

**WRITING FOR SCIENCES AND TECHNOLOGY**  
**WRIT 566-001**  
**SPRING 2016**

**Critical Analysis of Science Report**

**Due**

- Peer-review draft: March 10, 10:00 PM
- Peer-reviews: March 22, 5:00 PM
- Instructor-review draft: March. 28, 10:00 PM

**General Assignment**

To date our focus has been on the rhetoric of science, in understanding how scientific and technical writing is rhetorical, and how scientists and engineers make use of rhetoric to produce effectively persuasive discourse designed to meet the needs of their audience in a given situation. As Charles Bazerman argues in *A Rhetoric of Literate Action*, Vol. 1 and in “What Written Knowledge Does,” effective communication exists within activity systems that have their own specific forms of historically situated discourse designed to carry out specific functions for specific occasions, what we know as genres.

As scientific and technological fields are driven by research that is typically shared through writing, it is important to learn how to analyze scientific and technical writing within the context of its genre, both to evaluate the quality and usefulness of existing published research and to learn the genre conventions necessary to effectively meet your own communication needs.

In this assignment, you will analyze and report on the genre conventions and rhetorical strategies used in one of two different forms of scientific and technological writing: a report published in the 2014 *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* or a successful National Science Foundation Doctoral Dissertation Improvement Grant Proposal.

**Objectives**

- Practice analyzing and evaluating scientific writing
- Outline genre-specific conventions of an example of effective scientific writing
- Survey and learn from the rhetorical strategies of scientific writing
- Learn how to successfully target a conference proceeding’s Call for Participation (CFP) or a grant-funding organization’s Request for Proposals (RFP)
- Practice rhetorical conventions and compositional strategies that we have covered to date, including analyzing audience and aims, revision and document design.

**General Requirements**

You will write a multi-sectioned report totaling several pages. The sections and their requirements are explained in the **Tasks** section below. Please use headings and subheadings to distinguish sections and help with readability. Keeping in mind that this is a 500-level writing-intensive course, your report should reflect the conventions of good academic writing, including the appropriate use of summary, paraphrase, quotation, and citation of sources.

**Getting Started**

To get started, you will need to choose whether you wish to analyze a report published in the 2014 *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* or a successful National

Science Foundation Doctoral Dissertation Improvement Grant Proposal. The two texts, both of which are required readings for Week 7, are:

- Qi, Jie, and Leah Buechley. "Sketching in Circuits: Designing and Building Electronics on Paper." *CHI '14: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. April 26 - May 1, 2014. Toronto, Ontario, Canada. 2014. 1713-1721.
- Nathan Lemoine's National Science Foundation Doctoral Dissertation Improvement Grant Proposal.

## Tasks

### *Section One: Addressing the CFP/RFP*

Read and analyze the CFP (for Qi and Buechley's "Sketching in Circuits") or RFP (for Lemoine's DDIG Proposal) to which your chosen text responds. Write a summary that identifies the major goals and criteria in the CFP/RFP and then identifies where and how your chosen text addressed those goals and criteria. Cite examples from the report or proposal.

For Qi and Buechley's CFP, please see the Association of Machine Computing's 2014 Conference on Human Factors in Computing Systems CFP for Notes & Papers, available at <http://chi2014.acm.org/authors/papers-notes>. For more information on the conference itself, see <http://chi2014.acm.org/>.

For Lemoine's RFP, please see the NSF Doctoral Dissertation Improvement Grants in the Directorate for Biological Sciences Request for Proposals, available at [http://www.nsf.gov/publications/pub\\_summ.jsp?WT.z\\_pims\\_id=5234&ods\\_key=nsf13568](http://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=5234&ods_key=nsf13568).

### *Section Two: Summary and Analysis of Organization*

In this section, you will first summarize and then analyze the organization of your chosen text. Each of these two tasks should be presented as two different subsections.

- Subsection One: *Organizational Summary*: Using separate paragraphs, identify and summarize each major section of your chosen text. Use subheadings to identify each of your paragraphs. For instance, Qi and Buechley's report begins with an Abstract followed by an Introduction, and so on. For Lemoine's grant proposal, begin with the Project Summary section, then the Table of Contents, and on through the Data Management Plan. Each paragraph should identify what was contained in that section of the report or proposal.
- Subsection Two: *Analysis of Organization*: After you have summarized each section, write an additional few paragraphs analyzing the reasons as to why the report or proposal is organized the way it is. Keep in mind that as successful examples of scientific writing both conform to their specific genre conventions, so the question is not whether or not they are organized well but why the genre conventions dictate that they be organized as they are.

### *Section Three: Crafting Rhetorical Appeals*

Read and analyze the rhetorical appeals of the successful report or proposal. How did the author(s) use logical, ethical, and emotional appeals? In what sections do you find each of these appeals? How did the author(s) present their ethos? How and where do the authors or author build ethos for the project? How may the author or authors target the needs, concerns, values, and/or social conventions of the audience? What kind of tone do the author or authors present? What level of expert/non-expert knowledge have they presumed the audience may have? What kind of content do the author or authors define and explain for an unfamiliar audience? Keep in mind that information from chapters 11 and 13 of *The MIT Guide to Science and Engineering Communication* will be relevant here. Cite specific examples from the report or proposal.

#### *Section Four: Crafting Arguments*

Read and analyze the argumentative claims used in your chosen text. Summarize the arguments; identify if you can whether they are arguments of fact, of value, or of policy; and explain where they appear in the text and the kinds of evidence used to support them. Do you find that particular kinds of arguments seem to predominate in different sections of the text?

#### *Section Five: Lessons Learned*

Given what you have learned about targeting the CFP or RFP, crafting rhetorical appeals and arguments, write a few paragraphs explaining how you might use genre analysis and similar rhetorical strategies and arguments when composing your own report or grant proposal.

#### **Format**

Keeping in mind the required sections above, your report should adhere to the general guidelines for the citation system of your choice.

#### **Peer-review Draft**

Your peer-review draft should be a complete, revised, and edited draft of your project.

Please submit your peer-review draft via Blackboard using the File Exchange tool to within your assigned Critical Analysis of Science Peer-review Group.

#### **Instructor-review Draft**

Based upon your peer-review, revise your project at least once. Please submit your essay as an attachment via the Assignments tool in Blackboard.

#### **Acknowledgments**

This assignment is modeled upon Dr. Patricia Fancher's Rhetorical Analysis of Grant Proposal and Critical Analysis of Science assignments used at the University of California, Santa Barbara.