your report and post it into your group discussion board for peer review and use the peer review to edit your work before posting it to the drop box. You should be sure that your assignment is:

- About 4-5 pages in length,
Grant Proposal: Crowdfunding Your Research
You will complete this assignment on your own. You will first identify an important problem in the society you will like to find a solution to. That means you will conduct some research (virtual) on ways that you plan to help solve this problem. Choose an idea that has not been over flogged already, which is relatively new. For this assignment you will create a crowdfunding proposal. To do this, first choose an appropriate platform for the kind of work you’re doing. In most cases, if you want to fund a scientific project, you might use Experiment.com. But you can also use Kickstarter.com, or similar platforms. Just be sure you have a good rationale for why you’ve chosen a particular platform to try to fund your research. You will submit your draft to your group discussion board for peer review. You will use the peer review to edit your paper before you submit it to the drop box.

What will you need to complete your project? You will be required to develop a strong argument that justifies your research proposal, why you think it is worth pursuing, and draw up a budget. You will also include a short paragraph identifying your audience and describe how you will effectively communicate your plan to this audience. How will you get folks to fund you? Include that information and anything else you think is important regarding why you chose the project or platform that you did (e.g., this is a project you’re actually hoping to crowdfund). You should be sure that your assignment is:
• About 4-5 pages in length,
• double-spaced,
• 12pt font.

Criteria for Evaluation
• Includes all relevant information indicated above.
• Includes all relevant sections of the proposal for your platform of choice (e.g., proposal text, budget, rewards, etc.).
• Clear statement of purpose, following CARS model, and supporting evidence is included.
• The budget should be tailored to your project and audience.
• Technical presentation (typed, well formatted, consistent fonts, etc).
• Spelling and grammar (including complete sentences)

Conference Paper
Undertake a library research to validate your thesis statement. This paper is based on your research finding that serves to prove that the problem you are interested in solving is one that is valid and impactful. Write a 4 – 5-page conference paper that you will post to the discussion board for peer review. You will use the peer review to edit and refine your paper before the final submission to the drop box.

Your paper will be assessed on how clear your ideas are, how logical your arguments are, how clear and sharp your thesis statement is, how well you support your points with credible sources,
how strong your introduction and conclusion are, and how well you have edited your work. You should be sure that your assignment is:

• About 4-5 pages in length,
• double-spaced,
• 12pt font.

Public Communication Group Assignment
This will be a group assignment. Imagine you’ve been invited to give a talk at your local library about your work. Your audience could be anyone: other scientists, people interested in your topic, students, families looking for an educational opportunity, etc. Demographics include a range of learners, and you’re going to have to figure out how to communicate your complex subject to a wide audience. You will first need to decide what aspect of your topic you think will appeal to your audience. What is particularly interesting about your work and what do you most want to share with others? Prepare a slideshow/power point or some other kind of multimedia to use for showing your group project in the discussion board. Identify a controversial topic in your group, brainstorm on how to address the problem at the center of the controversy, share the major ideas in the topic among yourselves, each person should do a write up of 1 page about their chosen aspect of the topic, and do a power point that utilizes more of visual rhetoric than words for presenting each idea.

Criteria for Evaluation
• Clear topic with a narrow focus.
• Well-organized (arrangement!) presentation with clear narrative arc.
• Clear statement of purpose, following CARS model, and supporting evidence is included.
• Creative deployment of visual rhetoric.
• Group cohesion, while showing what each individual worked n.

Course Rules
I will not accept late assignments if you were not granted an extension. To be granted an extension, you must have a compelling reason (e.g., medically documented illness). If you know you will need an extension, speak with me at least 48 hours prior to the due date. Should your grades concern you, then speak with me within the first 3/4 of the term; the last quarter of the term will not provide sufficient time to markedly improve your final grade. Finally, I will not grant an incomplete in the course; if you have concerns about completing your term please write to me as soon as possible.

