SP 2022: BPSI-415: Science Talk

**Instructors:**  
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**Office Hours:**  
Virtual Office Hours, see Announcement in Blackboard  
University Park Campus, UPC – by appointment  
Health Sciences Campus, HSC – by appointment

**Course Weight:**  
2 Units (course meets 2 hours per week)

**Day/Time/Location:**  
Thursday, 12:30 pm-2:20 pm in THH 110

**Catalogue description:**  
Students will learn to effectively prepare and present science to others. Included are storytelling, informative, commemorative, persuasive speeches, interviews, and scientific presentations.

**Introduction**

Throughout the course, we will discover how the successful communication of science to the public relies on many factors beyond grammar, including the expectations of the audience, the purpose of the writer, as well as the context and genre of the communication. By examining these factors, we will improve our rhetorical knowledge, and develop strategies for succeeding in a variety of communication events and speaking settings. We will gain experience in generating and researching article ideas, interviewing scientists, and most importantly, translating complex scientific and technological developments into clear and engaging stories for public consumption. Ultimately, improving our writing, speaking, and rhetorical knowledge will help us succeed at USC and beyond.
Objectives

By the end of this course, students should be able to:

- Compare and contrast mass media representations of science across different communities and analyze the impact of race, gender, and socioeconomics on those portrayals
- Write clear, accurate and informative prose about science related topics for scientific and non-scientific audiences
- Understand and apply how to write and speak about broad topics within science at a level consumable by the public
- Deliver clear, concise, and well-organized oral presentations
- Understand how to present scientific material in both solo and group settings

The course examines current studies of the nature of various forms of communication and how they can be used to make science accessible and interesting. The themes of this course include (1) rhetorical analysis; (2) engaging translation (scientific to plain language); (3) publicity and social media; (4) investigative research; (5) print media; (6) interviews; and (7) presentations. The class will draw upon a range of critical and analytical approaches to these topics and will conclude with an exploration of the links between the media’s representations of science with questions of ethics, legality, and public policy. These themes will be presented in ways that are designed to lead to lively discussions during class.

Communication Method

If you have questions or concerns, please contact Dr. Church via email (tdchurch@usc.edu) or Dr. Burkhardt (aburkhar@usc.edu). Your email will be attended to as quickly as possible within a 48-hour window. For more urgent or pressing issues, please contact the instructors via telephone (listed at the top of the syllabus).

Description of Assignments/ Evaluation and Grading

Evaluation will be based six assignments, each building up to the presentation a speech in class.

<table>
<thead>
<tr>
<th>Description</th>
<th>Points</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Assignment 1: Rhetorical Analysis of an Article</td>
<td>30</td>
<td>15%</td>
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<tr>
<td>Assignment 2: An Engaging Translation</td>
<td>30</td>
<td>15%</td>
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<tr>
<td>Assignment 3: Publicity and Social Media</td>
<td>30</td>
<td>10%</td>
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<tr>
<td>Assignment 4: Proposal for Investigative Research</td>
<td>20</td>
<td>10%</td>
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<tr>
<td>Assignment 5: Investigative Science Paper</td>
<td>40</td>
<td>20%</td>
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<tr>
<td>Assignment 6: Science Speech</td>
<td>60</td>
<td>30%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>200</strong></td>
<td><strong>100%</strong></td>
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Attendance at all classes is expected. Participation will include asking and answering questions and being actively involved in the discussion. It is expected that the students read the assigned papers prior to the lecture and be prepared to discuss background, current understanding, treatments, and gaps in knowledge for the topic in each lecture.

**Assignment 1 (15%)**: The goal of the rhetorical analysis will be to explain what is happening in the text, why the author might have chosen to use a particular move or set of rhetorical moves, and how those choices might affect the audience.

**Assignment 2 (15%)**: Giving presentations is an important part of sharing work and achieving recognition in the larger scientific community. This assignment will require the composition and delivery of an effective presentation that would appeal to a wide range of audiences – those who work in the scientific area of interest or related fields, potential funders, the media, and the public who may find the work interesting if they understood the science. This assignment will require thought regarding the content and presentation style.

**Assignment 3 (15%)**: Publicity and social media are tools where public opinion and information have merged and are brought closer to reality through the concept of global unity. Science and scientific research are not always publicized nor depicted correctly in social media. This assignment will require the construction of a publicity campaign for the promotion of a pharmacologic product, scientific concept, or an engineered device. It will require the communication of both focused and non-focused social media sites to obtain and share knowledge with the public.

**Assignment 4 (10%)**: A formal proposal related to an investigative report to be undertaken by the student. This investigative report will require students to identify a clear and comprehensive topic for the associated formal talk they will give (Assignment 6). This report will require that students identify one scientist they will interview about their work. This will become the roadmap for the collection of data and implementation in their associated talk. Assignment 4 will be done in a chalk talk format (more information, pg 8).

