Course Inventory Change Request

New Course Proposal

Viewing: COMS 422 : Rhetorics of Science, Technology, and Medicine

Changes proposed by: lkolodzi

Date:	Friday, September 18, 2015		
Proposer	Name: Lauren Kolodziejski	Email: lkolodzi@calpoly.edu	
Telephone: 6-2535			
Subject	COMS	New subject area? No	
Department	Communication Studies (688-COMS)		
College	College of Liberal Arts		

General Information

Requested Start Term: Spring 2016

Course Title
Rhetorics of Science, Technology, and Medicine

Short Course Title (displays in transcripts and the class schedule)
Rhetoric of Science

Catalog Number: 422

Course Description
Examination of rhetorical strategies and persuasive techniques used within scientific, technical, and medical discourses. Topics include genre features of scientific articles, rhetorical topoi in scientific discourse, pop-culture depictions of science, the scientific ethos, and risk communication. 4 lectures. Prerequisite: Completion of GE Area A and junior standing.

Is the course crosslisted? N

Is this a replacement course? N

Will course be taught on or off campus?
onsite

Does the course have field trips?
No

Course Requirements

Requisites

Type	Course	Justification
prereq	Completion of GE Area A	To ensure that students have had some exposure to communication/rhetoric before enrolling in this course.

Are there Non-course Requirements for Enrollment? Yes

Non-course Requirements for: Junior standing

Completed Workflow

1. 688-COMS Curr Chair
2. ASCC Chair
3. Catalog Editor
4. PeopleSoft

Approval Path

1. 10/02/15 8:46 pm Bernard Duffy (bduffy): Approved for 688-COMS Curr Chair
2. 10/02/15 8:53 pm Bernard Duffy (bduffy): Approved for 688-COMS Chair
3. 10/12/15 4:00 pm Gregory Bohr (gbohr): Approved for 48-CLA Curr Chair
4. 10/13/15 8:52 pm Debra Valencia-Laver (dlvalenc): Approved for 48-CLA Assoc Dean
5. 10/22/15 3:53 pm Gregory Bohr (gbohr): Rollback to 688-COMS Curr Chair for ASCC Chair
6. 10/26/15 1:27 pm Jnan Blau (jablau): Approved for 688-COMS Curr Chair
7. 10/26/15 2:40 pm Brian Self (bself): Approved for ASCC Chair
8. 11/19/15 12:07 pm Pam Bleisch (pbleisch): Approved for Catalog Editor
9. 11/21/15 4:10 am *system*: Approved for PeopleSoft

History

1. Nov 21, 2015 by Lauren Kolodziejski (lkolodzi)

Enrollment	
Justification	This class was created as an upper division elective so students should have upper classman standing to enroll.

Units per mode of instruction:	Lecture:	Laboratory:	Activity:	Seminar:	Supervision:	Discussion:
	4	0	0	0	0	0

Total Units:	4
Grading Type	OPT
Is course repeatable for multiple credit?	N
Is this course to be taught with specific subtitles (e.g. ENGL 349 British Writers)?	N

Purpose of the Course

This is a required course	N
This is an elective course	Y
Specify name(s) of major, concentration, minor, certificate, or graduate program:	Communication Studies Major, Communication Studies Minor
Attach memos of support from other departments adding the proposed course to their curriculum.	
This course is used in the following credential program(s):	

Briefly explain the need for this course:

The study of rhetoric of science, technology, and medicine is a burgeoning subfield within rhetorical studies. For students seeking employment in the fields of science, technology, or medicine, this course along with the existing Science Communication course provides specialized knowledge and analytical skills that should enhance both employment prospects and job performance. It will also offer Communication Studies majors an additional upper division elective that develops research, critical thinking, and writing skills essential to the completion of senior projects. The Rhetorics of Science, Technology, and Medicine course fits nicely within the curriculum of the new Science, Technology, and Society minors, in particular the Science and Risk Communication minor. The course is anticipated to be a logical addition to the elective list in one or more of the STS minors.