Communication for (Life or Physical) Sciences |Fall Term | Academic Integrity
In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. See the UWaterloo Academic Integrity webpage and the Arts 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. 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(https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/guidelines-assessment-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 (https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70). 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 (https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-72). Note for Students with Disabilities, The AccessAbility Services office, located on the first floor of the Needles Hall extension (NH 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.

Communication for (Life or Physical) Sciences | Fall Term | Communication in the Sciences
It is your responsibility to email me in advance regarding any confusions you might have about due dates. Schedule is subject to change.

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<tr>
<th>Date</th>
<th>Topic, Material and Readings.</th>
<th>Assignments and Description of assignments</th>
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<tr>
<td>Week One</td>
<td>Communication/Introduction</td>
<td>In the first week of classes we will discuss the idea of genre in rhetorical studies. Students will be introduced to this concept through a series</td>
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of examples of genres in science communication.

**Home work:** Read-
Stine Lombog. “Social Media as Communicative Genres.” Available at [www.mediekultur.dk](http://www.mediekultur.dk)

Write a short bio and 5 minutes video introducing yourself to be submitted onto the discussion board.

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<tr>
<th>Sept 10</th>
<th><strong>Due: Your Short Bio/video – Post on the discussion board.</strong></th>
<th>What can people glimpse about you from your introduction. Your peers will evaluate how creative and compelling your bio is.</th>
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<td>Putting the idea of genre into practice, we will have students look at their own bios as an example of a genre, and then explore how genres actually function together (e.g., how does the bio help us to know you an individual and what narrative technique did you employ to make it captivating?)</td>
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<td>Homework: What are Ethos, Pathos, and Logos, and how do they operate in various genres of texts like Stine Lombog’s article, Facebook, Instagram, Twitter, or other genres of communication?</td>
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<th>Week 2: Sept 15</th>
<th><strong>Due - Post your analysis of Stine Lombog on the Discussion board - Discuss by posting a comment on three posts.</strong></th>
<th>Discuss how Lombog deployed ethos, pathos, and logos to produce persuasion in the article.</th>
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<td>Argumentation–Getting your evidence in order. Arrangement is one of the core concepts in rhetoric, and this idea builds on our discussion of genre.</td>
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<td>Homework: Read: KJELDSEN, E, JENS. “What the Metaphor Could Not Tell Us About the Prime Minister’s Bicycle Helmet Rhetorical Criticism of Visual Political Rhetoric.” Available at</td>
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| Library Workshop – This workshop is compulsory for everyone, and it will help you learn more about how to do productive research that is absolutely necessary for your entire academic pursuit.

Post your ideas about Visual Rhetoric in KJELDSEN, E, JENS’s article on the discussion board. Comment on three post of your peers’ on the discussion board.

**What is Visual Rhetoric?**
Investigate the effectiveness of Visual rhetoric.

Visuals and visualization are another mode of communication that is crucial to scientific research. We will explore the different ways that visuals can operate across genres of science communication. As well, we will explore issues of data visualization and anticipate questions of ethical concerns in addition to readability and clarity.

For your Report, Find an article from the provided list and breakdown the steps used to make the arguments (to be reused in the state of science report).

Arrangement of an argument helps students understand how to stage their ideas. Arrange the arguments in the article of your choice. **Think about** how to anticipate the information your audience will need, what information they will already have, and how you can build the argument you need to make with respect to your anticipated audience.

**Homework:** Read Jeanne Fahnestock’s “Accommodating Science: The Rhetorical Life...
| Week 3 – Sept 22 | Due: Post your analysis of Jeanne Fahnestock on the discussion board—Discuss by posting a comment on three posts.  

**Homework:** Read –  
Fred Pearce. “Battle over Climate Data Turned into War between Scientists and Sceptics” pp 83 -90 (From - Nelson-McDermott, Catherine, Laura Buzzard, and Don LePan. *Science and Society: An Anthology for Readers and Writers*).  

