“Rhetoric is useful (1) because things that are true and things that are just have a natural tendency to prevail over their opposites, so that if the decisions of judges are not what they ought to be, the defeat must be due to the speakers themselves, and they must be blamed accordingly. Moreover, (2) before some audiences not even the possession of the exactest knowledge will make it easy for what we say to produce conviction.”

—Aristotle

Course Description: In one sense, rhetoric and science seem antithetical. The former often refers to empty, deceitful or pretentious talk that reflects mere opinion, while the latter points to a systematic, objective encounter with the world that leads to reliable knowledge. However, in this course, you will discover that rhetoric is something more than it is typically understood to be (in that it includes both rational and affective communication practices), and science is something less (in that it is always infused with social and political influences). As an academic field of study, rhetorical inquiry reveals the means of persuasion used whenever people communicate. Insofar as scientists use language and visual displays to communicate with others, they select some aspects of reality to convey, and that deflects other aspects of reality from attention. Studying how scientists use rhetoric to communicate, and how nonscientists use rhetoric to argue about science and its effects in the public sphere, students in this class will discover the means of persuasion available to shape science, its products, and the relationship between both and the publics that surround them. Those who are considering a career in science will learn how to think critically about the internal and external discourse of science, improving their use of rhetorical tools in the process. Those who do not intend to become scientists will learn how to critically analyze the claims of science and respond thoughtfully and effectively to its potential influence on them in the modern world.

This is a writing intensive class, meaning that students who successfully complete it will receive “W” credit. It also satisfies VLPA and NW general education requirements.

Student Learning Goals:
1. Understand and critically evaluate scholarship on the rhetoric of science.
2. Identify, define and use rhetorical concepts in the analysis of communication about science.
3. Recognize and evaluate the means of persuasion that can be utilized by scientists in communicating with other scientists and/or the public.
4. Recognize and evaluate the means of persuasion that can be utilized by advocates critiquing or protesting against science and/or its consequences in the public sphere.
5. Write an original rhetorical criticism essay that contributes to the subfield known as “rhetoric of science.”

Required Texts: Readings linked to Honors 393A course web page at https://canvas.uw.edu/courses/1066177.
Final Grade Determination:

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<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
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<tr>
<td>Quizzes</td>
<td>30%</td>
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<tr>
<td>Text Choice Justification Paper</td>
<td>15%</td>
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<tr>
<td>Discussion Support Materials</td>
<td>5%</td>
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<tr>
<td>Draft Paper</td>
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<td>Final Paper</td>
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The grades you receive on assignments in this class will be determined according to a four point scale and then multiplied by the percentage that each assignment is worth to determine your final class grade. Assignments will be graded in 0.25 degree intervals (i.e., 4.0, 3.75, 3.5, 3.25, etc.). Papers must be turned in to the Canvas site as Word documents.

**Quizzes:** Because it is impossible to engage in a meaningful class discussion if you have not carefully read the material on which that discussion is centered, it is very important that you attend class ready to participate in the learning process. To reward you for making this preparation a priority in your busy schedules, there will be quiz questions at the beginning of class that assess how carefully you have read and thought about the assigned readings for that day. There may also be quiz questions at the end of a class to assess your comprehension of the class discussion. You will be allowed to use your own written or typed notes when taking quizzes (but not the readings themselves), as I will be testing your thoughtful engagement of the material, not your memory.

Please keep in mind that any day when there is a reading assignment, there is likely to be a quiz. However, when determining your final grade on the quizzes, I will drop your lowest two quiz scores. This means that you can have two days in which you miss quizzes, or do poorly on them, without experiencing any negative impact on your grade.