Describes how the course will help students, advance their career goals, and fits into the STS minor

Indicate which of the following University Learning Objectives (ULOs) will be supported by the course:

- Think critically and creatively
- Communicate effectively
- Demonstrate expertise in a scholarly discipline and understand that discipline in relation to the larger world of the arts, sciences and technology
- Work productively as individuals and in groups
- Use their knowledge and skill to make a positive contribution to society
- Make reasoned decisions based on understanding of ethics, a respect for diversity, and an awareness of issues related to sustainability
- Engage in lifelong learning

Program Learning Objectives

COMS-BA

PLO 1 Enhanced critical thinking ability.

PLO 2 Enhanced competency in written communication.

PLO 3 Enhanced competency in oral communication.
PLO 4 Enhanced conversation management skills in interpersonal settings.
PLO 5 Enhanced competency in small group settings, both as leader and participant.
PLO 6 Enhanced ability to develop effective message patterns in organizational settings.
PLO 7 Increased understanding of the importance of ethics and values in human communication.

Other Learning Objectives

Is this a General Education Course? N

Is this a United States Cultural Pluralism Course? N

Course Learning Objectives and Assessment Methods

List the learning objectives for this course (e.g. what should students know or be able to do after taking this course) and the assessment method that will be used to collect direct evidence of student achievement of each learning objective. Consult the Associate Dean in your college about assessment resources.
Also, refer to the above program learning objectives (PLOs) and indicate which ones are supported by each course learning objective. Listing PLO numbers will suffice (e.g. PLO 1, PLO2). If the course is being proposed for General Education, indicate the GE educational objectives and criteria supported by the course (e.g. GE C3 EO 1, 2, 3, 6 and CR 2, 5).

Course Learning Objective	Assessment Method	Program Learning Objective
Describe how scientific discourse is rhetorical and discuss why rhetoric is a useful perspective for studying science	1) Reflection essay (10% of grade): Students will compose a 4-5 page reflection essay that responds to the prompt: Define what "rhetoric of science" means and describe the aims of rhetoric of science as a field of study.	PLO 1 PLO 2 PLO 7
Discuss the development of rhetoric of science as an academic field of study	1) Class Discussion/Participation (8% of grade): Students will be graded on their engagement and participation in the class, which will be based on their willingness to take part in class conversations and activities as well as their level of preparation for class work; discussions will typically feature a review and evaluation of readings while application activities will ask students to model the rhetorical analysis work from the readings with new sample texts. 2) Final Exam (37% of grade): Exam will feature a mixture of recall and application style questions that ask students to compare and contrast concepts, theories, and readings studied in class	PLO 1 PLO 2 PLO 3 PLO 4 PLO 7
Explain rhetorical concepts and relevant theories in the analysis of communication about science	1) Reading Quizzes (8% of grade): Quizzes will feature 5-6 questions about assigned readings; questions are designed to test reading comprehension and generate class discussion 2) Class Discussion/Participation (described above) 3) Final Exam (described above)	PLO 1 PLO 2 PLO 3 PLO 4 PLO 5 PLO 7
Identify and assess the means of persuasion used by scientists when communicating with other scientists, government officials, and/or the public	1) Science Popularization Case Study (12% of grade): In small groups, students will compare and contrast a research article reporting an original study with mass media coverage of that study; students will produce a 3-5 page written report and deliver a 10 minute oral presentation that relays the results of this comparative study to the class. 2) Reading Quizzes (described above) 3) Class Discussion/Participation (described above) 4) Final Exam (described above)	PLO 1 PLO 2 PLO 3 PLO 4 PLO 5 PLO 6 PLO 7
Identify and evaluate the means of persuasion used by advocates critiquing or protesting against science and/or its consequences in the public sphere	1) Reading Quizzes (described above) 2) Class Discussion/Participation (described above) 3) Science Popularization Case Study (described above) 4) Final Exam (described above)	PLO 1 PLO 2 PLO 3 PLO 4 PLO 5 PLO 6 PLO 7
Apply appropriate theories and rhetorical concepts to	Final Paper/Project (25% of grade): The project could be a rhetorical criticism paper but could also include alternative methods for studying scientific	PLO 1 PLO 2

Good use of Bloom's verbs in the CLOs. Note that there are several higher order verbs used, which is appropriate for a 300 level course