Do a blogpost about the implication of Pearce’s arguments and **post on the discussion board on Learn.** Each person should comment on at least 3 blogposts. Choose posts that do not already have comments to comment on. This blogpost counts towards your class participation grade. |
| Sept 24 | **Post your blogpost based on your ideas on the debate revolving around climate change on the discussion board (use visual rhetoric to make your ideas more persuasive) – Discuss the blog post by posting comments on three posts of your peers. This post is 5% of your participation grade.**  

**Homework:** Read -  

What do you think of Stanley Milgram’s experiment in a scientific world?  

What makes a good blogpost? |
| Week 4-Sept 29 | **Post your analysis of Milgram’s article. Discuss by commenting on three posts of your peers.**  
As you draft your report think about what we mean by demonstration of citation management tools, discussions of different kinds of databases, and what counts as evidence in different fields of science?  
Draft your article report to be posted on the discussion board for peer review. | **What counts as evidence?** |
|----------------|---------------------------------------------------------------------------------|-----------------------------|
| Week 5: Oct 1  | **Post the draft of your report on the discussion board for peer review- give a review of three of your peers’ essays. Your peer review counts towards participation grade.**  
Use the feedback you received to revise your essay.  
Review your colleague’s report, build on the previous week’s discussion of arrangement and argument, and we will further explore how to situate an argument in a particular genre. Specifically, we will investigate how to 1) situate one’s argument in a current research conversation, and 2) how to frame evidence, such as data.  
Next assignment: Grant Proposal- Pick an idea (by identifying a gap you want to fill) from your chosen article for your next assignment. | |
| Week 6: Oct 6  | **Submit your report as word attachment into the drop box.**  
**Start your next major assignment: Grant Proposal.**  
With the conceptual frameworks established to understand there are different kinds of writing in the | |
sciences (i.e., genres), particular strategies to make an effective and logical argument (i.e. arrangement), and particular forms of evidence expected to support a situated argument (i.e., evidence), we will now focus on putting this together in a particular genre of science communication: the research report. To do this, we will explore linguist John Swales’ work on the Introduction, Methods, Results, Discussion (IMRaD) model, and his Create a Research Space (CARS) model. These two models give us a way to map the typical form of a research report or a research article in the sciences, and it applies to both physical and life sciences. IMRaD describes the form of an overall report or article, and CARS is a set of moves found in introductory sections.


Oct 8 **Post your analysis of Deer on the discussion board – Discuss by commenting on three posts.**

Using -Introduction, Methods, Results, Discussion (IMRaD) model and Create a Research Space (CARS) models, establish a territory for your research, a gap in the research, and then explain how you’re going to address the gap.

Homework: **Prepare your grant proposal**

Week 7 – Oct 13 **Post your Grant Proposal draft on the discussion board for peer review. Give peer reviews of three of your peers’ essay. Your peer review counts towards participation grade.**

What’s the hook for the research article you’ve chosen? How could you accommodate that to a
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<th>Use the feedback to revise your essay.</th>
<th>broader audience to persuade them to fund your research? Think of creative ways through which you can get funding for your brainchild.</th>
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<td>Increasingly research doesn’t happen without securing external funds. This week explores the complex task of writing a grant application. Introducing the concept of a grant, how different kinds of grants function in the Canadian academy, and what grants students can actually apply for (e.g., NSERC Undergraduate Student Research Awards), this week is a crash course in grant writing. Crowdfunding proposals will serve as an exciting and accessible example. Experiment.com is a rich resource for students to find examples tailored to science, and all the basic elements one might find in a traditional proposal are included in crowdfunding proposals, such as budgets, biographies, and, of course, the proposal itself. Using crowdfunding also allows, and demands, we talk about the kind of audience one might have for a proposal (it is an academic multidisciplinary panel, as in traditional grants, or a complex ground of academic and publics giving us their own money, as in crowdfunding. Do we have to write differently for those audiences (spoiler: yes, we do)?</td>
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<td>Identify a gap in your article and conduct the research for your grant proposal.</td>
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**Watch on YouTube: Sharing science through story: Fergus McAuliffe at TEDxDublin**

Read: Michael D. Jones1 & Deserai Anderson Crow,

“How can we use the ‘science of stories’ to produce persuasive scientific stories?”

