

# Communication in the Life Sciences

Spring 2012

11:374:435

**Meeting time:** Tuesdays 5:35-8:35 pm

**Classroom:** Blake 131

**Instructor:** Mary L. Nucci, Ph.D.

**Office:** ASB III or by arrangement on campus

**Office hours:** Tuesdays 2-4 pm or by arrangement

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## Course description

Communication plays a fundamental role in science. Whether in policy discussions, public health directives, or the continuation of scientific research itself, progress in the sciences is documented through acts of communication. From individual conversations to the mass media, from technical journals to textbooks, from lab notes to the World Wide Web, communication creates and defines social issues and research findings. In this course, we will examine the institutional and intellectual contexts, processes, promises, and practical constraints of communication in the life sciences (CILS) both within the scientific arena and in the public forum. To accomplish these goals, we will look at many examples of communication in and about the life sciences: learning how to read scientific articles, review the many facets of CILS, and study the communication processes of cooperation and conflict in life sciences.

## Course objectives

- Understand the relationship of science communications to cultural systems.
- Distinguish the main components and purposes of different scientific written forms.
- Read scientific publications more efficiently.
- Understand how scientists communicate: systems, issues, and goals of scientific communications.
- Identify, access, and evaluate sources of science writing.

## Required text

None. Readings will be available on the course Sakai site.

## Class protocol

Class begins promptly at 5:35 pm. Please plan to be on time. If you have a conflict or an unavoidable reason to be late, please let me know in advance by phoning, texting or sending an email.

I realize how connected we all are through our phones, computers etc. However, please silence all devices in the classroom. Note that I would prefer that you do not text while in class as I

think it is rude to see someone texting in a classroom. However, you are adults and you will need to make your own decisions about whether you should pay attention to me or text.

We will have one break during class. Eating during class is fine if done quietly and does not interrupt the class.

**Due dates are firm.** I will not accept late assignments unless you speak to me in person or by phone BEFORE the due date. NO email or text communications will be considered. I am here to help you learn the material in the class, so if you need extra time for a legitimate reason I will work with you. However, repeated latenesses will not be allowed.

### **Academic Honor and Integrity**

Plagiarism in any form will not be tolerated. This includes the improper citation of materials from any source, including the Internet. If you have questions about citation issues, please bring them up with me. We will use American Psychological Association (APA) formatting (See <http://sociology.camden.rutgers.edu/curriculum/citation.htm>).

Rutgers University Policy on Academic Integrity considers cheating, fabrication, facilitation of academic dishonesty, plagiarism, and the denial of access to others of materials or information as violations of academic integrity. All violations will be dealt with according to the rules laid out in the policy which can be found at <http://ctaar.rutgers.edu/integrity/policy.html>, ranging from loss of class credit to expulsion depending on the level of the violation.

### **Attendance**

The University is committed to a culture of academic engagement between students and faculty. Part of this commitment involves taking responsibility for attending your classes, labs, and exams, and informing your instructors when you cannot attend. Rutgers students are expected to attend all scheduled course meetings. University policy excuses absences due to religious observance or participation in Rutgers-approved activities, and permits students to make up work missed for these circumstances.

If you will be absent from a class, lab, or exam for any reason, you need to report your absence through the University Absence Reporting Website <https://sims.rutgers.edu/ssra/>. The system will generate an email to me about your absence. The University recommends that you also contact me directly to let me know of your absence.

I will take attendance at every class—note that missing class will mean you will miss material that cannot be made up. More than 2 unexcused absences other than per Rutgers guidelines (religious observance, participation in Rutgers-approved activities) will result in a letter grade drop in your final grade.

## Assignments and grading

You should expect to read, write, and participate in discussions through the semester. Assignments will take the form of in-class activities, written reading, a mid-term paper and a final group project:

- Office hour meeting between January 25 and February 7 (5 points)
- In-class activities (10 points)
- Reading responses: (10 responses) (30 points)
- Mid-term project: short project to be assigned. (20 points)
- Final team project: group presentation to be assigned (35 points)

## Schedule

### Week 1: January 17

Course introduction.

### Week 2: January 24

The culture of science/science and culture.

### Week 3: January 31

Science storytelling.

### Week 4: February 7

Models of science communication

### Week 5: February 14

Types and modalities of science communication

### Week 6: February 21

The scientific paper: structure and function

### Week 7: February 28

The scientific paper: images and statistics.

### Week 8: March 6

#### **Mid-term paper due.**

Legal issues in scientific communication: patents, embargo, retraction.

### Week 9: March 13

**Spring break.**

Week 10: March 20

Audience and science literacy.

Week 11: March 27

Science in the mass media.

Week 12: April 3

Visual science.

Week 13: April 10

Movie screening (to be announced).

Week 14: April 17

Science policy and science activism.

Week 15: April 24

**Final project presentations.**

### **Relevant links**

- [APA format \(Purdue\)](#)
- [Science](#) magazine, [AAAS](#), and [Communicating science](#)
- [Nature magazine](#)
- [Environmental Communication Network](#)
- [Science and Development Network \(SciDevNet\)](#)
- [Lab Lit](#)
- [Public communication of Science and Technology](#)
- [National Association of Science Writers](#)
- [Informal Science \(NSF\)](#)
- [Association of Science and Technology Centers](#)
- [Environmental Media](#)
- [Center for Advancement of Informal Science Education \(NSF\)](#)
- [Bad Science](#)
- [Google Sci Tech news](#)
- [Why Files](#)
- [Live Science](#)
- [Science Network](#)
- [Center for Advancement of Informal Science Education \(NSF\)](#)

## Reading resources

Baron, N. (2010). *Escape from the ivory tower: A guide to making your science matter*. Washington: Island Press.

Bowen, E.C. & Schneller, B.R. (1991). *Writing about Science*. New York: Oxford University Press.

Day, R.A. (1998). *How to write and publish a scientific paper*. Arizona: Oryx Press.

Dean, C. (2009). *Am I Making Myself Clear? A Scientist's Guide to Talking to the Public*. Cambridge: Harvard University Press.

Greene, L. (2010). *Writing in the Life Sciences*. Oxford University Press.

Holliman, R., Whitelegg, E., Scanlon, E., Smidt, S. & Thomas, J. (Eds.). (2009). *Investigating Science Communication in the Information Age: Implications for Public Engagement and Popular Media*. Oxford: Oxford University Press.

Holliman, R., Thomas, J., Smidt, S., Whitelegg, E. & Scanlon, E., (Eds.). (2009). *Practicing Science Communication in the Information Age*. Oxford: Oxford University Press.

Meredith, D. (2010). *Explaining Research: How to Reach Key Audiences to Advance Your Work*. New York: Oxford University Press.

Olson, R. (2009). *Don't be such a scientist: Talking substance in an age of style*. Washington: Island Press.

Scanlon, E., Hill, R. & Junker, K. (1999). *Communicating science: Professional contexts*. London: Open University.

Zinsser, W. (2006). *On writing well: The classic guide to writing nonfiction*. New York: Collins.