Detailed discussion of assessment techniques (doesn't need to be this in-depth, but is helpful for reviewers); different assessment methods for each CLO.

analyze and evaluate a contemporary or historical instance of scientific discourse.	discourse (such as conducting a mini ethnography of a lab or scientific department on campus). In the paper/project, students will select a case study of scientific discourse to analyze and evaluate by using concepts covered in class. Students will complete a 2-4 page proposal by week 4; students will complete a rough draft by week 8 and engage in a process of peer review in order to complete the final version of the paper/project by Week 10.	PLO 6 PLO 7

Expanded Course Content

Provide a detailed outline of the content for this course:

Week	Readings Or Assignments	Discussion	Lab Experiments, Activity
Week 1, Day 1	• Thomas Kuhn. The Structure of Scientific Revolutions. (1962/2012), excerpt	An exploration of the rhetorical turn and a discussion of how it laid the groundwork for a rhetoric of science subfield to develop. We will examine concepts that were particularly influential in sparking interest in studying the rhetoric of science.	Class Discussion
WEEK 1, DAY 2	• Wander, Philip C. "The Rhetoric of Science." Western Speech Communication 40, no. 4 (1976): 226-235. • Gross, Alan, "The Kind of Rhetoric That Science Is," in Staring the Text. Carbondale, IL: Southern Illinois Press, 2006.	An overview of early works laying out the possibilities for and defining the boundaries of the emerging rhetoric of science subfield	Reading Quiz, Class Discussion
WEEK 3	• Fahnestock, Jeanne, "The Rhetoric of the Natural Sciences" (175-90) from the Sage Handbook of Rhetorical Studies • Ceccarelli, Leah, "Rhetorical Criticism and the Rhetoric of Science," Western Journal of Communication 65 (Summer 2001): 314-29.	A bird's-eye view of the field to understand what makes rhetoric of science distinct from the larger discipline as well as what a rhetoric of science perspective adds to other Science and Technology Studies work.	Reading Quiz, Class Discussion, Reflection Essay
WEEK 4	• Scott Montgomery, "The Cult of Jargon: Reflections on Language in Science," in The Scientific Voice. The Guilford Press: New York, 1995. • Swales, John, "Research Articles in English" excerpt from Genre Analysis (137-161, 166-176) • Kolodziejski, Lauren. "Harms of Hedging in Scientific Discourse: Andrew Wakefield and the Origins of the Autism Vaccine Controversy." Technical Communication Quarterly, 23.3 (2014): 165-183.	An exploration of rhetorical studies that have focused on the quintessential form of communication within the fields of science, technology, and medicine: the research article.	Reading Quiz, Class Discussion, FInal Project Proposal due
WEEK 5	• Gronnvoll, Marita & Landau, Jamie (2010): From Viruses to Russian Roulette to Dance: A Rhetorical Critique and Creation of Genetic Metaphors, Rhetoric Society Quarterly, 40:1, 46-70. • Wilson, James C. "Evolving	A look at some scholarship that examines the presence of traditional rhetorical devices in scientific discourse. We will evaluate scholars' arguments regarding how the use of these rhetorical strategies influences understanding and shifts the possible	Reading Quiz, Class Discussion

List textbook, papers, websites

List topics that will be discussed during the week (some break it down by class session)