Aristotle’s “Rhetoric.” Available at [www.jstor](http://www.jstor)
Post your ideas of how science is changing on the discussion board by discussion Fergus McAuliffe’s Ted Talk and Michael D. Jones1 & Desrai Anderson Crow, “How can we use the ‘science of stories’ to produce persuasive scientific stories?” How do creative literature like poems, novels, drama impact the audience differently from scientific articles? Comment on your peers’ ideas.

While there are a lot of opinions on how we communicate science to publics, we’re going to throw a lot of them out. What we’re throwing out are models of science communication that rely on the so-called deficit model. As you might guess, this model assumes a deficit of knowledge on behalf of your audience (the public). If you could just fill them up with the correct knowledge—presto! —they think right, just like you. No longer do anti-vaccine proponents debate you, no longer is there a push to “teach the controversy,” and who would even dream of suggesting the Earth is flat? The problem with the deficit model of science communication, particularly in controversial cases such as I’ve outlined, is that the point of contention isn’t agreed upon. Throwing data at the controversy just won’t work. What will? It depends, and we’ll talk about tools to help you better engage in communication of both controversial and non-controversial science with broad publics. And, if you’re wondering just what the heck "publics" means, this is lesson #1: you have a lot of different public groups with different views, needs, etc., so understanding their complexity lets you understand your actual audience. We’ll take up Jeanne Fahnestock’s important work on “accommodating” science for different publics, and look at some other strategies for thinking about science in public discourse and debate.
| Week 9 – Oct 20 | Submit your grant proposal as word attachment into the drop box. Evaluate what you have learned so far in this course this term. Synergize Pearce’s, Milgram’s, and Deer’s articles. What are the common threads running through them? | Scientific Visuals and Visualization – Continue your grant proposal presentation. |
| Week 10 – Oct 27 | **Post your analysis of Vera-Badillo’s article on the discussion board. Discuss the post by commenting on three of your peers’ posts.** Science communication is changing, and these changes have generated enormous critical discussion around the ethics of science communication. Often, we talk about how to communicate research ethically and seriously engage broader publics in science. An increasingly popular way to do this is through citizen science. Unlike traditional consultation models (town halls, public forums, etc.; see, for examples, India’s Bt brinjal debate or British Columbia’s Site C controversy), citizen science brings every-day people into science not only to advance research, but to ensure research aids in civic discussion. This is a highly important turn and scientists in every discipline, from ecology to physics, are leading the charge with projects such as Galaxy Zoo to the protein-folding game Foldit to the, | Public Communication of Science and its impact on public policies. |
remarkably longitudinal (over 100 years!), Christmas Bird Count.

Draft your conference paper to be submitted to the discussion board.

**Week 11: Oct 29**

Post your conference paper draft on the discussion board for peer review. Give a reviews of three of your peers’ essays. Your peer review counts towards participation grade.

Use the review to revise your essay.

For the group assignment, you can consult with each other and come up with a topic that you all agree on. Afterward, the topic should be broken down into parts, and each person should be assigned one part that should be researched. After the research, the group should put the ideas together in a cohesive manner. The group will have to put together a PowerPoint that will be posted on the discussion board for everyone to see. The topic should be controversial and of importance to society in contemporary times.

**Start Your Group Project**

**Brainstorm and Identify a really controversial topic that is currently a problem in the society is dealing with and to which you need to find a solution**

I have created group forums on Learn Discussion board for the group project.

You can use this platform to discuss your group project, brainstorm, arrive at an idea/topic, decide how you will break the topic down into different aspects, share the different aspects of the topic among yourselves, and feed off each other's ideas.

