

NatSci 290IH-01: Integrated Scientific Communication Spring 2013

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Class Meetings: Tuesdays and Thursdays 11:15-12:30 in ISB 329

Schedule and Topics:

Week	Date	Topic	Assignment	Individual/ Group
1	T Jan 22	Introduction to the course	Write 'About Me' essay	I
	Th Jan 24	Discuss: Ethics case studies	Write summary of NYT article	
2	T Jan 29	Discuss NYT summaries	Search for good/bad figures	I
	Th Jan 31	Discuss: Good and bad writing Discuss: Effective figures	Plot kinetic data	
3	T Feb 5	Discuss: Kinetic data plots	Read Meselson & Stahl	I
	Th Feb 7	Structure of scientific paper	Write M&S, News & Views	
4	T Feb 12	Discuss: M&S, News & Views	Write M&S, Non-scientist	I
	Th Feb 14	Discuss: M&S, Non-scientist	Select short project topic, write paragraph; Revise M&S summaries?	
5	T Feb 19	NO CLASS		I
	Th Feb 21	Discuss: short project topics	Write short project paper	
6	T Feb 26	Discuss: short project papers	Write critiques of papers	I
	Th Feb 28	Discuss: critiques of papers	Select long project topic, write justification paragraph	
7	T Mar 5	Project: Students pitch topics; select subset for oral presentation	Prepare oral presentation	I
	Th Mar 7	Project: Oral presentation of selected topics; choose ~5 finalists	Begin research on topic	
8	T Mar 12	Project: Discuss topics with each group	Write outline of paper	G
	Th Mar 14	Project: Present and discuss outlines	Revise outlines Write 300-word abstract Begin writing 1 st draft of paper	
Spring Break				
9	T Mar 26	Project: Discuss abstracts	Oral presentations	G
	Th Mar 28	Project: 1 st drafts of paper due Discuss posters	Prepare 1 st draft of poster	
10	T Apr 2	Project: Return 1 st drafts of paper with comments Discuss 1 st drafts of poster	Prepare 2 nd drafts of paper	G
	Th Apr 4	Project: Discuss papers with each group	Prepare slides for oral presentations	

11	T Apr 9	Project: 2 nd drafts of paper due Present and discuss slides for oral presentations	Prepare 2 nd drafts of poster	G
	Th Apr 11	Project: Present and discuss 2 nd drafts of poster		G
12	T Apr 16	Project: Return 2 nd drafts of paper with comments	Prepare oral presentations	G
	Th Apr 18	Project: Oral presentations	Prepare final drafts of paper	G
13	T Apr 23	Project: Final drafts of paper due	Prepare final drafts of posters	
	Th Apr 25	Project: Oral Presentations Final drafts of poster due		
14	T Apr 30	Reflection on semester		G

Prerequisites: NatSci 190IH (iCons I)

Grading: Grades will be based upon written work, team-based project work, class participation, and final presentations.

Outline of course: This course will engage students in written and oral communication in a variety of formats, with emphasis on different audiences, including scientists within and outside a discipline, students, and the general public.

Learning Objectives

1. Students reflect upon their work and evaluate themselves while developing a portfolio.
2. Students communicate to non-scientists through jargon-free communication skills.
3. Students develop scientific thinking skills.
4. Students experience the value of mentoring.
5. Students can expect and contribute to a positive, engaging learning environment.
6. Students will develop clear and effective writing skills in a multidisciplinary context.
7. Students will offer and utilize constructive criticism.
8. Students learn to respectfully work in teams.
9. Students apply scientific knowledge to the theme or problem area.
10. Students will critically apply and read scientific literature.
11. Students will develop clear and effective individual speaking skills in a multidisciplinary context.
12. Students will participate in vigorous scientific dialogue.
13. Students learn persuasive communication skills.
14. Students will learn to create effective visual presentations of scientific data and concepts.

Projects

In addition to several individual exercises, students will work in teams of 3-4, leading to an original research proposal at the end of the semester.

The purposes of the group projects are:

- Discussion: Sharing of ideas in an informal, low-stakes atmosphere, to develop extemporaneous communication skills.
- Written communication: Formal, submitted work, to develop the ability to present thoughtful, organized, and comprehensive ideas.
- Oral communication: Public presentations to diminish fear of public speaking and to develop the rhetorical skills required of future leaders in science.
- Critique: Students critique other's work, to develop a critical mindset and the ability to offer meaningful feedback to others in a scientific format.