

ENGINEERING 351: WRITING IN ENGINEERING
Monday/Wednesday/Friday • Spring 2015

Lecturer

Molly Lehman

mlehman@ecs.umass.edu

Marcus 113

Office Hours: M 9-11, R 2:30-3:30, and by appointment

Course Librarian

Maxine Schmidt

mschmidt@library.umass.edu

Science and Engineering Library

Course Description

This course fulfills the University of Massachusetts's junior-year writing requirement for students in the College of Engineering. The coursework introduces traditional technical and scientific writing forms, including outlines, summaries, technical reports, poster and slideshow presentations, and research proposals. Grammar review, oral presentations and online research are significant components of this course. We will also investigate ethics in engineering practice and research.

Course Objectives

Engineering 351 is designed for students who are studying and preparing for careers in engineering. This advanced course in writing familiarizes you with the discourse practices prized in your disciplinary and institutional communities, and helps you to manage those practices effectively in your own writing. This course teaches the strategies and tactics that, as a technical professional, you will need in order to write and communicate successfully on the job. You can expect to:

- Discover and understand the discourse features that distinguish your disciplinary and institutional communities from others.
- Identify audiences and communities and determine how to write for them.
- Arrange material to raise and satisfy readers' expectations, using both conventional and rhetorical patterns of organization.
- Cultivate a sense of ethical responsibility and urgency regarding communication within your discipline.
- Learn how to navigate discipline-specific databases, evaluate sources, and responsibly use the information to enrich your own original work.
- Observe appropriate generic conventions and formats for traditional technical and scientific writing forms, including outlines, summaries, technical descriptions, reports, and proposals.
- Compose rhetorically effective and grammatically sound sentences.
- Provide a supportive and critically engaged environment for your peers in the form of peer review.
- Collaborate effectively with peers to write together, and to research and present information in several media.

Course Texts

Markel, Mike. *Technical Communication*. 10th ed. Boston: Bedford/St. Martin's, 2012.

Faigley, Lester. *Little Penguin Handbook*. 3rd ed. for University of Massachusetts Amherst. Boston: Pearson Custom Publishing, 2012. *(optional)*

Electronic readings will be posted on Moodle. Please bring the day's reading to class with you, either electronically or as printouts. We will be reading quite a lot, so give yourself enough time to complete these assignments thoroughly! I am very sorry to inform you that unannounced reading quizzes will be given

periodically throughout the semester. (The frequency of these quizzes will be determined by the enthusiasm and depth of our class discussions.)

Library and Research

This course is linked to a course-specific research guide, where many of the resources you will use both as a writer and an engineer are collected. I have also listed the contact information of Maxine Schmidt, who specializes in science research at the Science and Engineering Library, at the top of this syllabus. If you have research questions about any assignment in this course, please begin with the research guide and then direct further questions to Maxine. Over the course of the semester, we will also participate in two library sessions to explore resources for research in engineering. (These sessions, which will be held in the DuBois Library, are noted in the schedule below.)

Because we will be devoting considerable time to investigating the library's available resources, I expect you to use them thoroughly, accurately, and responsibly in the writing you submit for this class.

Attendance

This course depends on your active participation, and regular attendance is required. Please come (on time!) to every class. Excused absences are certainly understandable as long as you communicate with me about them (prior to the missed class, whenever possible), but your grade can be lowered for poor attendance, down to and including an F regardless of performance in the class. You run that risk if you exceed three unexcused absences.

If you miss a class, it is your responsibility to get assignments, class notes, and course updates from a classmate. (Please do not email me for a recap of the day's lesson!) If you miss class on a day that work is due in class, make arrangements to submit the work electronically and/or send it along with a classmate. *In-class work, including workshops and quizzes, cannot be made up.*

Moodle

This course will be on Moodle. Several of your assignments will be submitted there, and I will also post electronic copies of this syllabus, class readings, and assignment sheets. You should plan to log into Moodle at least once a day to stay updated and ensure you have done the correct reading for the next class.

Assignments

In this course, I will hold you to the professional standards that prevail in your field. Your employer or graduate advisor will take some qualities completely for granted, such as neatness, completeness, and promptness. Accordingly, I will expect these qualities to always be present in your submitted work.

Each assignment will be explained in a detailed prompt. All work should be neatly prepared, using margins, spacing, and design techniques expected for the genre, which we will discuss at length.

Unless otherwise indicated, assignments must be submitted electronically via Turnitin on Moodle by the date and time listed on the syllabus. Late work will have its grade deducted by ten percentage points for each 24-hour period (or fraction thereof), including weekends, that passes after the due date and time. These deductions will be applied after the assignment has been graded.

A few ongoing assignments to be aware of...

Correspondence Journal

A significant percentage of an engineer's regular writing tasks are workplace messages, especially emails and memos. At several points during the semester (the dates are indicated on the syllabus), I

will post a workplace scenario as a Workshop on Moodle. This scenario will require some kind of communication, and will ask you to compose a message for it. We will discuss your responses in class the following day.