Describe the lab or other activity that you will do during the class/laboratory

	Metaphors of Disease in Postgenomic Science: Stigmatizing Disability," Rhetoric Review 22.2 (2003): 197-202. • Lynch, John. "Making Room For Stem Cells: Dissociation And Establishing New Research Objects." Argumentation & Advocacy 42.3 (2006): 143-156. Communication & Mass Media Complete. Web. 12 Sept. 2012. • Miller, Carolyn R. "Opportunity, Opportunism, and Progress: Kairos in the Rhetoric of Technology," Argumentation, 8 (1994): 81-96.	meaning of scientific and technical information.	
WEEK 6	• Paul, Danette "Spreading Chaos: The Role of Popularizations in the Diffusion of Scientific Ideas," Written Communication, 21.1 (2004): 32-68. • Gibbons, Michelle G. "Seeing the Mind in the Matter: Functional Brain Imaging as Framed Visual Argument," Argumentation and Advocacy, 43.3-4 (2007): 175-188.	An examination of what means of persuasion are utilized when presenting scientific findings to public audiences.	Class Discussion, Science Popularization Case Study
WEEK 7	• LaFollette, Marcel, "Characteristics of the 'Men of Science'" and "Women in the Laboratories" in Making Science Our Own: Public Images of Science, 1910-1955. Chicago: University of Chicago Press, 1990. • Ceccarelli, Leah, "The Frontier Metaphor in Public Speeches by American Scientists," in On the Frontier of Science: An American Rhetoric of Exploration and Exploitation. East Lansing, MI: Michigan State University Press, 2013. • Walsh, Lynda, "Climate Change and the Technologies of Prophecy," in Scientists as Prophets: A Rhetorical Genealogy. Oxford: Oxford University Press, 2013.	A turn to thinking about public perceptions of the scientific enterprise and those who work in the field.	Reading Quiz, Class Discussion
WEEK 8	• Segal, Judy and Richardson, Alan. "Scientific Authority: Ethos, Authorship, and Trust in Sciences," Configurations 11.2(2003): 137-142. • Hartelius, Johanna E., "Clinical Depression: The Rhetoric of Medical Expertise," in The Rhetoric of Expertise, Lanham, MD: Lexington Books, 2010. • Majdik, Zoltan. "Judging Direct-to-Consumer Genetics: Negotiating Expertise and Agency in Public Biotechnological Practice." Rhetoric & Public Affairs 12.4 (2009): 571-605.	An examination of what rhetoricians of science have found regarding the functioning of ethos and appeals to expertise within scientific discourse.	Class Discussion, Final Paper/Project Rough Draft Due

WEEK 9	• Schwartzman, Roy, Ross, Derek G., and Berube, David M. "Rhetoric and Risk," POROI, 7.1 (2011): Online. • Ayotte, Kevin, J. "A Vocabulary of Dis-ease: Argumentation, Hot Zones, and the Intertextuality of Bioterrorism." Argumentation and Advocacy, 48 (Summer 2011): 1-21. • Hall, Z.; Kice, Brent; and Choi, Jinbong (2012) "Damage Control: Rhetoric and New Media Technologies in the Aftermath of theBP Oil Spill," Poroi: Vol. 8: Iss. 1.	Exploration of scientific discourse around a particular subject—risk.	Reading Quiz, Class Discussion, Peer Review
WEEK 10	• Gaonkar, Dilip P., "The Ideas of Rhetoric in the Rhetoric of Science," Southern Communication Journal, 58.4 (1993): 258-295. • Depew, David, and Lyne, John, "The Productivity of Scientific Rhetoric." POROI, 9.1 (2013). Online. • Fahnestock, Jeanne, "Promoting the Discipline: Rhetorical Studies of Science, Technology and Medicine." POROI, 9.1 (2013). Online • Miller, Carolyn, "Audiences, Brains, Sustainable Planets, and Communication Technologies: Four Horizons for the Rhetoric of Science and Technology." POROI, 9.1 (2013). Online.	As a wrap up to the course, a discussion of some of the criticisms leveled against rhetoric of science scholarship as well as the projected trajectory of this subfield as envisioned by those scholars currently participating in this area of study.	Class Discussion, Final Project
WEEK 11	Final Exam	EXAM PERIOD	Final Exam

Final Assessment

Final assessments for 1-unit courses, labs, and activities occur during the regularly designated meeting time in the last week of instruction. Final assessments for all lecture and seminar courses (other than 1-unit courses) occur during the scheduled final assessment period ('finals week').

What will be the method for final assessment for this course? Final exam (a comprehensive exam that will feature a mixture of recall and application style questions that ask students to compare and contrast concepts, theories, and readings studied in class)

Will the final assessment occur during the designated time period? yes

Consultation

List all courses that already cover any significant part of the planned content/learning objectives of this course either within the department or from other departments. Explain why duplication of subject matter is necessary. Please talk with any other department with which there will be significant duplication.

