



JOUR 6315 Special Topics The Science of Science Communication

M/W 4:20pm to 5pm
Fall 2017

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Course Summary

The science of science communication is an emerging, multidisciplinary field that investigates the processes that enable individuals to form beliefs consistent with the best available scientific evidence, the conditions that inhibit the formation of such beliefs, and the strategies that can be employed to avoid or ameliorate such conditions. Objectives for this course will be understanding the role of science communication in society, identifying the challenges for communicating science information, and becoming familiar with current debates and discussions about the science of science communication. Students will complete a science journalism project and have the choice between writing a comprehensive review/theory paper or a research proposal for the final project that focuses on the topics covered in this course.

Expected Learning Outcomes

KNOW	<ul style="list-style-type: none"> The student will become familiar with the challenges of communicating science information and the current debates and discussions about the science of science communication.
UNDERSTAND	<ul style="list-style-type: none"> The student will understand the role of governments, industry, academia, and other stakeholders in the process of science. The student will identify common misconceptions associated with science and science communication.
APPLY	<ul style="list-style-type: none"> The student will apply best practices for two styles of writing: academic writing and science journalism.
ANALYZE	<ul style="list-style-type: none"> The student will explain what is done well and what isn't done well in different types of science writing.
EVALUATE	<ul style="list-style-type: none"> The student will give feedback on peers' writing and determine how best to incorporate peer feedback into his/her own writing.
CREATE	<ul style="list-style-type: none"> The student will produce two written works for potential publication.

Reading Materials

This class will use readings and videos from multiple sources including the following:

[The Oxford Handbook of the Science of Science Communication \(2017\)](#)

Jamieson, K. H., Kahan, D. M., & Scheufele, D. A. (eds)

[The Science of Science Communication I \(2013\)](#)

Proceedings of the National Academies of Sciences. vol 110, sup 3. Fischhoff, B. & Scheufele, D. A. (eds).

[The Science of Science Communication II \(2014\)](#)

Proceedings of the National Academies of Sciences, vol 111, sup 4. Fischhoff, B., & Scheufele, D. A. (eds).

[Communicating Science Effectively: A Research Agenda \(2017\)](#)

National Academies of Sciences, Engineering, and Medicine. (2017).

Most of the readings are available to students for free online and via the campus library. I will post many of them on the Blackboard site. Unfortunately, the Oxford Handbook of the Science of Science Communication is

not yet available in the library. You can purchase the hardcover or a kindle version [here](#). I have one copy I can loan to a student.

Assessment Methods

Grades for this course will be assigned as follows: 25% contribution to class discussions, 25% science journalism assignment, and 50% research paper.

Research Paper

All students are required to write a research paper that is relevant to one of the areas or themes covered in class. Students can choose between writing an empirical paper using an existing data set or a review/commentary/discussion piece. The goal of this assignment is for students to have developed a paper that they can submit for presentation at a conference and/or publication to a peer-reviewed journal.

All proposal papers should follow APA guidelines; although formatting for the final draft may vary depending on the type of paper and the targeted outlet for publication.

Science Journalism Assignment

All students are required to do one of the following assignments:

- Update or create a new Wikipedia page on a topic covered in this course;
- Write a blog post relevant to this course; or
- Compose an article for a journalistic outlet (e.g., the Conversation; although students are not required to actually submit their articles to the outlet, I highly recommend that they do so).

Contribution to class discussions

Grades for contribution to class discussion will be based off of peer reviews. At the end of the course, students will be asked to evaluate each other’s participation in the course on the following scale:

score	Criteria
1	<ul style="list-style-type: none"> • Tries to respond when called on, but doesn’t offer much • Demonstrates very infrequent involvement in discussion
2	<ul style="list-style-type: none"> • Demonstrates adequate preparation; knows basic facts about the readings but does not show evidence of trying to interpret or analyze them. • Offers straight forward information (e.g., straight from the reading) without elaboration or very infrequently (perhaps once per class) • Does not offer to contribute to discussion, but moderately contributes when called on. • Demonstrates sporadic involvement.
3	<ul style="list-style-type: none"> • Demonstrates good preparation: knows readings well and has thought through implications. • Offers interpretations and analysis of reading material (more than facts) to the class. • Contributes well to discussion in an ongoing way: responds to other students’ points, thinks through own points, questions others in a constructive way, offers and supports suggestions that may be counter to the majority opinion. • Demonstrates consistent ongoing involvement.
4	<ul style="list-style-type: none"> • Demonstrates excellent preparation: has analyzed readings exceptionally well, relating it to other readings and material. • Offers analysis, synthesis, and evaluation of reading material. • Contributes in a very significant way to ongoing discussion: keeps analysis focused, responds thoughtfully and productively to other students’ comments, contributes to the cooperative argument building, suggests alternative ways of approaching material that helps the class. • Demonstrates ongoing very active involvement.

