

Applied Scientific Communication **BI 410/510 (CRN 26797)** Winter 2016
Class meeting time: Friday, 10:00-12:50 pm, 9 Pacific Hall

Instructor: Dr. Kelly Sutherland ksuth@uoregon.edu 541-346-8783
Office Hours: Tues. 1:30-3:30 pm in Chapman 101E, Wed. 1:30-3:30 pm in 473B Onyx Bridge

Science Literacy Program Fellow: Gabriel Barello gbarello@uoregon.edu
Office Hours: TBD

Course description: The ability to communicate your research in an effective and coherent way is critical to your success as a scientist. A profound scientific result is useless if it can't be conveyed to a broader audience. Yet, many of us struggle with this essential, practical skill. Communicating well takes practice. In this class we will take an applied approach to communicating science—you will bring your research in the form of written work, graphics and slides and we will work together on improving it. We will practice the fundamentals of writing, speaking, and making graphics to convey your ideas to your audience in an interesting, accessible way; along the way you'll be gaining a valuable set of tools that you can apply in your scientific career.

Learning outcomes:

- Improved proficiency with reading and understanding the primary scientific literature
- Improved ability to synthesize and distill scientific information and to express your arguments clearly and concisely
- Practice with presenting information orally
- Building community by providing constructive reviews your peers' work and incorporating reviews into your own work
- The opportunity to explore a scientific topic of your choice in depth and create a poster or oral presentation

Course requirements:

Grading will be based on class participation, your writing/presentation assignments, and on your constructive reviews of the writing of your peers. Everyone will be working on a writing project throughout the term. For graduate students and undergraduates already involved in research, the writing will be a draft of all (or part) of either a research paper or a thesis proposal. Undergraduates who are not doing a senior thesis should check in with me early on in the term to design a writing project.

There will be weekly assignments. Early in the term, these assignments will require that you maintain a schedule of writing, peer review, revising, and handing in the assignments each week. There will be no final exam. Instead, by the last class during week 10 I expect the final version of your written project. Additionally, everyone will present either a poster or oral presentation on their project during the last week of classes; this will give you a chance to explore different ways of communicating the same information.

Office hours: You are welcome and encouraged to stop by my office hours. If you aren't free during these times, you can also make an appointment to meet with me. Please use face-to-face interaction (office hours, before or after class, during class) as your primary way of communicating with me and only use email as a last resort.

Accessibility: The University of Oregon is working to create inclusive learning environments. Please notify me if aspects of the instruction or course design result in barriers to your participation. You are also encouraged to contact the Accessible Education Center in 164 Oregon Hall at 346-1155 or uoaec@uoregon.edu

Grading structure:

Writing assignments (6)	30%
Final project—writing assignment	40%
Final presentation	10%
Class participation	10%

References:

Brown T.L. (2008) Making Truth: Metaphor in Science. University of Illinois Press, 215 pp. **[MT]**

Montgomery S.L. (2003) The Chicago Guide to Communicating Science. U Chicago Press, 228 pp. **[CS]**

Pechenik, J.A. (2013). A short guide to writing about biology. Pearson. 8th ed. 276 pp. **[WAB]**

Schimel, J. (2012). Writing Science: How to get cited and get funded. Oxford Univ. Press. 221 pp. **[WS]**

Valiela, I. (2009) Doing Science: Design, Analysis and Communication of Scientific Research. Oxford Univ. Press. 352 pp.

All readings will be provided as needed to students and available on Canvas. You are welcome to purchase any of the course books for your personal reference library but this is optional.

SCHEDULE (In class topics/activities)	ASSIGNMENTS (Due Friday in class)
Week 1: How to read Introductions; What is your research interest/area? How to read, Practice with sentences	Read: WAB Ch 3
Week 2: The scientific paper What makes a scientific article effective? Being a good reviewer	Bring: 1 scientific article to class Read: CS Ch. 7, WS Ch. 1 Write: 250-word research description
Week 3: Telling your story Finding good references Writing an Introduction/ framing your work	Read: CS Ch. 6, WS Ch.2 Write: Annotated bibliography (3 refs.) Hand in: Final research description
Week 4: Distilling your message 3-minute pitch, Writing titles and abstracts, Methods	Read: WS Ch. 7 Prepare: 3-min. elevator pitch Write: Draft Introduction
Week 5: Making effective graphics Making plots and schematics Explore: flowingdata.com	Read: CS Ch. 9 Bring: 2 ex. of effective graphics Write: Draft Methods Hand in: Final Introduction
Week 6: Metaphor in science and the bigger picture Developing context for your work	Read: MT Ch. 1,2,9 Write: Draft Figure/ Results Hand in: Final Methods
Week 7: Knowing your audience Who are you targeting? Reaching the public	Read: WS Ch. 20, CS Ch. 15 Bring: Completed message box Write: Draft Discussion Hand in: Final Figure/ Results
Week 8: Writing proposals Engaging others in your work	Read: CS Ch. 11, WAB Ch. 10 Hand in: Final Discussion
Week 9: Oral and poster presentations Dos and don'ts of presenting your research	Read: WAB Ch. 12 Bring: Draft of presentation
Week 10: Final presentations Poster and oral presentations by each student	Hand in: Final paper