COMM 7405: Rhetoric of Science

University of Utah, SPRING 2019
LNCO, Room 2630
Wednesdays, 2-5 p.m.

Professor: Dr. Robin E. Jensen
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Office Location: LNCO 2619
Office Hours: Monday/Wednesday 10:00 a.m.-11:00 a.m., and by appointment

Course description:

This course explores science communication through the lens of rhetoric. Readings and discussions will familiarize students with foundational and contemporary research on the "rhetoric of science," pulling out key status points, mapping topical foci and areas of emphasis, and highlighting theoretical concepts that have been developed and need further explication. Questions about what a rhetoric of science is, how to go about doing such work, and what the implications of that process are for researchers, scientists, and lay publics will be central to course deliberations. Students will engage each of the assigned readings by creating their own personalized annotated bibliographies and, by the end of the course, writing and presenting a conference-ready research article on an artifact of their choice.

Required texts:

Condit, C. M. (1999). *The meanings of the gene: Public debates about human heredity*. Madison:

University of Wisconsin Press.

Fahnestock, J. (2002). *Rhetorical figures in science*. New York: Oxford University Press.

Course articles and book chapters are available via the course Canvas page. Go to "files" and click on the "course readings" folder. Under "files" you will also find an updated copy of the syllabus. Please check the Canvas page regularly for course updates.

Assignments:

Assignment	*Percentage of Final Grade*	*Due Date*
Participation	20%	

Successful participation in this class consists of demonstrating to me and your fellow classmates that you are an engaged and thoughtful academic by:

(a) attending every class meeting from start to finish
(b) reading carefully and bringing detailed reading notes and questions to class
(c) engaging productively in each class meeting—that is, asking questions, raising issues, deliberating with others in the room
(d) listening and responding to others productively and charitably, and

(e) avoiding behaviors that block productive classroom conversation such as monopolizing discussion, remaining silent, sleeping, or whispering.

In addition, your participation grade will require that you:

(f) provide timely, substantive, and appropriate written and verbal feedback to your group members' writing samples on Feb. 6th and April 17th. At the end of the semester, each of your group members will turn in a short written evaluation of the feedback that you offered to them.

Paper Proposal 10% Feb. 3, 6, and 13

This is a three page proposal (not including references) that:

(a) identifies the major substantive and theoretical problematics and research question(s) you would like to explore,

(b) identifies the artifact(s) you propose to analyze and how you plan to procure them,

(c) proposes the rhetorical method/orientation that you will use to analyze the artifact (this should correspond with/make sense in light of the artifacts at hand),

(d) proposes (and justifies) the theoretical concept/theory/idea that you will be analyzing in your literature review and throughout the analysis (this last part will probably tie into your research questions), and

(e) provides a list of three publication outlets that you are targeting with this article.

Please use 12 point, New Times Roman font, 1 inch margins, and page numbers for all written assignments.

Annotated Bibliography 20% April 10

Create a one-paragraph entry for each of the articles and book chapters that we cover throughout the semester. Number each entry (you will need a total of 50 entries out of a possible 57). Each entry will begin with the source citation in APA style, followed by a detailed paragraph explicating the source's central arguments, theoretical concepts, typologies, and/or methodology. Be sure to highlight elements of each source that will help you in your current and future work. Feel free to include in-text page number references so that you know exactly where to go to locate specific information when you return to the annotated bibliography. Avoid quoting directly from the source. Instead, paraphrase the material in your own words. Each book chapter or article will count as one entry. When reading a book, each individual chapter (including introductions and conclusions) will count as one entry.

Conference Presentation 20% April 24

Present the findings of your paper in a conference-style presentation. This presentation should be 10-12 minutes in length, delivered extemporaneously (i.e., do not read your presentation), and employ technology with clarity and grace. Presenters will sit on panels with other presenters from the class and will engage in a question-answer session with the audience. In the Q&A session they should demonstrate a willingness to engage others' inquiries and a desire to further their projects with the feedback provided.

