Overview

In this seminar we will outline the objectives involved in presenting scientific information to different audiences and discuss how those objectives may be met. Discussions will include the role of the speaker in a scientific presentation/dialog, visual presentation of scientific data, written communication of scientific information, and mixed-media presentation. This seminar stands on its own but is part of a three-term series offered through PSU’s Cascades to Coast GK-12 program.

Fall term we began exploring how best to use words and images as tools to convey the results of our scientific studies. While we recognized that the principles of sound scientific communication transfer from the general to the expert audience, our attention was directed primarily toward the former. This term we will turn our attention toward the latter while still including aspects of communication to the general audience.

This course strives to improve students’ ability to communicate science clearly. Objectives include preparing students to:

• evaluate scientific talks to identify which elements are important for a clear, memorable talk;
• continue to determine the core message that should be conveyed and develop useful supporting components;
• continue to practice effective use of words and images to convey the results of scientific studies;
• develop a 6-board framework for a 12-min talk that highlights your key findings
• develop, improve, and present a 12-min scientific talk
• create the framework for a grant proposal

Course topics

Talk evaluation. Early in the term we will discuss the elements of creating and giving successful science talks. We will review one particular rubric for evaluating a talk and use it to critique some short examples in class. You are asked to carry this forward by giving a scientific talk 12 or more minutes long and asking a peer to watch (as a member of the audience) and evaluate the talk using that rubric. The talk may be for a general or technical audience, may be an assignment for another class, or something else. The only requirement is that the talk be scientific in nature and be approved by your instructor.

12-minute talks. The 12-minute talk (plus 3 for questions) is also a standard at major scientific meetings. Speaking in this setting presents two challenges, conveying a clear yet complete message and standing out from the crowd. In this exercise, you will be asked to prepare an outline and graphic for a 12-minute talk on a topic related to your research. How might you prepare the same material for a different audience (elementary school students, general public, professional public, …)? How would the balance between background and results change? How would the technical content change? Two to three volunteers will present their talks to the group. You may wish to use this as practice if you have a presentation scheduled at an upcoming meeting.
Grant proposals. Grant proposals also rely on clear communication of ideas and supporting evidence. A fundable proposal requires clear goals, key structural components, and supported yet novel content addressing the rfp. We will touch upon and start to practice the components of proposals.

Order of topics (with estimated dates; progression may be slowed or accelerated)

1. (3/30) Improv; Elements of a good talk and how to give one; Introduction of evaluation rubric
   Assignment: watch two Ted talks and think about what makes each good and how each could improve, mail instructor link if you thought it was very strong or otherwise worth watching

2. (4/6) Use the evaluation rubric on Ted talks; Storyboarding intro
   Reading: review selection from Baron (see d2l); prepare Storyboard for your talk

3. (4/13) Review storyboards; Discussion of Baron reading
   Assignment: improve your message box: include a few pieces of supporting evidence for talks and proposals; start graphics for 12 minute talk

4. (4/20) 12-min talk introduction, guidelines for longer talks; Improv; Message box refined—review of, use of: Caveman game; Repeat why’ for refining objectives

5. (4/27) 12 minute talk presentations & critique, Assessment using rubric

6. (5/4) 12 minute talk presentations & critique, Assessment using rubric
   Assignment: write an abstract from your message box for your work

7. (5/11) Grant components overview; Abstracts reviewed; Discussion of Adrift reading
   Assignment: work on one component of grant proposal

8. (5/18) Workshop grant proposals
   Assignment: continue work grant proposal; Reading: excerpt from Schimel Writing Science (I encourage you to purchase this book and work your way through it!)


10. (6/1) Workshop grant proposals; Closing remarks

Readings. Complete readings and other assignments by the next class meeting. Readings and assignments will be posted on d2l.pdx.edu. If you don’t have an Odin ID, go to http://oit.pdx.edu/set-up-odinacct


Grade
This course is graded with letter grades. To earn an A, each student must participate in at least seven of the nine meetings and complete all assignments, demonstrating that you are applying the lessons to your work. If you’re contagious, please don’t come to class. Aim to complete all assignments by the class meeting after they are assigned; all students get one pass for late assignments (turn in by email if you cannot be in class).

Resources and code of conduct
If you are a student with a documented disability and are registered with the Disability Resource Center, please contact me so that we can arrange whatever academic accommodations you need.

If you are a Veteran and have questions about University services or need assistance with your transition from military to campus life, please contact Chris Goodrich, Coordinator of Veterans Services at the Office of Veterans’ Services, SMSU room 425.

As members of the Portland State University faculty, we “strive to ensure that the highest ethical standards of professional behavior are realized within the University,” as established in the Faculty Code of Conduct. As a member of the PSU student body, you are bound by a Student Code of Conduct. It is your responsibility to be familiar with the code of conduct, which can be read at the Dean of Students website http://www.pdx.edu/dos/codeofconduct.