These scores will be averaged with my own ratings for a final participation grade.

Semester Calendar

Disclaimer: The instructor reserves the right to modify any course requirements and calendar due dates as necessary to effectively manage and conduct this online course. Students are responsible for contacting the instructor and seeking clarification of any requirement that is not understood.

Key Dates

Classes Begin	Aug 28 th
Last day to add a course.....	Aug 31 st
Labor Day Holiday.....	Sept 4 th
Last day to drop a course (no academic penalty).....	Sept 13 th
Last day to drop a course (with academic penalty).....	Oct 13 th
Sackler Colloquia on Science of Science Comm III.....	Nov 16 th to 17 th
Thanksgiving Break.....	Nov 22 nd to 26 th
Last Day of Classes.....	Dec 6 th

Tentative Schedule and Due Dates

Week	Dates	Topic	Readings/Assignments
1	Aug 28 & 30	What is the Science of Science Communication? Part 1	Fishoff & Scheufele (2013); Fishoff (2013); Fishoff & Scheufele (2014); Scheufele (2013); Kahan (2015); Bruine de Bruin & Bostrom (2013)
2	Sept 6 <i>No class Sept 4</i>	What is the Science of Science Communication? Part 2	NASEM (2016); Handbook part I
3	Sept 11 & 13	Challenges when communicating Science Part 1 <i>Lessons from Cognition</i>	Landrum et al (2015); Kunda (1990); Shtulman (2015); Milton & Mercier (2015); Fiske & Dupree (2013); Kenski (HB, 39); Stroud (HB, 40); Peters (HB, 41); Akin & Landrum (HB, 47) Bibliography on Cognitive Dissonance Identify question/topic for paper
4	Sept 18 & 20	Challenges when communicating Science Part 2 <i>Polarized Environments</i>	Lupia (2013); Medin & Bang (2014); Dunlap & McCright (2012); Kahan et al (2008); Kahan et al (2012); Lang et al (2015) Graham et al (2009)
5	Sept 25 & 27	Challenges when communicating Science Part 3 <i>Strategies</i>	Jamieson & Hardy (2014); Downs (2014); Dahlstrom (2014); Kahan et al (2017); Landrum & Hallman (2017); Chan, Jones, & Albarracin (HB, 36); Druckman & Lupia (HB, 37) Proposal Due

6	Oct 2 & 4	Science Communication Intermediaries	Handbook part IV
7	Oct 9 & 11	Media and Science Communication Part 1 <i>Science in Entertainment</i>	Sims et al (2016); Kirby (HB, 31); Shanahan (HB, 32); Kaplan & Dahlstrom (HB, 33); Feldman (HB, 34); Nisbet & Dudo (2013)
8	Oct 16 & 18	Media and Science Communication Part 2 <i>New Media</i>	Anderson et al (2016); Anderson et al (2014); Liang et al (2014); Su et al (2015); Yeo & Brossard (HB, 28); Xenos (HB, 30)
9	Oct 23 & 25	Media and Science Communication Part 2 <i>Journalism and Hype</i>	Hasell & Weeks (2016); Boykoff & Boykoff (2004); Boykoff & Boykoff (2007); Fahy & Nisbet (2011)
10	Oct 30 & Nov 1	Identifying Attacks on Science	Handbook Part II
Draft 1 Due			
11	Nov 6 & 8	Deference, Trust, and Scientific Consensus	Hardwig (1991) Hendriks et al (2016) Scharrer et al (2016) Cacciatore et al (2016) Brossard & Nisbet (2007)
12	Nov 13 & 15 (guest professor Nov 15 th)	New Landscapes of Science, Openness, Transparency, Replicability	Munafo et al (2017) Ebersole, Axt, & Nosek (2016); Nosek et al (2015) Alberts et al (2015) Lewandowsky & Bishop (2016)
13	Nov 20	No Class	Work on your papers!
14	Nov 27 & 29	Science Communication in Action: Case Studies	Handbook part III
15	Dec 4 & 6	Science Communication in Action: Opinion Leaders and Popularizers	Nisbet & Kotcher (2009) Landrum et al (under review) Akin et al (2017) Bill Nye & NGT Scheitle & Ecklund (2015) Landrum et al (2017)
Final draft due with response to feedback			