Final Paper_____ _30%_____April 14, 17, and 24_____
This is a 20-25 page (not including references, images, or figures) conference-submission ready paper that sees your project proposal into fruition. The paper should make a clear substantive and theoretical argument and include the follow sections:
(a) introduction (no more than two-to-three pages and should introduce your argument, provide a brief description of the artifact, and overview your conceptual/theoretical/historical interests and method of/orientation to rhetorical criticism),
(b) literature review,
(c) analysis of artifact (usually divided into about three sub-sections), and
(d) discussion/implications/conclusion section.
Your final draft will be evaluated on its content, style, editing, and intellectual contribution. You will need to note what conference and what journal you will be submitting to with this article.

Course grading rubric:

Students' course grade will be determined by the (weighted) average of the grades on the assignments. Each assignment will receive a percentage, which correspond with the following letter grades:

Test Grade	Letter Grade
93% and up	A
90% and up	A-
87% and up	B+
83% and up	B
80% and up	B-
77% and up	C+
73% and up	C
70% and up	C-
67% and up	D+
63% and up	D
60% and up	D-
59% and below	F

For example, a student who received an 83% (B) on Participation, a 90% (A-) on the Paper Proposal, a 77% (C+) on the Annotated Bibliography, a 91% (A-) on the Conference Presentation, and an 87% (B+) on the Final Paper would have a course average of 85.3%.

(83% × .20) + (90% × .10) + (77% × .20) + (91% × .20) + (87% × .30) = 85.3%

To convert the course average into a course grade, use the same scale as above. In this hypothetical student's case, the course grade would be a B.

Course policies:

Accommodation: If you need an accommodation based on the impact of having a disability, please contact me at the beginning of the semester to discuss how we can best support you. There

will be no content accommodations for this course. Please review the syllabus, readings, assignments, and materials to be sure that this is a course you wish to take.

Electronics/Media Policy: To foster an engaged and focused classroom environment, students are asked to silence all phones and other electronic devices during class. Laptop computers, iPads, and the like should be used for taking notes rather than e-mailing or searching the web. Violation of this policy will result in a final grade deduction or, in extreme cases, elimination from the course.

Citation style: Use the American Psychological Association 6th edition citation style for all class writing (a different citation style may be used if the journal to which one aims to submit requires it). Failure to adequately proof read assignments will result in a lowered grade.

Late work: Late work will not be accepted.

Plagiarism: Any student who deliberately or unintentionally plagiarizes will immediately receive a failing grade on the final assignment. Plagiarism is:

- Turning in someone else's work with or without that person's knowledge.
- Copying a paper from a source text without proper acknowledgment.
- Copying materials from a source text, supplying proper documentation, but leaving out quotation marks.
- Paraphrasing materials from a source text without appropriate documentation.
- Submitting the same work in more than one course without prior permission from both faculty members.

Save a copy of all your cited work; if there are questions or concerns about the authenticity of your work, you must have these readily available.

School-sponsored activities and religious holidays: If you have a school sponsored activity or religious holiday that conflicts with a class meeting, please contact the professor at the beginning of the semester to set alternative due dates and assignments.

Sickness and emergencies: If you are sick and cannot come to class (or you are faced with an unavoidable emergency or research-related activity such as a conference in which you are presenting), you will need to turn in a 3-5 page paper synthesizing the readings discussed that day to make up for the missed class time. The due date for this assignment will be the next class period and individuals must contact me BEFORE the missed class period to notify me of their intention to turn in this alternative assignment. Failure to turn in the assignment on time will result in a full letter grade deduction in participation credit for the class.

Course schedule:

Meeting One-January 9 **Course Introduction**

Harris, R. A. (2018). Introduction. In R. A. Harris (Ed.), *Landmark essays on rhetoric of science: Case studie*s (2nd ed., pp. 1-42). New York: Routledge.

Meeting Two-January 16 **Foundational Pieces**

Wander, P. C. (1976). The rhetoric of science. *Western Speech Communication, 40,* 226-235.

Goodnight, G. T. (2012). Public, private, and technical spheres of public argument: A speculative inquiry into the art of public deliberation. *Argumentation and Advocacy, 48,* 214-227. (originally published in 1982)

Gaonkar, D. P. (1993). The idea of rhetoric in the rhetoric of science. *Southern Communication Journal, 58,* 258-295.