Public Lecture Reviews

Over the course of the semester, the University will host a number of public lectures related to engineering and technology. (I will post some of these events on Moodle, but you can find others on the University calendar at umass.edu/events.) During the semester, you will attend two lectures of your choosing and write a 300-word review of each. Each review should comprise two paragraphs: the first, a fair, complete summary of key points; the second, a well-supported argument outlining your thoughts on the ideas and execution of the lecture. These reviews may be submitted to Moodle at any point during the semester.

Peer Review

Working in pairs or small groups, you will peer review several of your assignments prior to submission throughout the semester. Peer review will teach you not only how to usefully critique others' writing, but how to identify areas to be improved in your own writing. To earn full participation credit on these days, you *must* bring a working draft of your own work and contribute fully to the review process.

Quizzes

In addition to unannounced reading quizzes, you will also take two announced grammar quizzes over the course of the semester. (The dates of these quizzes are indicated on the syllabus.) These quizzes will be posted on Moodle and are open-note.

Evaluation

When grading each of your assignments, I will ask one core question: "Does this document do its job successfully?" That is, would your communication have its intended effect on the reader you are addressing? I will, of course, recognize the difference between a competent performance (a C) and good and excellent performances (B and A). A competent performance is one that stands a chance of succeeding; a good performance is likely to succeed; an excellent performance is one that seems assured not only of success but also of winning praise.

Grading Scale

A	93-100
A-	87.6-92
B+	85.5-87.5
B	81-85
B-	77.6-80
C+	75.5-77.5
C	71-75
C-	65.5-70
D*	61-65
F	0-60

**Grades of D+ and D- will not be given in this course.*

Grading Breakdown

Assignment 1: Professional Materials Portfolio	5%
Assignment 2: Process Description	5%
Assignment 3: Disaster Summary	10%
Assignment 4: Disaster Analysis Report	15%
Assignment 5: Proposal and Annotated Bibliography	20%
Assignment 6: Poster Presentation and Handout	20%
Correspondence Journal	5%
Public Lecture Reviews	5%
Quizzes	10%
Class Participation (attendance and discussion contributions)	5%

Academic Integrity

Academic integrity is the pursuit of scholarly activity in an open, honest, and responsible manner, and dishonesty of any kind will not be tolerated in this course. Dishonesty includes, but is not limited to: cheating, plagiarizing, fabricating information or citations, facilitating acts of academic dishonesty by others, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.

Talking over your ideas and getting comments on your writing from friends are not plagiarism. Taking someone else's published or unpublished words and calling them your own is plagiarism; a synonym is academic dishonesty. In addition, unless I say otherwise, writing that you have submitted for another class cannot be used in this class. For more information, read the university's policy on academic honesty in its code of conduct: umass.edu/dean_students/codeofconduct/acadhonesty.

Any case of suspected plagiarism will be handled strictly according to this policy. This means that I will contact you first to discuss the matter, then turn it over to the Academic Honesty Board if the issue remains unresolved. This is intended to be the fairest method of handling suspected plagiarism, since my feelings on the matter or the individual are irrelevant.

Writing Center

The Writing Center, located in the Learning Commons of the W. E. B. Du Bois Library, is an excellent resource for writers of all ability levels, at all stages of writing. Writing Center tutors work with writers to brainstorm ideas, organize writing, learn strategies for copyediting, and more. To make an appointment, go to umass.edu/writingcenter. (The Center's hours can be viewed on their site.)

Schedule

Markel's *Technical Communication* abbreviated here as "TC."

Week	Date	Topics	Reading Due	Other Work Due
1	W 1/21	Course Introduction Rhetoric in the Sciences	Zetler, "The Inarticulate Engineer"	
	F 1/23	Modes of Persuasion: Ethos, Logos, Pathos The Rhetorical Triangle	Lunsford, excerpt from <i>Everything's An Argument</i> Suleski, "Scientists are Talking, but Mostly to Each Other"	Take Syllabus Quiz, posted on Moodle, by 11:59pm
2	M 1/26	Presentation by Cheryl Brooks from Career Services: "How Companies Evaluate Your Resume"	Career Development Office Handbook	Professional Materials Memo (bring hard copies of memo and chosen job posting to class)
	W 1/28	Analyzing Audience Grammar Unit 1: Parallel Structure	Articles by Reis et al, Matson, and Brumfiel	
	F 1/30	Genre and Rhetoric of Workplace Correspondence Grammar Unit 2: Independent and Dependent Clauses	<i>TC</i> , ch. 14 ("Writing Correspondence")	
3	M 2/2	Genre and Rhetoric of Instruction Sets and Process Descriptions	<i>TC</i> , ch. 20 ("Definitions, Descriptions, and Instructions") College of Natural Sciences, "Soil Sampling Instructions" UMass, "The Patent Process"	Professional Materials Portfolio (submit to Moodle by 11:59pm)
	W 2/4	Workshop: Developing Usability Tests Grammar Unit 3: Passive vs. Active Voice	<i>TC</i> , pp. 355-363	Complete Correspondence Workshop 1 by 2/5 at 8pm. Respond to another student's submission by 11:59pm

