Course description

Learn practical lessons that will help you talk to your peers and to the public.

The ability to deliver effective and engaging oral presentations is a critical skill for students in all disciplines. Unfortunately, despite the importance of clear communication, scientific presentations are too frequently confusing, abstract and boring. In this seminar, students will be introduced to a diverse set of presentation methods and use exercises to apply these techniques to their own work and ideas. The course will also examine the characteristics common to exceptional scientific talks, show how basic design principles can be used to create more effective visual aids, and discuss the science behind effective communication techniques.

During the last segment of each class, I'll present an introduction to a key concept in graphic design or a new style of presentation. Over the following week, students will apply the idea to their own communication needs.

All students will have the opportunity to contribute to exercises that deal with fundamental design principles, such as assembling a library of research photographs or developing their own personal color scheme. In other weeks, students will work either separately or in teams to experiment with new presentation approaches.

By the end of the course, students will have experimented with a broad range of presentation styles and identified the method(s) that best suits their own style and research subject. They will have developed a set of engaging and effective visuals that they can use in conference presentations, job interviews or public outreach. More generally, they will have become more effective communicators, improved their ability to discuss their research with non-specialists, and be better representatives for their discipline and the university.
Student responsibilities

**Required materials** I’ve listed two books as required. They’re both available in paperback and cost between $25 and $30. These books will make you better presenters and (possibly) better people. Buy them and don’t loan them to your friends.

*Presentation Zen: Simple Ideas on Presentation Design and Delivery* by Garr Reynolds. This slender, beautifully-designed book is really a manifesto arguing for better communication in professional settings. Unlike most presentation books on the market, *Presentation Zen* is not a how-to book for PowerPoint or Keynote. Instead, Reynolds explains (and, more importantly, shows) how creativity and thoughtfulness can help you to create memorable and effective presentations.

*Scientific Papers and Presentations: Navigating Scientific Communication in Today’s World* by Martha Davis. One of the few books on communication targeted towards a scientific audience and it’s a good one. Davis covers almost every type of communication challenge that researchers will face, and devotes four chapters to the substance and style of presentations at scientific conferences.

**Recommended books** Here are three more great books that I refer to frequently when looking for presentation inspiration.

*Don’t Be Such A Scientist* by Randy Olsen. Olsen is a marine biologist who argues that scientists cannot rely solely on facts and logic to communicate the importance of contentious scientific issues to the public. As an alternative, he suggests scientists aim for the heart as well as the head, and use the power of story and anecdote to amplify their messages, engage the public more actively and make their science matter.

*slide:ology* by Nancy Duarte. A good alternative or companion to *Presentation Zen*, *slide:ology* goes deeper to show how thinking like a designer can help you create more effective visual aids. As the CEO of Duarte Design, the author has over two decades experience designing presentations for Silicon Valley companies and prominent speakers such as Al Gore.

*The Visual Display of Quantitative Information* by Edward Tufte. Tufte is an Emeritus Professor at Yale University who is widely respected for his writing on information design. His essay “The Cognitive Style of PowerPoint” is a must-read for anyone who uses presentation software.

**Expectations**

I expect students to act professionally. Arrive to class on time. Don’t use your phone, laptop or other electronics for non-class activities. This is a small seminar, so it’s crucial that everyone is prepared to participate in our discussion and share their work. If circumstances force you to miss a class, send me an email so I know you’ll be absent. As a rule, I don’t allow late assignments or make-up work. If personal issues or professional responsibilities interfere with your workplan, come talk to me (in person) and we can likely sort out alternative arrangements.

**Grading**

A-F or S-N. After the second week of classes, you may not change your grading option. University policy states that you must achieve at least 70% of the total possible points to receive credit for this course under the S-N option.

**Discussion and exercises**

40%

**Mini-presentations**

20%

**Final presentation**

40%
Course schedule

Pre-course work
‘Let there be stoning’ & ‘The cognitive style of PowerPoint’

Jan 22/Mar 25
The art of presentations
WHY RESEARCHERS NEED TO COMMUNICATE EFFECTIVELY
Activity: Paired interviews
Reading: ‘Communicating effectively with politicians’
Resource: 19 haiku on the IPCC
Exercise: Write a biographical sketch of your audience
Exercise: Use poetry to share one aspect of your research