Gross, A. G. (1994). The roles of rhetoric in the public understanding of science. *Public Understanding of Science, 3,* 3-24.

Campell, J. A., & Benson, K. R. (1996). The rhetorical turn in science studies. *Quarterly Journal of Speech, 82,* 74-109.

Condit, C. M., Lynch, J., & Winderman, E. (2012). Recent rhetorical studies in public understanding of science: Multiple purposes and strengths. *Public Understanding of Science, 21,* 386-400.

Meeting Three-January 23 **Scientists Addressing the Technical Sphere**

Halloran, S. M. (1984). The birth of molecular biology: An essay in the rhetorical criticism of scientific discourse. *Rhetoric Review, 3,* 70-83.

Gross, A. G. (1988). On the shoulders of giants: Seventeenth-century optics as an argument field. *Quarterly Journal of Speech, 74,* 1-17.

Wynn, J. (2007). Alone in the garden: How Gregor Mendel's inattention to audience may have affected the reception of his theory of inheritance in "experiments in plant hybridization." *Written Communication, 24,* 3-27.

Abeles, O. (2016). The agricultural figures of Darwin's evolutionary rhetoric. *Quarterly Journal of Speech, 102,* 41-61.

Meeting Four-January 30 **Rhetorical Figures in the Technical Sphere**

Fahnestock, J. F. (1999). *Rhetorical figures in science*. New York: Oxford University Press.

Meeting Five-February 6 **Project Proposal Draft Due for Peer Review**

Step One. Post a copy of your Project Proposal to canvas by **noon on Sunday (Feb. 3)**.

Step Two. Review your group members' proposals closely for issues of content and style. Be ready to offer a productive review of each paper in-class, and please supplement this review with written feedback for the author.

Meeting Six-February 13 **Scientific Professionalization**

Lessl, T. M. (1999). The Galileo legend as scientific folklore. *Quarterly Journal of Speech, 85,* 146-168.

Jack, J. (2009). A pedagogy of sight: Microscopic vision in Robert Hooke's Micrographia. *Quarterly Journal of Speech, 95,* 192-209.

Applegarth, R. (2012). *Rhetoric in American anthropology: Gender, genre, and science.* Pittsburgh, PA: University of Pittsburgh Press. (Introduction and Chapter One).

Endres, D., Cozen, B., O'Byrne, M., Feldpausch-Parker, A. M., & Peterson, T. R. (2016). Putting the U in carbon capture and storage: Rhetorical boundary negotiation within the CCS/CCUS scientific community. *Journal of Applied Communication Research, 44,* 362-380.

Project Proposal Due *Bring Paper Copy

Meeting Seven-February 20 **Scientists Speaking Beyond their Disciplines**

Reeves, C. (1992). Owning a virus: The rhetoric of scientific discovery accounts. *Rhetoric Review, 10,* 321-336.

Ceccarelli, L. (2001). *Shaping science with rhetoric: The cases of Dobzhansky, Schrodinger, and Wilson*. Chicago: University of Chicago Press. (Introduction and Chapter One)

Happe, K. E. (2013). The body of race: Toward a rhetorical understanding of racial ideology. *Quarterly Journal of Speech, 99,* 131-155.

Condit, C. M. (2018). The character of scientists in the Nobel Prize speeches. *Public Understanding of Science, 27,* 417-432.

Meeting Eight- February 27 **Conflict and Controversy**

Lyne, J., & Howe, H. F. (1986). "Punctuated equilibria": Rhetorical dynamics of a scientific controversy. *Quarterly Journal of Speech, 72,* 132-147.

Keränen, L. (2005). Mapping misconduct: Demarcating legitimate science from 'fraud' in the B-06 lumpectomy controversy. *Argumentation and Advocacy, 42,* 94-113.

Crick, N., & Gabriel, J. (2010). The conduit between lifeworld and system: Habermas and the rhetoric of public scientific controversies. *Rhetoric Society Quarterly, 40,* 201-223.