After you have all arrived at a topic, the topic should be broken down into parts, and each

How do your findings fill the gap you have identified?
person should be assigned one part that they should conduct a research on. After the research, the group should put the ideas together in a cohesive manner.

You are required to produce a PowerPoint based on each person's aspect of the topic. The PowerPoint will be assessed based on the use of visual rhetoric, originality, and logical content for each individual presentation, while the group will be assessed on how cohesively all the different PowerPoints tie into the major topic you have all worked on. The topic has to be contemporary, which means it must address current problems that have not already been over-flogged. The topic and how it is approached should aim to influence public policies and make recommendations that will bring about a change in the society.

Please get engaged with each other and come up with brilliant ideas. I am mainly looking for creativity, logic, and deployment of visual rhetoric.

Nov 5  **Continue your group work.**

How we communicate to participants in research, how we communicate research findings, and how we choose (or choose not to) involve ourselves as experts in public debate all involve ethical decisions. Researchers at every level take most seriously the way we inform participants about their involvement in our work: we often talk about informed consent—the obvious communication challenge here being certain we are, indeed, informing our participants accurately. How we communicate research findings is also an ethical matter in that we must do so accurately, transparently, and within the norms of our discipline. WEIRD (Western, Educated, Industrialized, Rich, And Democratic) in human-focused sciences, replication problems across disciplines, and the
rise of registered reports (a kind of proposal you write for a research journal before you have even run your study, let alone wrote the article) are all marks of ongoing ethical engagements by scientists at the level of our research design and, importantly for your communication practices, reporting. And, perhaps most obviously, when do scientists weigh in and on what topics? Senior scientists often taken on civic debate; e.g., Carl Sagan to Neil deGrasse Tyson to our own Chris Hadfield and Governor General, Her Excellency the Right Honourable—and, don’t forget, astronaut, engineer, and scientific communicator who has made numerous radio spots—Julie Payette. And, let’s not forget, sometimes the engagement is about a specific science-based civic matter, such as the Flint Water crisis where Virginia Tech’s Professor Marc Edwards, an expert in water supply safety and “whistleblowers” (how’s that title for starting an ethical debate?), stepped in to aid citizens in their battle for clean water.

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<th>Week 13: Nov 10</th>
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<td><strong>Submit your conference paper as word attachment into the drop box.</strong></td>
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**Work on your group assignment.**  
Intercultural communications and cross-cultural communications are important considerations in an increasingly globalized world of science. Since 1990, research articles with collaborators from more than one country have doubled, according to a report presented by Caroline Wagner at the American Association for the Advancement of Science annual meeting in 2017. Although it is often said English is the language of science, just what we call English, and what counts as “good” English isn’t so simple. Also, issues such as regionalisms can create barriers to understanding. Beyond the written word, how we interact with each other everyday shapes...
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<th>Date</th>
<th>Activity</th>
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<td>Nov 12</td>
<td>Discuss among yourselves on how you plan to put your group write-up and PowerPoint together. The group will have to put together a PowerPoint that will be posted on the discussion board for everyone to see. The topic should be controversial and of importance to society in contemporary times.</td>
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<td>Nov 17</td>
<td>Finalize your group write-up and PowerPoint presentations among yourselves.</td>
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<td>Nov 19</td>
<td>EDGE workshop – this workshop is compulsory because it was incorporated into this course to enable you translate your skills into your resumes, interviews, and the workplace. Discuss your experience on the discussion board.</td>
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<td>Nov 24</td>
<td>Post Your Write-up and PowerPoint onto the Final Project Forum on Learn discussion board.</td>
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<td>Nov 26</td>
<td>Give feedback to each group work- Your feedback will count towards participation grade.</td>
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<td>Dec 1</td>
<td>Final Reflection of all the feedback you received as well as that of the group assignment to be submitted to the drop box.</td>
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<td>Dec 8</td>
<td>END OF TERM</td>
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