Instructor Policies

Late work policy: Work will not be accepted late except in cases of extreme emergency. Technical difficulties, being busy at home or at work, minor illness, or similar problems are not acceptable excuses at any time for this course. Contact me immediately if you have an extreme emergency that will keep you from meeting a deadline. If given approval to submit an assignment late, I reserve the right to deduct 10 points per 24-hour period late.

Classroom (in)civility policy: Civility in the classroom and respect for the opinions of others is very important in an academic environment. It is likely you will not agree with everything which is said or discussed in the classroom. Courteous behavior and responses are expected. Differences of viewpoint or concerns should be expressed in terms which are supportive of the learning process, creating an environment in which students and faculty may learn to reason with clarity and compassion, to share of themselves without losing their identities, and to develop an understanding of the community in which they live. Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class.

Technology policy: Electronic devices such as cell phones and pagers must be turned off during class, unless you have informed me ahead of time that you are expecting an emergency message.

Recommendation letter policy: Please be aware that professors are not obligated to write references for any student who asks us. I don't write a reference for a student unless I can write a very positive and specific one. Bland letters that simply state that a student had good attendance and earned an "A" in my class can be detrimental to applications. Thus, my policy is to only write recommendation letters for undergraduates who work with me in research activities (e.g., are involved with my lab).

Other professors may not have this requirement. Therefore, you should strive to become the kind of student professors can rave about in recommendations — hardworking, collegial, and intellectually inquisitive and honest. Consider maintaining relationships over time with professors, so that they know you well enough to write for you.

University Operating Policies and Procedures

Academic Integrity is valued on the Texas Tech campus. It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and a high standard of integrity. The attempt of students to present as their own any work that they have not honestly performed for this class is regarded as a serious offense and renders offenders liable to serious consequences, possibly suspension. See Operating Policy and Procedure: [34.12](#) Section 5.

Plagiarism is defined as taking ideas or writing from another and passing them off as one's own. Texas Tech University considers plagiarism to be a serious offense and a sign of disrespect for academic integrity. Any student found guilty of plagiarism, fabrication, cheating, or purchasing papers, etc. may receive an "F" in the course.

Observance of Religious Holidays: a student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent for the observance of a religious holy day shall be allowed to take an exam or complete an assignment scheduled for that day within a reasonable time after the absence. See Operating Policy and procedure: [34.19](#).

Students with disabilities: Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as possible to make necessary arrangements. Students must present appropriate verification from Student Disability Services during the instructor's office hours. Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services office in 335 West Hall or call 806-742-2405. See Operating Policy and Procedure: [34.22](#)

TTU Resources for Discrimination, Harassment, and Sexual Violence

Texas Tech University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from gender and/or sex discrimination of any kind. Sexual assault, discrimination, harassment, and other [Title IX violations](#) are not tolerated by the University. Report any incidents to the Office for Student Rights & Resolution, (806)-742-SAFE (7233) or file a report online at titleix.ttu.edu/students. Faculty and staff members at TTU are committed to connecting you to resources on campus. Some of these available resources are: TTU Student Counseling Center, 806-742-3674, <https://www.depts.ttu.edu/scc/> (Provides confidential support on campus.) TTU 24-hour Crisis Helpline, 806-742-5555, (Assists students who are experiencing a mental health or interpersonal violence crisis. If you call the helpline, you will speak with a mental health counselor.) Voice of Hope Lubbock Rape Crisis Center, 806-763-7273, voiceofhopelubbock.org (24-hour hotline that provides support for survivors of sexual violence.) The Risk, Intervention, Safety and Education (RISE) Office, 806-742-2110, <https://www.depts.ttu.edu/rise/> (Provides a range of resources and support options focused on prevention education and student wellness.) Texas Tech Police Department, 806-742-3931, <http://www.depts.ttu.edu/ttpd/> (To report criminal activity that occurs on or near Texas Tech campus.)