Ceccarelli, L. (2011). Manufactured scientific controversy: Science, rhetoric, and public debate. *Rhetoric & Public Affairs, 14,* 195-228.

Meeting Nine-March 6 **Science Policy Making**

Ceccarelli, L. (2004). Neither confusing cacophony nor culinary complements: A case study of mixed metaphors for genomic science. *Written Communication, 21,* 92-105.

Paroske, M. (2009). Deliberating international science policy controversies: Uncertainty and AIDS in South Africa. *Quarterly Journal of Speech, 95,* 148-170.

Walker, K., & Walsh, L. (2012). "No one yet knows what the ultimate consequences may be": How Rachel Carson transformed scientific uncertainty into a site for public participation in *Silent Spring*. *Journal of Business and Technical Communication, 26,* 3-34.

Johnson, J. (2016). "A man's mouth is his castle": The midcentury fluoridation controversy and the visceral public. *Quarterly Journal of Speech, 102,* 1-20.

Meeting 10-March 13 **Spring Vacation**

Meeting 11--March 20 **Overlaps in Technical and Public Science**

Gibbons, M. G. (2007). Seeing the mind in the matter: Functional brain imaging as framed visual argument. *Argumentation and Advocacy, 43,* 175-188.

Lynch, J. A. (2009). Articulating scientific practice: Understanding Dean Hamer's "Gay Gene" study as overlapping material, social and rhetorical registers. *Quarterly Journal of Speech, 95,* 435-456.

Jensen, R. E. (2015). Improving upon nature: The rhetorical ecology of chemical language, reproductive endocrinology, and the medicalization of infertility. *Quarterly Journal of Speech, 101,* 329-353.

Sidler, M. (2015). The chemistry liveblogging event: The web refigures peer review. In A. G. Gross & J. Buehl (Eds.), *Science and the Internet: Communication knowledge in a digital age* (pp. 99-116). New York: Baywood Publishing Company.

Meeting 12--March 27 **Public Discourses of Science**

Condit, C. M. (1999). *The meaning of the gene: Public debates about human heredity*. Madison: University of Wisconsin Press.

Meeting 13--*April 3* **Public Representations of Science**

Mechling, E. W., & Mechling, J. (1995). The atom according to Disney. *Quarterly Journal of Speech, 81,* 436-453.

Paul, D. (2004). Spreading chaos: The role of popularizations in the diffusion of scientific ideas. *Written Communication, 21,* 32-68.

Johnson, D. (2008). Psychiatric power: The post-museum as a site of rhetorical alignment. *Communication and Critical/Cultural Studies, 5,* 344-362.

Von Berg, R. (2012). Decades away or *The Day After Tomorrow*? Rhetoric, film, and the global warming debate. *Critical Studies in Media Communication, 29,* 7-26.

Meeting 14--*April 10* **Vernacular Science and Culture**

Xiao, X. (2004). The 1923 scientistic campaign and Dao-discourse: A cross-cultural study of the rhetoric of science. *Quarterly Journal of Speech, 90,* 469-492.

Lessl, T. M. (2007). The culture of science and the rhetoric of scientism: From Francis Bacon to the Darwin fish. *Quarterly Journal of Speechy, 93,* 123-149.

Kinsella, W. J., Kelley, A. R., Autry, M. K. (2013). Risk, regulation, and rhetorical boundaries: Claims and challenges surrounding a purported nuclear renaissance. *Communication Monographs, 80,* 278-301.

Wynn, J. (2017). *Citizen science in the digital age: Rhetoric, science, and public engagement*. Tuscaloosa: University of Alabama Press. (Chapters 2 and 3)

DUE: Annotated Bibliography uploaded to Canvas by the beginning of class time (1:00 p.m.)

Meeting 15--*April 17* **Final Paper Draft Due for Peer Review**

Step One. Post a copy of your Final Paper to canvas by **noon on Sunday (April 14)**.

Step Two. Review your group members' proposals closely for issues of content and style. Be ready to offer a productive review of each paper in-class, and please supplement this review with written feedback for the author.

Meeting 16--*April 24*

Due: Final Paper (please bring a paper copy) and Conference Presentations