**Text Choice Justification Paper (4-5 pages; Due Friday Oct. 13 by 5 p.m.):** This will be the first part of the rhetorical criticism paper that you will be developing over the course of the quarter. Your text choice justification paper will identify the primary text that you plan to examine in your final paper, and justify your choice of that focal object by making a compelling argument that rhetorical criticism of it will make a significant contribution to an ongoing scholarly conversation. After reading your text choice justification paper, I should have a good sense of the interpretive puzzle or research question that you intend to answer through rhetorical analysis of this text, and why that puzzle or question is worthy of scholarly attention. You should use footnotes in Chicago Style; see the UW Library handout on this at [http://guides.lib.uw.edu/ld.php?content_id=17443417](http://guides.lib.uw.edu/ld.php?content_id=17443417). A sample text choice justification paper is available in the assignments section of the course website. If possible, you should include a link to an electronic copy of your primary text. If that’s not possible, please upload a PDF of your primary text along with your text choice justification paper. After approving your text choice, I will share your primary text with the rest of the class, and you will help to lead a class discussion about that text on a date assigned to you.

**Discussion Support Material (Due Date Variable):** For the day your text is assigned to the class, there are three things that you are expected to do to help me lead the class discussion on that day.

1) One week before the class period in which your primary text is assigned, you will turn in a short (2-3 sentence) **Reading Guide** that is designed to introduce your classmates to your primary text and the puzzle or research question that you are trying to answer, and guide their encounter with the text by telling them what to look for when reading it. This
should be similar in form to the short parenthetical preview that I’ve provided on the schedule when your reading assignment has included primary texts.

2) 24 hours before the class period in which the rest of the class is assigned to read your primary text, you will turn in at least one multiple choice Quiz Question that could be used to assess your classmates’ thoughtful reading of your artifact. I will use these to guide my construction of the quizzes on those class days.

3) During the class session that has been assigned to your text, you will begin the discussion with a 5 minute Presentation on your text (why you chose it, what you think is significant about it) that concludes with a question to your classmates that they can discuss in small groups for another 5 minutes or so. After the small group discussions, you and I will work together to lead a larger class discussion of your text. You should think about the time devoted to discussing your text in class as an opportunity to get help from your classmates as you put the finishing touches on your draft paper (see below).

Draft Paper (10-15 pages; Due Date Variable): A draft of your final paper is due 24 hours after the class period in which the rest of the class is assigned to read your primary text. A sample of what the final paper should look like is available in the assignments section of the course website.

Final Paper (10-15 pages; Due to Course Dropbox on Monday Dec. 11 by 8:30 a.m.): Your final paper will be a revision of your draft paper. It will be a scholarly paper employing rhetorical concepts to a focal object in or about science, to answer a significant interpretive puzzle or research question. I expect you to include this final paper in your honors portfolio. I hope that some of you will submit your papers to an undergraduate research conference.

Extra Credit (1 paragraph; Due to Course Dropbox on Monday, Oct. 30 by 5 p.m.): Jean Goodwin, a rhetoric of science scholar, will be giving a public lecture at the University of Washington on Friday, October 27, from 3:30-5p, in 120 CMU. If you attend her lecture and write a one paragraph report detailing what you learned from it, your grade on that report will count as extra credit for this course. If you are unable to attend the lecture because of a previous commitment (that you can document to me), you can view a video of the lecture and write your paragraph from that.

Code of Conduct: Most class meetings will include a great deal of class discussion. During these discussions, we will combine a spirit of cooperation with a commitment to critical thinking. The basic components of this ethic are listed below:

- I will try to make it comfortable for everyone to join in the discussion, but I need your help! Those of you who find yourselves speaking more often should pause for a few minutes so that others can join in the conversation; those of you who find yourselves not contributing should make a special effort to add your voice to the conversation.
- Everyone should be willing to help move the conversation forward by providing additional evidence to support other people’s claims or by providing counter-evidence that calls those claims into question. Requests for evidence to back claims that you make in class should not be taken as an attack on you or your opinion; instead, you should recognize it as part of the
collaborative learning process. Discussion only works when we actively and critically engage each other’s ideas.

