ENG 333: Communication for Science and Research

Instructor: Christian F. Casper
Office: Tompkins G-116A
Email: cfcasper@ncsu.edu
Phone: 466-8950 (before 10:00 p.m.)

Class Hours: MWF 8:05–8:55, in Tompkins G-123 (sec 007)
MWF 11:20–12:10, in Tompkins G-117 (sec 002)
Office Hours: Tu 1:00–2:00, W 12:15–1:15, or by appointment
Website: Course information can be found on *WebCT Vista* (vista.ncsu.edu).

"We scientists do not attend professional meetings in order to announce our findings *ex cathedra*, but in order to argue." —John Polanyi, University of Toronto. Nobel Prize in Chemistry, 1986.

Quoted in *Landmark Essays on Rhetoric of Science;* Harris, R. A., Ed.; Erlbaum: Mahwah, NJ, 1997; p. xi.

Required Text

Penrose, A. M.; Katz, S. B. *Writing in the Sciences: Exploring Conventions of Scientific Discourse*, 2nd ed.; Pearson Longman: New York, 2004. Approx. $64 new, $48 used.

Please bring the text to every class, even when we don't have a reading assignment for that day, because we will often refer to it in our discussions and activities.

Recommended Text

I don't require it, but an appropriate style guide for your field might be helpful to some of you. Some scientific societies, such as the American Chemical Society and the American Institute of Physics, publish excellent guides. For those of you in the life sciences, the Council of Science Editors (formerly the Council of Biology Editors) publishes a widely used style guide called *Scientific Style and Format*. A significant part of your grade will be based on your familiarity with and skillful use of conventional scientific style, so becoming familiar with one of these would be helpful. You will also need to become familiar with some of the relevant journals in your field and their particular style and conventions. You'll have to read the literature regularly when you become a professional or a graduate student anyway, so now would be a good time to start if you aren't in the habit already.

Course Objectives

- To understand the process of scientific communication and to be able to communicate effectively using the various genres in your particular field.

- To understand the various genres used in the communication of science and the particular audiences, constraints, and conventions associated with each.
- To understand the rhetorical exigences in scientific practice and to use the conventions of communication in the natural and applied sciences and to be able to adapt your discourse to different audiences within that community.
- To participate effectively as a member of a collaborative team.
- To give effective oral presentations of scientific information.
- To acquire and apply a rudimentary knowledge of visual rhetoric and basic design skills.

Assignments

There will be seven projects in the course, including five that ask you to produce an example of a particular form of communication, or genre, in science. You need not pick a different topic for each of these projects. Feel free to explore the many different ways a topic of interest to you can be communicated to different audiences. Point values and due dates are as follows:

	Assignment	Point Value	Due Date
1	Journal analysis	25	01/22
2	Article analysis	75	01/31
3	Mini–review article	250	02/21
4	Presentation	100	03/12, 03/14, or 03/16
5	Funding proposal (group project)	250	04/04
6	General-audience article	150	04/18
7	Scientific poster (individual or group)	150	04/27

Note: For several assignments you'll have to turn in printouts of articles and/or instructions from journals or other sources. Also, for the poster assignment you'll have to produce a professional-quality scientific poster. Please budget accordingly.

Grading

Grading will be conducted on the ABCDF, +/– scale. As a general rule, for assignments that simulate professional publications, I grade as if I were the editor in charge of your piece. Grades correspond to the following:

A The work is outstanding, exceeding my expectations in nearly every way.
B The work is solid, demonstrating a good understanding of the course material.
C The work demonstrates general but not complete understanding of the course material.
D The work has significant shortcomings.
F The work has serious shortcomings.

A key to correlate percentages with letter grades is below:

A+	97.0–100.0%	A	93.0–96.9%	A–	90.0–92.9%
B+	87.0–89.9%	B	83.0–86.9%	B–	80.0–82.9%
C+	77.0–79.9%	C	73.0–76.9%	C–	70.0–76.9%
D+	67.0–69.9%	D	63.0–66.9%	D–	60.0–66.9%
F	59.9% and below				

Policies

The following is an outline of policies for this course.

Prerequisites: You must have completed at least 60 credit hours and achieved junior standing. You must also have an upper-level undergraduate knowledge of one or more of the natural or applied sciences.

Attendance: Attendance in class sessions is required. I will grant three absences with no questions asked, but each unexcused absence beyond these three will result in a loss of 20 points from your final grade. Coming late to class will result in a penalty of 10 points for each late arrival after the first three. Excused absences, which will count against the three allowed absences, may be granted for illness, for religious observances, for local, state or national service (military or otherwise), for university-sponsored events, or for graduate school visits. Requests for excused absences must be presented to me (in person, by telephone, or by email) as soon as is reasonably possible. I reserve the right to determine whether or not any request for an excused absence will be granted. Please note also the attendance policies for online meetings and for peer review and peer evaluation below. The university's attendance policy can be found here: http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.3.php

Online meetings: Several times during the semester we will forgo meeting in the classroom and instead "meet" online. On these days you will be asked to contribute to a discussion on the discussion boards in *WebCT Vista* or to complete a short assignment. You must contribute substantially to the discussion or complete the short assignment, as applicable, in order to be counted present for that class period. Failing to contribute thoughtfully to the discussion or to complete the assignment will result in an unexcused absence just as if you had failed to be present for a regular class meeting. Your contribution or completed assignment is due by 3:00 p.m. on the day of an online meeting.

Assignments and due dates: You must complete every assignment in order to pass the course. When submitting assignments, please staple together the main part of the document, but use a clip to attach any supplements such as grade sheets or guidelines from journals. Alternatively, you may submit assignments in a folder labeled with your name.

