

Science, Communication, and Citizenship Fall 2018

Instructor: Jeremy David Johnson

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Office:

Class Location:

Office Hours:

Course Description

This course considers how scientists can and should communicate with broader publics and fellow citizens. Based in the art of rhetoric, the course provides scientists with strategies and techniques to connect with people outside their disciplines and outside the academy. Seminar participants will bolster their skills in speaking, writing, argumentation, and critical analysis. Participants will be expected to create public-facing essays and presentations, and will workshop their materials with other scholars from the sciences and humanities.

Course Texts

Charles Darwin, *On the Origin of Species* (any edition)

Michael Crichton, *The Andromeda Strain* (any edition)

Other readings will be provided on Canvas or are available online.

Course Assignments

Please provide assignments in Microsoft Word or PDF format, double-spaced with 12-point Times New Roman font and standard 1” margins.

Op-eds (10%):

You will be asked to create an approximately 750-word opinion editorial related to your research or teaching. You should indicate a preferred place of publication and, ideally, submit the op-ed.

Social media content (10%):

Working with your classmates, you will create a social media post of some sort, including but not limited to: blog posts, Facebook posts, YouTube videos, or Tweet series.

Public presentation (50%):

Sometime during the course of the semester, you should arrange to give a talk somewhere on campus or in the community. This talk should last at least ten minutes, and preferably would be twenty minutes and include Q&A. Your talk should be open to anybody interested, and should be accessible to a public audience. Your department likely has some opportunities to present to fellow graduate students or faculty, but if not, there are many other options for arranging this

talk. I will work with you to identify potential outlets, including through work with WE ARE for Science or in the local community. Failing any other outlets, I can reserve a room for you to give a talk on campus and you can advertise and invite people to be your audience.

In conjunction with your presentation, I will ask you to write a 2-3 page reflection paper considering your performance, your venue, your audience, and your rhetorical strategies.

Class Participation

Since this is a graduate-level course, I trust that you will be responsible in attending class and only missing when necessary. If you will miss multiple weeks, please let me know in advance so we can make arrangements. I am happy to be flexible if you give me a heads-up. Regular participation in discussion is worth 30% of the course grade.

Access

If you anticipate needing any type of accommodation or have questions about physical access, please notify me as soon as possible. A disability can be defined as “a physical or mental impairment that substantially limits one or more major life activities.” This includes a variety of invisible disabilities, including chronic physical and/or mental illness. I will work with you to make sure you can succeed in this class, and welcome you to use any necessary university resources to make your success possible.

Course Schedule

<u>Week</u>	<u>Topic & Activities</u> Reading and homework should be finished prior to class meeting	<u>Reading/Homework</u> *Indicates readings will be posted on Canvas
1	Why Science Communication? Speedy introductions	“Why Scientists Must Learn to Communicate with the Public”
2	The Spoken Word Impromptu speeches	Watch a TED Talk relating to science, preferably your field. Good examples: here and here
3	The Scientific Ethos Freewriting: who do you want to be?	“Extending the Mertonian Norms” ; “Nature on Research Integrity?” Segal & Richardson: “Scientific <i>Ethos</i> ” Miller: “The Presumptions of Expertise” Campbell: “Why Was Darwin Believed?” Excerpts from Walsh: <i>Scientists as Prophets</i> *
4	The Elevator Pitch Craft a pitch for someone else (And for yourself)	“Communication: Two Minutes to Impress”
5	Gender, Race, and Power in Science Watch clips from <i>Hidden Figures</i> ; Discuss academic & public power structures	“We Need to Do More for Women in Science” “Race, Ethnicity, and NIH Research Awards” “Facial Appearance Affects Science Communication” “This is Urgent: Black Scientists Matter”
6	Argumentation and Science Toulmin’s model & formal logic Mock debates	Watch or read : Bill Nye vs. Ken Ham
7	Audience Analysis and Adaptation Case studies in audience	“Understanding Audiences: Making Public Perceptions Research Matter to Marine Conservation”

8	Scientific Narratives Narrate your science	Darwin: <i>Origin of Species</i> * “Finding the Plot in Science Storytelling” “The Importance of Storytelling in Science”
9	Metaphors and Rhetorical <i>Techne</i> Metaphor exercises	Excerpts from Ceccarelli: <i>On the Frontier of Science</i> *
10	Reducing Jargon Workshop writing samples	Form pairs: assign an article to your partner to read and identify jargon within paper.
11	Media and Outreach Workshop op-eds	This Week's NYT Science Stories
12	Taking Part in Public Policy Craft collaborative pro/con report or legal brief	“Intelligent Design on Trial” Choose a Witness to Watch: “The State of Climate Change Science 2007”
13	Visualizing Science Create rough sketch of chart or infographic	“The Best Science Visualizations of the Year” “The 10 Best Science Images, Videos, and Visualizations of the Year” “How Science Visualization Can Help Save the World”
14	Popular Science: Critique and Praxis Watch Excerpts from <i>Cosmos: A Spacetime Odyssey</i>	Crichton: <i>The Andromeda Strain</i>
15	The Social Scientist Compose Tweet series, Facebook post, YouTube video, or blog post	Find a blog in your specialization, read it, and share it with your peers
16	Projects & Reflections Due	