COMS 395 Science Communication
COMS 418 Health Communication

Please explain the duplication in subject matter and why it is necessary: The Rhetorics of Science, Technology, and Medicine course will touch on a similar subject matter (scientific and technical communication) as the Science Communication and Health Communication courses, but it discusses a different approach to studying that subject. The Rhetorics of Science, Technology, and Medicine course content will focus on a subfield within the larger field of rhetoric. Science Communication is a multidisciplinary course, examining scholarship from communication, journalism, and other related Science and Technology Studies fields. Health Communication focuses on social scientific approaches to studying health communication contexts. Additionally, the Rhetorics of Science, Technology, and Medicine course will

cover a broader range of contexts, studying discourse related to science, technology, and medicine, whereas Health Communication focuses on the specific context of health. The Rhetorics of Science, Technology, and Medicine course learning objectives focus on developing students' critical thinking and writing skills by asking students to analyze and evaluate different modes of scientific discourse to understand the various rhetorical means utilized. Thus students will enhance their familiarity with rhetorical terms and concepts while also deepening their understanding of science as a cultural practice. The Science Communication course may touch on rhetoric of science scholarship but only briefly, while the Rhetorics of Science, Technology and Medicine course considers such scholarship in-depth. Both courses should attract students from other disciplines and colleges.

Use the memo template for consultation with other departments offering any of the above listed courses. Attach signed memos to the proposal.

Discuss overlap with other courses, particularly those outside of your department. When in doubt, obtain a consultation memo from them.

Course Delivery and Resources

Estimated number of students in one section of this course:	Lecture/Seminar: 28	Lab/Activity:				
Estimated number of Lecture/Seminar sections to be offered:	Fall:	Winter:	Spring: 1	Summer:	Total: 1	

Which is the **primary** format in which the course is intended to be taught:	In Person
Does this course require new equipment?	no
Does this course require new supplies?	no
Indicate type of teaching environment needed:	Lecture
Indicate the names of faculty members who will initially teach the course.	Lauren Kolodziejski, Richard Besel
Will staff resources be required to support the course?	no
Does this course require new computer facilities and/or software?	no

Instructional Materials and Information Technology Accessibility

"It is the policy of the CSU to make information technology resources and services accessible to all CSU students, faculty, staff and the general public regardless of disability." (EO 926)

The CSU Accessible Technology Initiative requires that new course content, including instructional materials and websites, be designed and authored to be accessible to all students.

Please review the Accessible Instructional Materials Checklist for Cal Poly Faculty and related links to understand what this means as you develop your course content.

Take advantage of the Center for Teaching and Learning technology support tutorials, workshops and other services and the CSU Professional Development for Accessible Technology resources.

I have reviewed the information and I understand what is expected. Yes

If you still have questions or need any assistance, email the Electronic and Information Technology Campus Compliance Officer or telephone 805-756-5538.

Supporting Documents	COMS 422 MOU_Lehr.pdf
Course Reviewer Comments	**dlvalenc(10/01/15 7:22 pm):** Rollback: After review by both the CLA Curriculum Chair and the CLA Associate Dean, the following updates are requested. In the description, preferably it would not say "topics may include;" maybe change to "topics include…"(?) so as not to suggest that this should be a selected topics course. The last CLO is more of an activity/assessment. The LO here is more along the lines of "Apply appropriate theories and rhetorical concepts to analyze and evaluate current (real-world? existing?) scientific discourse." The final assessment response should be 'yes' – a scheduled (comprehensive?) exam during finals week meets the requirement. Please include COMS 418 - Health Communication as another course where there might be overlap, explaining why or why not that is the case. Nice course overall! **gbohr(10/22/15 3:53 pm):** ASCC comments: The course description is longer than the 40 word maximum. Please revise to fit within the standard and resubmit by Wednesday, October 28 (so it can be approved by ASCC in time to be on the next Senate consent agenda). Overall, this is an excellent proposal! As we move into the new Catalog cycle we are looking for good proposals to share as examples; would you mind if we use this one as an exemplar of good course development and presentation? **gbohr(10/22/15 3:53 pm):** Rollback: Please see ASCC comments at bottom of proposal. **solivas(10/27/15 12:55 pm):** Made slight edits to course description, e.g. added lecture mode and prerequisite.

Key: 4990