

Critical Science Communication



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<http://www.uvm.edu/~pbierman/classes/critwrite>

This is a class about science communication and how to do it better. It is appropriate for graduate students at all levels and for undergraduate students who are preparing senior theses. The goal of this course is to improve your communication skills by reading and commenting on the work of others. In past years, this course has helped many students get their theses done, their papers published, talks prepared, op-eds submitted, and interview skills polished. It will include potluck food so no one will go home hungry!

The premise of the class is a simple one. We will spend the semester reading and editing writing and other types of science communication produced by current and former UVM students and faculty. The important difference between readings in this class and in other classes is that most of the papers/editorials/podcasts/webpages and videos you will be critiquing have yet to be published. In fact, many of them have not even been submitted. Your input and constructive criticisms will make these communications stronger and will help you learn what it takes to get your work through critical peer review and communicate to the broader public.

In addition to critiquing communications, we will consider the peer-review process as a whole examining examples of how it works well and how it can sometimes be controversial and difficult. Each semester we will focus on public communication of science although the specifics each year will differ. Sometimes our work will involve distilling your science into a one page pitch to the media and practicing short format interviews such as one might do on radio or with a journalist. Previous classes have been invited to the Vermont Public Radio studio where they had their interviews taped – some even ended up live on the radio as a result. Others have written opinion pieces for the journal *Science* – two of which got published.

Expectations and Evaluation Criteria

Your responsibility in this class is to approach each piece of communication, formal or informal, as though you were a professional reviewer and editor. Some weeks, there will be a manuscript to edit. Other weeks, you will be reading and editing your peer's Op-eds. You might find yourself listening to and commenting on short format interviews or editing abstracts.

When we review papers, you are expected to prepare a thorough, respectful, and helpful formal review. The review should be typed and usually about a single-space page in length although some reviews might be longer. To produce such a review, do the following.

1. Read/listen to the communication quickly to familiarize yourself with its content and goals.
2. Read/listen to the communication slowly for a second time with a pen or yellow PDF stickies in hand. Make marginal notes where needed to correct grammar, punctuation, and sentence structure. To save paper, these can be electronic (on the pdf) or if you are more comfortable with paper, that's fine too.
3. For major comments and complaints, add a number and list your comments on a separate sheet.
4. Mark up the manuscript with constructive comments and suggestions with the goal of making it a stronger piece of writing!
5. Prepare your typed, formal review to include the following:
 - * An introductory paragraph that describes what the communication is about and its main conclusions.
 - * A second paragraph that presents your evaluation of the communication specifically in terms of: logic of interpretations, writing clarity, clarity of illustrations (if applicable).
 - * A recommendation and justification of whether the communication should be accepted with minor revisions, accepted with major revisions, or rejected. This paragraph should be followed with a series of bullet points that clearly lay out any major changes are needed to improve the communication.
 - * Indicate, what if anything needs to be done to make the communication compliant with the instructions to authors or the style of the genre to which you are writing.

I expect that everyone of us will come to class each week with a completed review (paper or electronic). Please send or give the annotated reviews directly to the person whose communication you have reviewed. I don't need to see these.

For weeks that your written work is being reviewed, there are additional requirements.

1. At least one week before your communication is being reviewed in class, email Paul a PDF of your manuscript and the *Instructions to authors* for the venue to which your work is being submitted. I will post both on our class web site so your classmates and I can do our reviews over the week before class.
2. Come to class the week before your manuscript is being reviewed prepared to give a short summary of your communication including why you wrote it, areas you would like reviewers to focus on during their reviews, and any interesting anecdotes about the research/thinking that led to the communication.

When we focus on public communication of science, expect to read and respond to your classmates work live and on short notice. We'll do speed reads and speed critiques to mimic science writing for news outlets.

Learning Goals

Here are the goals we hope to accomplish together over the semester.

- Improve your skill and comfort level as an editor by reviewing numerous and different types of communications over the course of the semester.
- Understand how the peer review process works through hands-on practice reviewing communications being prepared by your peers.

- Gain familiarity with the requirements of journals by reading and assessing manuscript compliance with *Instructions to authors* for all the reviews that we do of papers and abstracts
- Help your UVM peers get their communications public by providing feedback at a critical time in the preparation cycle.
- Experience the stress and thrill of having others edit and constructively critique your writing.
- Have a good time and meet graduate students from different departments around campus.
- Learn how to get your research, opinions, and personal stories into the public eye!

Class schedule

Week 1. Read and discuss writing genres in class, August 31

(assignment: pick your favorite and least favorite Working Lives and be prepared to discuss why; see: <https://www.science.org/topic/careers-overline/working-life>)

Week 2. Working Life – Present and discuss your chosen pair of Working Lives, September 7

(assignment: write first draft of your Working Life essay and send to the class by Sunday night for edits)
Special visitor-Science Editor, Rachel Bernstein, <https://qb3.berkeley.edu/news/an-interview-with-professional-in-residence-rachel-bernstein-shining-a-light-on-science-communities/>

Week 3. Working Life – Feedback and discussion of Working Life drafts, September 14

(assignment: revise your Working Like essay and send to the class by Sunday night for edits)

Week 4. Working Life – Feedback and discussion of Working Life revisions, September 21

(assignment: final revisions of your Working Like essay for submission to Science, send to Paul)

Week 5. Abstracts – Styles and content diagraming, September 28

(assignment: prepare an abstract about your research and send to class by Sunday night for edits)

Week 6. Abstracts – Feedback and discussion of abstracts, October 5

(assignment: Read a variety of Op-eds and send your favorite to the class by Sunday night for reading)

Week 7. Op-eds – Review Op-eds, how they work, what you like and dislike, October 12

(assignment: Prepare your own op-ed, limit 700 words and send to class by Sunday night for reading)

Week 8. Op-eds – Discuss Op-eds written by the class, October 19

(assignment: Read AGU comments on peer-review)

Week 9. Peer-review, how, why and issues – discuss AGU comments and instructions to authors, October 26

(assignment: prepare review for ms #1)

Week 10. Manuscript peer review #1, November 2

(assignment: prepare review for ms #2)

Week 11. Manuscript peer review #2, November 9

(assignment: prepare review for ms #3)

Week 12. Manuscript peer review #3, November 16

(assignment: prepare review for ms #4)

Week 13. Thanksgiving, no class, November 23

Week 14. Manuscript peer review #4, November 30

(assignment: prepare review for ms #5)

Week 15. Cookie exchange and finale, December 7

(assignment: bake goodies! Bring extra tray to take them home)

OURS IS AN INCLUSIVE CLASSROOM COMMUNITY

For a class like this, respect for others, their work and their person, is so important. I am committed to the creation of a community where everyone will be treated with respect and dignity and where all individuals are provided equitable opportunity to participate, contribute, and succeed. All students are welcome in NR 395D regardless of race/ethnicity, gender identities, gender expressions, sexual orientation, socio-economic status, age, disabilities, religion, regional background, Veteran status, citizenship status, nationality and other diverse identities that we each bring to class. The success of our inclusive classroom relies on the participation, support, and understanding of everyone. We encourage you to speak up and share your views, but also understand that you are doing so in a learning environment in which we all are expected to engage respectfully and with regard to the dignity of all others. Any student who has difficulty affording groceries or who lacks a safe and stable place to live and believes this may affect their performance in the course is urged to contact me for help. If you have any questions or concerns do not hesitate to raise them. I am here to help you learn!