Other Important Rules:

- There will be no makeup quizzes. If you have an illness or emergency that will cause you to miss more than two days of quizzes, contact me about it as soon as possible. If you have official university business that will take you out of town during class time (e.g., you are an athlete traveling for a game) you should speak to me before you leave. If given proper documentation, I can design alternative assignments on a case-by-case basis when emergency, extended illness, or official university business will result in missed quizzes.

- If you have a disability that will affect your learning in this class, please speak to me at once so we can make arrangements to adapt the course to your special needs.

- Plagiarism will not be tolerated. See http://depts.washington.edu/pswrite/plag.html for suggestions about how to avoid this form of academic dishonesty. I plan to use automatic plagiarism checking software on your submissions in this class.

SCHEDULE

How to read this schedule: The reading material under each day should be completed before class on that day and electronic or print copies should be brought with you to class. Some of these readings are scholarly essays on the rhetoric of science, others are primary texts that we will rhetorically analyze in class. The quizzes are not included in this schedule; quizzes can occur on any day when there is a reading assignment.

WEEK 1

Wed. 9/27 Orientation to the class

WEEK 2

Mon. 10/2 Internal rhetoric of science

Rhetorical Criticism:


Primary Text: (This is the text that Halloran analyzes. Do you see what he sees in the text? What other ways might we interpret the decisions made by Watson and Crick?)


Wed. 10/4 Interdisciplinary inspiration
Rhetorical Criticism:


Primary Text: (This text had the same purpose as Erwin Schrödinger’s, to get biologists and physicists to come together to study the physical aspects of the living cell, but he did not succeed the way Schrödinger’s did. What is it about the rhetoric of this text that contributes to Muller’s failure to inspire interdisciplinary collaboration?)


WEEK 3

Mon. 10/9  Genomics metaphors

Rhetorical Criticism:


Primary Text: (Are mixed metaphors for genomics being used by the speakers at this press conference, and if so, do they interact in the way that I hypothesized they would?)

Remarks by the President [Bill Clinton]; Prime Minister Tony Blair of England (via satellite); Dr. Francis Collins, director of the National Human Genome Research Institute; and Dr. Craig Venter, president and Chief Scientific Officer, Celera Genomics Corporation, on the completion of the first survey of the entire Human Genome Project. https://www.genome.gov/10001356/june-2000-white-house-event/

Wed. 10/11  Frontier metaphors

Rhetorical Criticism:


Primary Text: (What frontier metaphors does Collins use in this opinion editorial that he wrote for a Seattle newspaper, and do they help or hurt his case?)

**Text Choice Justification Paper Due Fri. 10/13, 5 p.m. to Course Dropbox**

**WEEK 4**

Mon. 10/16  Risk Communication Failures

*Rhetorical Criticism:*


*Materials to Read on L’Aquila Earthquake: (In what way were the communication failures of the experts in the L’Aquila case similar to, and different from, the communication failure of experts in the Challenger case? What is the responsibility of scientists in cases such as these?)*


Wed. 10/18  Science & Sex/Gender

*Rhetorical Criticism:*


**WEEK 5**

Mon. 10/23  Science & Racial Justice
Rhetorical Criticism:


Primary Texts on Yellow Rain Case: (What is the thesis of the podcast, what should have been done differently in telling the story, and where do power and justice lie in this case? In analyzing this material, pay particular attention to the interplay of ethos, pathos, and logos.)

http://www.radiolab.org/story/239549-yellow-rain/

http://www.hyphenmagazine.com/blog/archive/2012/10/science-racism-radiolabs-treatment-hmong-experience

http://www.radiolab.org/story/240029-yellow-rain/

http://www.radiolab.org/story/240899-robert-krulwich-yellow-rain/

Wed. 10/25  The Persuasive Efforts of Climate Scientists

Rhetorical Criticism:


WEEK 6

Mon. 10/30  Scientific Ethos in the Public Imaginary

Rhetorical Criticism:

https://ojs.uv.es/index.php/Metode/article/download/4472/7795
Primary Texts on George W. Bush’s Treatment of Scientists: (How does Bush characterize scientists in these three sample speeches?)