Jan 29/Apr 1
How constraints stimulate creativity
Activity: Haiku readings
Activity: Share your audience biography with a partner
LEARN TO AMPLIFY YOUR CORE MESSAGE BY SETTING LIMITS
Reading: ‘Creativity, Limitations, and Constraints’
Reading: ‘Why you should hate Comic Sans’
Resource: ‘Fight the PowerPoint’
Exercise: Prepare a Takahashi-style presentation

Feb 12/Apr 8
We are visual animals
Activity: Takahashi presentations!
PUTTING TOGETHER YOUR VISUAL TOOLKIT
Reading: Garr Reynolds on ‘Brain Rules’
Reading: ‘Bill Gates and visual complexity’
Reading: ‘The visual transformation of Bill Gates the presenter’
Exercise: Prepare a photograph-only talk

Feb 19/Apr 15
Going off the grid
Activity: Photo presentations!
CREATE THE STRUCTURE OF YOUR TALK BY GOING HOLLYWOOD
Reading: ‘Lessons from the art of storyboarding’
Video: “What, if anything, is Big Bird?”
THE ART OF LIGHTNING CHIT-CHAT
Exercise: Create a set of storyboards for your Pecha Kucha talk

Feb 26/Apr 22
Making it clear
Activity: Share your draft storyboards
AMPLIFY YOUR MESSAGE WITH VISUAL DESIGN
Reading: ‘Communicating data clearly’
Reading: ‘Worth a thousand words’
Exercise: Work on Pecha Kucha talk

Mar 5/Apr 29
Preparing for Pecha Kucha
Activity: Rehearse your presentation with the group
Reading: How to remain calm before a presentation
Exercise: Work on Pecha Kucha talk

Mar 12/May 6
Presentation domination!
Deliver your research presentation to an open audience

"I can point to specific lessons that helped me win research awards, get a research job in Europe, and that continue to pay off whenever I present my work to a larger group. Everyone learns how to do research in graduate school, but not everyone learns how to give a good talk."

Dr. Andrew Frassetto, geophysicist, Incorporated Research Institutions for Seismology

"The communication revolution has begun. Learning how to communicate with clarity, simplicity, and precision helped me nail my postdoc interview and confidently present my research in front of luminaries in my field. The satisfied smiles of understanding at my presentations tell me I’ve cut through the noise and made a lasting impact on my listeners."

Dr. Jessica Conroy, climate scientist, University of Illinois
Grading scale

Your letter grade for this course will be determined using one of these numeric scales.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage of total points</th>
<th>Description of achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>85 to 100</td>
<td>Represents achievement that is outstanding relative to the level necessary to meet course requirements.</td>
</tr>
<tr>
<td>A-</td>
<td>80 to 84.9</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>77 to 79.9</td>
<td>Represents achievement that is significantly above the level necessary to meet course requirements.</td>
</tr>
<tr>
<td>B</td>
<td>73 to 76.9</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>70 to 72.9</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>67 to 69.9</td>
<td>Represents achievement that meets the course requirements in every respect. Minimum level at which a grade of S is achieved (see below)</td>
</tr>
<tr>
<td>C</td>
<td>63 to 66.9</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>60 to 62.9</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>57 to 59.9</td>
<td>Represents achievement that is worthy of credit even though it fails to meet fully the course requirements.</td>
</tr>
<tr>
<td>D</td>
<td>50 to 56.9</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>&lt; 50</td>
<td>Represents failure and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an Incomplete.</td>
</tr>
<tr>
<td>S</td>
<td>60 to 100</td>
<td>Represents satisfactory achievement that is equivalent to a C- or better.</td>
</tr>
<tr>
<td>N</td>
<td>&lt; 60</td>
<td>Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an Incomplete.</td>
</tr>
</tbody>
</table>

"Scientists cannot communicate very well with non-scientists, but in fact they cannot communicate well with other scientists either."

Jean-luc Doumont, author of *Trees, maps, and theorems*
Incompletes

A grade of ‘Incomplete’ (‘I’) will be assigned only under exceptional circumstances. An ‘I’ grade requires that: (1) the instructor has a reasonable expectation that the student can successfully complete the unfinished course on his/her own no later than the end of the next semester, and (2) legitimate reasons exist to justify extending the deadline for course completion. Students that request an Incomplete must meet with the instructor to discuss the particulars of the request and to sign a written agreement to make up work. If students do not fulfill the terms of this agreement, an I grade will automatically lapse to an F grade at the end of the next semester.

Academic Workload Expectations

It is expected that the academic work required of Graduate School and professional school students will exceed three hours per credit per week.