Assignments are due at the beginning of class on the due date. Assignments handed in after this will be penalized two-thirds of a letter grade for each day (not class period, and including weekends) they are late, except by prior approval. The first late day begins after the beginning of class on the due date and ends at the end (midnight) of the next day. The second and all subsequent late days begin and end at midnight. The number of days late is determined by when I personally receive the assignment, not by when it leaves your hands. The assignment is not complete until each component is turned in. It will be penalized for lateness until it is complete. Read the assignment sheets carefully.

Peer review/evaluation: For some of our assignments we will engage in peer review in class. On these days you must bring a complete draft (not an outline, not a rough draft) of the assignment to class. Being absent from one of these sessions for any reason other than a valid excused absence will result in a loss of 25 points from your semester total, in addition to any other absence-related penalties you may have. I will come around and look at your drafts and will count you present only if you have a substantially complete draft for review. Each of you will conduct peer review on at least one other piece by a classmate or group. In addition, you will conduct peer evaluations of the presentations and the posters. The same attendance policy applies to these sessions as well.

Incompletes: I will give an incomplete (IN) only in cases of documented personal or family hardship, not for poor performance in the course or for procrastination. I will grant an IN only if completing the assignments missed as a result of the hardship will allow you to pass the course.

Academic integrity: I take academic integrity very seriously. Turning in an assignment to me indicates implicitly that your work conforms to the university's honor pledge: "I have neither given nor received unauthorized aid on this test or assignment." Plagiarism or other violations of basic standards of academic integrity will result in penalties potentially including failure of the course. We will devote class time to this topic, but ultimately you are responsible for understanding these standards and for ensuring that your work meets them. I'm happy, of course, to respond to any questions or concerns you might have. The university's Code of Student Conduct can be found here: http://www.ncsu.edu/policies/student_services/student_discipline/POL11.35.1.php

Disabilities: Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation (REG02.20.1): http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.1.php

Schedule

This schedule is subject to change. You are responsible for keeping up with any changes that may be made.

Week	Date	Topic	Due in Class
1	01/10	Introduction to the class.	
	01/12	Forms of and forums for scientific communication. Intro to journal analysis assignment.	Read WIS ch. 1 and ch. 2.
2	01/15	*Martin Luther King, Jr., holiday – No class*	*Martin Luther King, Jr., holiday – No class*
	01/17	Guest lecture by Kim Duckett, Librarian for Digital Technology and Learning, NCSU. *Meet at ITTC lab 2 in D.H. Hill Library.*	*Meet at ITTC lab 2 in D.H. Hill Library.*
	01/19	*Online*	*Online*
3	01/22	Research reports. Intro to article analysis assignment.	Read WIS ch. 3 and pp. 254–257, 328–340. **Journal analysis**: Activity 7 on p. 37, including link to web journal and photocopy of TOC from print version.
	01/24	Research reports, cont.	
	01/26	*Online*	*Online*
4	01/29	Review articles. Introduction to mini–review article assignment.	Read WIS ch. 4 and pp. 236–248.
	01/31	Review articles, cont.	**Article analysis**
	02/02	*Online*	*Online*
5	02/05	Plagiarism and ethical conduct.	Read WIS sections 9.1 and 9.2.
	02/07	Funding proposals. Intro to funding proposal project.	Read WIS ch. 6 and skim pp. 299–327.
	02/09	*Online*	*Online*

6	02/12	Funding proposals, cont.	
	02/14	Pick groups (3–4 members) for funding proposal project.	
	02/16	*Online*	*Online*
7	02/19	Mini–review article peer review.	Bring a draft of your mini–review article.
	02/21	Oral presentations and *PowerPoint*.	**Mini–review article** Read WIS pp. 102–121.
	02/23	*Online*	*Online*
8	02/26	Discuss mini–review articles.	RFP for funding proposal (individual)
	02/28	In-class work on proposal, presentation. Consultation on mini–review articles.	
	03/02	*Online*	*Online*
9	03/05– 03/09	*Spring break – No class*	*Spring break – No class*
10	03/12	Presentations, including peer evaluation	**Presentation**
	03/14	Presentations, including peer evaluation	**Presentation**
	03/16	Presentations, including peer evaluation	**Presentation**
11	03/19	Discuss presentations.	Last day to turn in optional mini–review article rewrite.
	03/21	Work day for proposal	
	03/23	*Online*	*Online*
12	03/26	Writing for general audiences. Introduction to general-audience article assignment.	Read WIS ch. 8.

	03/28	Work day for proposal	
	03/30	*Online*	*Online*
13	04/02	Proposal peer review.	Bring a draft of your proposal.
	04/04	Writing for general audiences (cont.).	**Funding proposal**
	04/06	*Spring holiday – No class*	*Spring holiday – No class*
14	04/09	Posters. Introduction to poster assignment.	Read WIS pp. 121–124.
	04/11	Posters (cont.)	
	04/13	*Online*	*Online*
15	04/16	General-audience article peer review.	Bring a draft of your general-audience article.
	04/18	In-class group work on posters.	**General-audience article**
	04/20	*Online*	*Online*
16	04/23	In-class group work on posters.	
	04/25	In-class group work on posters.	
	04/27	Poster presentation, including peer evaluation.	**Poster**
	04/30 (Mon.)	Scheduled exam period: 8:00–11:00 am. *Section 007 (MWF 8:05–8:55)*	
	05/07 (Mon.)	Scheduled exam period: 8:00–11:00 am. *Section 002 (MWF 11:20–12:10)*	