**Wed. 11/1 Discussion of Student Projects**

Divya Rane


Esaac Mazengia


Bianca Bonsol


Student presenters must turn in a *one paragraph reading guide* one week before class, at least one *multiple-choice quiz question* 24 hours before class, and a *draft paper* 24 hours after class.

**WEEK 7**

Mon. 11/6 Discussion of Student Projects

Kate Merifield

Maren Anderson


Stefan Layanto


Student presenters must turn in a *one paragraph reading guide* one week before class, at least one *multiple-choice quiz question* 24 hours before class, and a *draft paper* 24 hours after class.

Wed. 11/8 Discussion of Student Projects

Em Chapple


Alexis Taber


Aubry Matter


Student presenters must turn in a *one paragraph reading guide* one week before class, at least one *multiple-choice quiz question* 24 hours before class, and a *draft paper* 24 hours after class.

WEEK 8

Mon. 11/13 Discussion of Student Projects

Shannon Hu


Shah Yousuf

Elizabeth Kennedy


Student presenters must turn in a one paragraph reading guide one week before class, at least one multiple-choice quiz question 24 hours before class, and a draft paper 24 hours after class.

Wed. 11/15   CLASS CANCELLED

WEEK 9

Mon. 11/20   Discussion of Student Projects

Logan Young


Puja Trivedi


Trish Hoy
Robin Hanson, “What Would Happen If We Upload Our Brains to Computers?,” TED Talk, April 2017.

https://www.ted.com/talks/robin_hanson_what_would_happen_if_we_upload_our_brains_to_computers/transcript.

Student presenters must turn in a one paragraph reading guide one week before class, at least one multiple-choice quiz question 24 hours before class, and a draft paper 24 hours after class.

Wed. 11/22 Discussion of Student Projects

Jeff Taylor-Kantz & Murtaza Jafry


Mika Phillips


Student presenters must turn in a one paragraph reading guide one week before class, at least one multiple-choice quiz question 24 hours before class, and a draft paper 24 hours after class.

WEEK 10

Mon. 11/27 Discussion of Student Projects

Brendon Davis


Transcript: https://www.springfieldspringfield.co.uk/view_episode_scripts.php?tv-show=cosmos-carl-sagan&episode=s01e02

Video: https://www.youtube.com/watch?v=a7LjCiDYJqg&t=63s

**Dana Korssjoen**


[https://www.youtube.com/watch?v=XJp_x_9OVXw&t=8s](https://www.youtube.com/watch?v=XJp_x_9OVXw&t=8s)

**Megan Freer**

Fran Balkwill, *Have a Nice DNA* (Cold Spring Harbor Laboratory Press, 2002).

Link TBA

Student presenters must turn in a *one paragraph reading guide* one week before class, at least one *multiple-choice quiz question* 24 hours before class, and a *draft paper* 24 hours after class.

**Wed. 11/29  Discussion of Student Projects**

**Kimiam Waters**


**Claudia Penney**


Student presenters must turn in a *one paragraph reading guide* one week before class, at least one *multiple-choice quiz question* 24 hours before class, and a *draft paper* 24 hours after class.

**WEEK 11**

**Mon. 12/4  Self-Regulation of Genomic Science**

*Rhetorical Criticism:*


*Primary Texts on Genomic Manipulation:* (Contrast these two statements by scientists in different eras calling for restrictions on genetic engineering; focus in particular on subtle metaphors.)


[http://science.sciencemag.org/offcampus.lib.washington.edu/content/sci/348/6230/36.full.pdf](http://science.sciencemag.org/offcampus.lib.washington.edu/content/sci/348/6230/36.full.pdf)

Wed. 12/6  Science Advocacy in the Trump Era

Readings TBD

FINALS WEEK

**Final Paper Due Mon. 12/11, 8:30 a.m. to Course Dropbox**