	F 2/6	No Class	VIDEOS: Tal Golesworthy, “How I repaired my own heart” and Callum Cooper, “Mine Kafon” (both linked on Moodle)	Submit completed film-response worksheet to Moodle by 11:59pm
4	M 2/9	Ethics and Public Understanding	Eagleman, “Why Public Dissemination of Science Matters: A Manifesto” Center for Disease Control, “Understanding How Vaccines Work” Marwick, “How Your Data Are Being Deeply Mined”	Take Grammar Quiz 1 on Moodle by 11:59pm
	W 2/11	Reading Critically and Responding Thoughtfully Workshop: Mock Peer Review		
	F 2/13	Peer Review: Process Description		Draft of Process Description (bring hard copy to class)
5	M 2/16	No Class—Presidents’ Day		Process Description (submit to Moodle by 11:59pm)
	W 2/18	Library Session 1: Engineering Databases, Scholarly Articles, Technical Reports	Graff, <i>They Say, I Say</i> , “They Say” Spurrier, “Hard lessons”	
	F 2/20	Genre and Rhetoric of Summary	Petroski, excerpt from <i>To Engineer is Human</i>	Find one scholarly and one popular article about your chosen disaster (bring hard copies to class)
6	M 2/23	Ethics and Context of Summary	Kalelkar and Little, “Investigation of Large-Magnitude Incidents: Bhopal as a Case Study” Iyer and Brellis, “India’s Night of Death”	

	W 2/25	Workshop: Summarizing a Popular Article Integrating Quotations	Graff, <i>They Say, I Say</i> , “The Art of Quoting”	Submit Correspondence Workshop 2 by 2/24 at 8pm. Respond to another student’s submission by 11:59pm
	F 2/27	Crafting Sentences Grammar Unit 4: Commas & Semicolons	TC, ch. 10 (“Writing Effective Sentences”)	Disaster Summary (submit to Moodle by 11:59pm)
7	M 3/2	Technical Reports as Analytical Tools	TC, ch. 17 (“Writing Informational Reports”)	
	W 3/4	Technical Reports as Forensic Investigations Grammar Unit 5: Pronoun-Antecedent Agreement	Tufte, <i>Visual and Statistical Thinking</i> National Transportation Safety Board, “Ceiling Collapse in the Interstate 90 Connector Tunnel”	
	F 3/6	Workshop: Analyzing a Technical Report		
8	M 3/9	Peer Review: Disaster Analysis Report		Draft of Disaster Analysis Report (bring hard copy to class)
	W 3/11	Visual Rhetoric and the Ethics of Presentation Software	Tufte, <i>The Cognitive Style of PowerPoint</i>	Disaster Analysis Report (submit to Moodle by 11:59pm)
	F 3/13	Workshop: Creating a Slide-Based Presentation	Alley, excerpt from <i>The Craft of Scientific Presentations</i>	Schedule first team meeting
9	M 3/16	No Class—Spring Break		
	W 3/18	No Class—Spring Break		
	F 3/20	No Class—Spring Break		

10	M 3/23	Genre and Rhetoric of Proposals	<i>TC</i> , ch. 16 (“Writing Proposals”) Dartmouth project proposal, “Arsenic-Free Water Filter”	
	W 3/25	Proposals, Audience, and Community	National Science Foundation, “A Guide for Proposal Writing” Lucena et al, <i>Engineering and Sustainable Community Development</i> , “Listening to Community”	
	F 3/27	Writing as Collaboration Grammar Unit 6: Dangling Modifiers Grammar Review		Submit Correspondence Workshop 3 by 3/26 at 8pm. Respond to another student’s submission by 11:59pm
11	M 3/30	Library Session 2: Source Evaluation, Citation, RefWorks, Image Research	<i>TC</i> , ch. 6 (“Researching your Subject”)	
	W 4/1	Creating Annotations Organizing Paragraphs	<i>TC</i> , ch. 7 (“Organizing Your Information”) and pp. 211-220	Take Grammar Quiz 2 on Moodle by 11:59pm
	F 4/3	Genre and Rhetoric of Scientific Handouts	Petroski, “Engineering ≠ science” Blockstein, “How To Lose Your Political Virginity...”	Proposal and Annotated Bibliography (submit to Moodle by 11:59pm)
12	M 4/6	Rhetoric, Text, and User-Centered Design	<i>TC</i> , ch. 11 (“Designing Documents and Websites”)	
	W 4/8	Graphics, Images, and Visual Rhetoric Workshop: Analyzing Images	Tufte, “Images and Quantities”	
	F 4/10	Peer Review: Handout		Draft of Handout (bring hard copy to class)
13	M 4/13	Genre and Rhetoric of Scientific Posters	Purrington, “Designing conference posters” (plus links)	

	W 4/15	Ethos, Rhetoric, and Oral Presentations	<i>TC</i> , ch. 21 (“Making Oral Presentations”) Dannels, “Features of Success in Engineering Design Presentations”	
	F 4/17	Workshop: TED Talk Critique		
14	M 4/20	No Class—Patriot’s Day		
	W 4/22	Presentations		
	F 4/24	Presentations		
15	M 4/27	Presentations		
	W 4/29	Presentations Course Wrapup		