Overview
Science Communication is a three-course series, with one of the courses taught each term. Each course can stand on its own for the most part, but they complement each other well and the spring course builds on the fall one. This first, fall-term course covers the objectives involved in presenting scientific information to different audiences and how those objectives may be met. Discussions include the role of the speaker in a scientific presentation/dialog, focusing the message you want to communicate, and visual presentation of scientific data (including graphics and posters). The second course, “Science, Media, and the Public” (ESM 556, ESR 656) focuses on communicating with the media and how to make your science memorable. In spring term, the third installment (ESM 557, ESR 657) will focus on scientific talks (e.g., to peers at meetings), including elements of a perfect talk and story boarding, and on grant writing.

Course objectives
This course strives to improve students’ ability to communicate science clearly. Objectives include:
- further developing a philosophy of science communication;
- determining the core message that should be conveyed and develop useful supporting components;
- practicing effective use of words and images to convey the results of scientific studies;
- creating a poster that attracts attention and conveys its key message clearly and concisely and in a way that is easily absorbed without much time investment.

Course products
Message box. All science communication requires distilling your message about your research and honing the key points you need to address in order to explain your question, why the general issue and the specific question you are addressing are important and relevant, findings, and how they help understand or solve the broader issues. Baron designed the message box to help scientists prioritize, frame, and navigate information in order to communicate their research better. We will practice developing message boxes for our research projects to help with posters, talks, interviews, or papers. See Baron reading pp 108-121.

Two-minute topics - It is important for science communicators (in the classroom, while standing in line at the theater, during job interviews...) to present correct information simply, engagingly, and efficiently. In this exercise, you will be assigned a short topic for which you are to prepare and present a two minute explanation using one or two visual materials. Some example topics: What is evolution? What is the difference between climate and weather? How old is Earth? What's so bad about invasive species? You will be assigned a topic that is not overlapping with your area of expertise because, as students from past years have reported, this makes it easier to decide what information to communicate in just two minutes. Once going through the process for these other science topics, one then can transfer that same decision-making process to one’s own work.

Posters. Posters are a staple of scientific meetings. Posters have a unique design challenge of needing to attract passers-by yet be readable at an angle and from a meter away by a semi-distracted audience. They also should be designed to convey your findings and their importance whether you are absent or are standing there communicating your key messages and interacting with your poster. They should highlight your central message about a new advance in your work. We will critique posters in the hallways as well as ones you bring in with the goal of identifying what layout and design elements are most effective and which ones should be avoided.
Order of topics (with estimated dates; progression may be slowed or accelerated)

(9/29) What is science? Goals of presenting? What is teaching?
Assignment - read Freire chapter 2; explore SciFund http://scifundchallenge.org/

(10/6) Freire discussion; presenting to different audiences; introduction of message box.
Assignment: develop your message box

(10/13) Practice and critique message box; elements of visual presentation; assign 2-min topics
Assignment: improve your message box, including with it a few pieces of supporting evidence; prepare draft 2-min presentation graphic.

(10/20) Refined message box; review 2-minute topic graphics
Assignment: refine graphic, prepare 2-min presentation.

(10/27) 2-min topic presentations; tables and figures
Assignment: find a source on posters or other visual presentation, and read it with the goal of sharing something useful with the class.

(11/3) Poster goals, tour, & tips
Assignment: prepare/dig out poster.

(11/10) Posters- critique participants’ posters
Assignment: refine posters.

(11/17) Final poster presentations; more on layout, content, using your poster as a tool
Assignment: 2-3 person groups, create a presentation on a skill.

(11/24) Skill presentations
Assignment: read Mahoney

(12/1) Discuss Mahoney; discussion of jargon; Closing

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, participate in at least 8 of the 10 meetings and complete and discuss all assignments, demonstrating that you are applying the lessons to your work. If you’re contagious, please don’t come to class. All students get one pass for late assignments.

Resources and conduct
It is your responsibility to be familiar with the PSU Code of Conduct, by which we are bound: http://www.pdx.edu/dos/codeofconduct. Students in the School of the Environment graduate program must complete ethics training: https://sites.google.com/a/pdx.edu/research/integrity/responsible-conduct If you have not already done so, please go through the on-line training for creating a safe, respectful campus: https://d2l.pdx.edu/d2l/home/425907

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 with questions about University services or need for assistance with your transition to campus life, contact Chris Goodrich, at the Office of Veterans’ Services, SMSU room 425.

Advising & Career Services: https://www.pdx.edu/careers/
Library Research
Tutorials: http://guides.library.pdx.edu/home/howto http://guides.library.pdx.edu/biology