**Assignment 5 (20%)**: The investigative research paper will require that students seek to uncover some facts or information related to the topic they outline in their proposal. This paper will require students to formalize their research topic, investigate the topic, summarize their results, and describe how the investigation results apply to a real-world problem or issue. This paper combined with the interview of a scientist will provide the material needed to construct the final assignment, the science talk.

**Assignment 6 (30%)**: Using all the information gathered, students will select a “target audience” and prepare their talk accordingly. They will deliver a 20-minute presentation directed toward their target audience (more information, pg 9). Other class members and
the instructors will ask questions from the perspective of the target audience. Students should be prepared to answer potential questions related to their topic.

Required Texts
Selected written works will be made available and will contain current articles, case studies, and information related to the topics for this course. In addition, the selected written works will be supplemented with a variety of source materials including online resources, media outlets, and cinema.

Course Outline
This course will be in the format of a directed seminar/lecture under the guidance of the instructor for the specific session. During each session the instructor will engage the students with questions and draw comments or interpretations primarily based on the assigned reading. Students are expected to ask questions and participate in an interactive fashion. Because this is an area of rapid change in policies, the readings may vary from one term to the next. Additional readings for each section that may be of added use are listed in the table below.

Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Subject</th>
<th>Instructor</th>
<th>Assigned Readings</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>13 Jan</td>
<td>Introduction and Expectations</td>
<td>Church, Burkhardt</td>
<td>N/A</td>
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<tr>
<td>Week 2</td>
<td>20 Jan</td>
<td>Reading research papers</td>
<td>Church, Burkhardt</td>
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<tr>
<td>Week 3</td>
<td>27 Jan</td>
<td>Analyzing data in research papers</td>
<td>Church, Burkhardt</td>
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<td>Week 4</td>
<td>3 Feb</td>
<td>Communicating results</td>
<td>Church, Burkhardt</td>
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<tr>
<td>Week 5</td>
<td>10 Feb</td>
<td>Gathering data and interpreting results</td>
<td>Church, Burkhardt</td>
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<tr>
<td>Week 6</td>
<td>17 Feb</td>
<td>Forms of public speaking</td>
<td>Church, Burkhardt</td>
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<tr>
<td>Week 7</td>
<td>24 Feb</td>
<td>Reading and writing social media</td>
<td>Church, Burkhardt</td>
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<tr>
<td>Week 8</td>
<td>3 March</td>
<td>Student proposal chalk talks</td>
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<td>Week 9</td>
<td>10 Mar</td>
<td>Asking questions, writing responses</td>
<td>Church, Burkhardt</td>
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<td>Week 10</td>
<td>17 Mar</td>
<td>Spring Break</td>
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<td>Week 11</td>
<td>24 Mar</td>
<td>Formulating hypotheses</td>
<td>Church, Burkhardt</td>
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<tr>
<td>Week 12</td>
<td>31 Mar</td>
<td>Conducting interviews</td>
<td>Church, Burkhardt</td>
<td></td>
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<tr>
<td>Week 13</td>
<td>7 Apr</td>
<td>Talks with your audience</td>
<td>Church, Burkhardt</td>
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Content Warning

Our course readings and classroom discussions will often focus on mature, difficult, and potentially challenging topics. As with any course dealing with drug use, abuse and addiction, course topics can at times be political and personal. Readings and discussions might trigger strong feelings—anger, discomfort, anxiety, confusion, excitement, humor, and even boredom. Some of us will have emotional responses to the readings; some of us will have emotional responses to our peers’ understanding of the readings; all of us should feel responsible for creating a space that is both intellectually rigorous and respectful. Above all, be respectful (even when you strongly disagree) and be mindful of the ways that our identities position us in the classroom.

Keep in mind that we will be looking at drugs through the presentation of drugs in the media. Presentation of drugs includes presentation of drug use, communities affected by illegal drugs, how pharmaceutical companies present their products (ads), how media responds to government pressure and policies.

Media outlets are seldom without an agenda. We may or may not align ourselves with their agendas or agree with what is being said. The purpose of the class is to analyze how media bring the concepts of drugs and drug use to media consumers. We are looking at the media landscape of drugs.