Statement on Classroom Conduct

Students who disrupt the positive learning environment in the classroom will be asked to leave. Students whose behavior suggests the need for counseling or other assistance may be referred to their college office or University Counseling Services. Students whose behavior may violate the University Student Conduct Code may be referred to the University Counseling Office.

What is Expected of Students

Students are responsible for being prepared to take the courses for which they register. They should not register for courses in which they lack the prerequisites unless they have permission from the instructor (For a full list of University of Minnesota policies go here: http://www.policy.umn.edu/groups/ppd/documents/index/policyalphalist.cfm).

1. Students are responsible for all class meetings, including any information contained in the syllabus, disseminated in class, or via Moodle. Students are expected to attend all meetings of their courses. They may be excused from class, however, to participate in religious observances and for approved University activities. Instructors and teaching assistants should be notified during the first two weeks of the semester about such planned absences.

2. Students must attend the first class meeting of every course in which they are registered, unless they obtain approval from the instructor before the first meeting. Otherwise, they may lose their places in class to other students. (See http://www.fpd.finop.umn.edu/groups/senate/documents/policy/semclasses.html, Section 3.)

3. Students are responsible for arriving on time and being prepared for all class sessions.

4. Students are responsible for meeting all course requirements, observing all deadlines, examination times, and other course procedures.

5. Students are responsible for seeking academic help in a timely fashion. If you need assistance in this course, please ask the instructor for advice on where to seek help.

6. Students may not make commercial use of their notes, lectures or University-provided materials without the express written consent of the instructor. (See the Senate policy at http://www.policy.umn.edu/groups/policy/...
1. Students may be responsible for helping straighten up a classroom at the end of a class period, if requested to do so by the instructor (see Section III (7)). Keeping a classroom in good order includes taking away or disposing of everything one came in with, such as cans, bottles, food containers/wrappers, newspapers, etc. Students shall not deface or damage classrooms or classroom furniture or equipment.

3. Students are to refrain from eating in class. The rapid proliferation of food allergies, particularly peanuts, makes this a very serious and urgent problem.

**Academic Misconduct** Academic misconduct is not acceptable in this course or any other. If you don’t know what constitutes academic misconduct, ask your instructor. Academic dishonesty in any portion of the academic work for a course shall be grounds for awarding a grade of F or N for the entire course. Scholastic dishonesty is any act that violates the rights of another student in academic work or involves misrepresentation of a student’s own work. Scholastic dishonesty includes, but is not necessarily limited to, cheating on assignments or examinations; plagiarizing, which is misrepresenting as one’s own work any part of work done by another; submitting the same work, or substantially similar works, to meet the requirements of more than one course without the approval and consent of all instructors concerned; depriving another student of necessary course materials; or interfering with another student’s work.

Students are expected to express themselves in their own prose. Do not submit written work that does not properly acknowledge transcription or quotation of the work of others. To quote from a published work, you must put the passage in quotation marks and cite the reference. To express an author’s thought in your own words, you should cite the author you paraphrase to indicate that the ideas are someone else’s and not yours.

Students are expected to do their own assigned work. If it is determined that a student has cheated in any way, he or she will be given an “F” or an “N” for the course, and will face additional sanctions from the University. (See http://www1.umn.edu/regents/policies/academic/Student_Conduct_Code.pdf, Subd 1, Scholastic Dishonesty, and http://www1.umn.edu/usenate/policies/gradingpolicy.html, Section II (2)). In these instances the proper disciplinary authorities will be notified and the violation noted on your academic record. For a complete Student Code of Conduct visit http://www1.umn.edu/regents/policies/academic/Student_Conduct_Code.pdf.

**Statement Regarding Sexual Harassment** University policy prohibits sexual harassment as defined in the University policy adopted December 11, 1998. Copies of this statement are available from the Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall, 612-624-9547. Complaints about sexual harassment should be reported to that office.

**Accommodation of Students with Disabilities** It is a University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have documented disabilities (e.g., physical, learning, psychiatric, vision, hearing, etc.) that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact Disability Services and then their instructors at the beginning of the semester to discuss their individual needs for accommodations. Disability Services is located on the East Bank of the Minneapolis Campus at 180 McNamara Alumni Center Gateway Building, 200 Oak Street at University Avenue, 612-626-1333 TTY/voice, http://ds.umn.edu/.

This syllabus is available in alternative formats upon request.