STATEMENT ON ACADEMIC CONDUCT AND SUPPORT SYSTEMS

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.
Students and Disability Accommodations

USC welcomes students with disabilities into all of the University’s educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.usc.edu/counseling
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call
suicidepreventionlifeline.org
Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention and Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call
studenthealth.usc.edu/sexual-assault
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED)- (213) 740-5086 | Title IX – (213) 821-8298
equity.usc.edu, titleix.usc.edu
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations. The university also prohibits sexual assault, non-consensual sexual contact, sexual misconduct, intimate partner violence, stalking, malicious dissuasion, retaliation, and violation of interim measures.
Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
usc-advocate.symplicity.com/care_report
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity | Title IX for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services - (213) 740-0776
osas.usc.edu
OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

USC Campus Support and Intervention - (213) 821-4710
campussupport.usc.edu
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity, and Inclusion - (213) 740-2101
diversity.usc.edu
Information on events, programs and training, the Provost’s Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu
Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)
ombuds.usc.edu
A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice - (323) 442-3340 or otpf@med.usc.edu
chan.usc.edu/otfp
Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.
Chalk Talk

Chalk Talk is a great way to reflect, generate ideas, develop projects, consider different parts of a problem, and prepare for a larger presentation. Chalk Talks can be silent activities, but in this course, we will engage in the verbal version. The purpose of a chalk talk is to consider ideas, questions, or problems by building understanding in a collaborative way. An idea is put forward, questioned, or built upon, and the main idea gets further developed with input from the entire class. Consider this activity as a group reflection on the topic being presented.

Steps:

1. The speaker will write a question or statement from their research in a circle on the board.
   a. The board will be divided into 2 or 3 sections, with a speaker utilizing each section.

2. The speaker will present their prompt and invite the other students to provide reactions to the question / statement. (15 mins)
   a. Students will be free to write on the board as well.
   b. Adding related or contrasting thoughts alongside an existing comment.
   c. Drawing lines to connect two similar comments.
   d. Adding exclamations, stars, +, or other pictographs to comments.
   e. Drawing pictures that symbolize the thought or feeling the commenter is having is also acceptable.

3. Students will have time to circulate around the board, reading and adding to the prompts and responses as they get built.
   a. Types of responses that can be made – connecting ideas, elaborating on others’ ideas, commenting on what others have written, asking for more detail, etc.
   b. When not writing on the board, students should be reviewing the board, reading each other’s comments.

4. The speaker will be asked to review their board and then as a class we will debrief.
   a. What are some common themes across the comments? Anything surprising? Any patterns?
   b. What, if any, next steps should be taken?

5. Speakers are free to ask challenge questions for further information.

6. Speakers should consider incorporating any of the relevant comments into their final presentation.
**Presentation Pointers**

1. Take good notes at the seminars / symposia, and as necessary, supplement your information from other works and published papers related to the topic. A recent review article on the topic is often useful.

2. Organize your notes and plan according to how you will present the information to the class. Sketch out an agenda or a diagram of how and where you will present your information.

3. Plan to give a presentation lasting ~20 minutes, so there will be plenty of time for questions. Start by introducing yourself and giving the name of the seminar / symposia and the subject of their talk.

4. Keep your mind on the big picture! Remember to give an overview at the beginning. Give a brief introduction to the topic, including why the question/hypothesis being investigated is interesting and important. This will help to pique the interest of your listeners at the start.

5. Aim for a crisp, well-organized, and succinct presentation. You cannot possibly cover all the material that was given in a 1-hr seminar or in a research paper, so you must decide what content is most critical and interesting and focus on that.


7. Take your time. Try not to talk into the podium –talk to the audience, engage them with eye contact.

8. Frequently, speakers forget that people in the audience do not know much about the topic. Unless you are presenting a talk at a specialized scientific conference, you should remember that you are explaining complicated material to people who do not already know much (if anything) about it. Put yourself in the listeners’ place and try to anticipate what will be confusing to them.

9. Ideally you should be so familiar with your notes that you only must glance at them to remind yourself where you are and what to say next, then as you speak, make eye contact, and engage with the audience.

10. Remember to take a giant step BACK at the end of your presentation and return to the big picture. Ask yourself: what is the main take-home message I want to convey?

11. It is a performance! Even if you do not feel particularly energetic and confident, you must **ACT AS IF YOU ARE**, just for 20 minutes.
12. Try not to use filler speech (“um” or “like” or “basically”) multiple times during your talk – this can be challenging to get used to! If you fall into the habit of repeating such words, it can be a difficult habit to break. It is distracting to the audience to hear multiple repetitions of a single word, especially one that has little or no informational content.

13. Watch out for the fidget monster! We all tend to move, fidget, wring our hands, touch our hair, etc while nervous; we naturally return to these habits when giving a presentation, but do not always realize it. Be aware of how much you are moving and fidgeting – it is distracting for the audience and can make them focus more on you than the idea you are presenting.

14. Your audience is a bunch of cats obsessed with your laser pointer. Use it judiciously.