ENGR 398 Fall 2023

ENGR 398: Professional Communication for Engineers
Last revised August 29, 2023

Tuesdays 11:30 – 12:20 PM
Millis Schmitt Lecture Hall

Instructional Team

Instructor:

Professor Peter Hovmand (psh39@case.edu)
Biomedical Engineering (CSE) and Center for Community Health Integration (SOM)
402H BioEnterprise
Office hours (by Zoom or in-person appointment): Contact via email or during class to make an appointment.

Teaching Assistants/Graders:

Braveheart Gillani (lead) (braveheart.gillani@case.edu)
Mandel School for Applied Social Sciences and Center for Community Health Integration
Office hours (by Zoom or in-person appointment): Contact via email or during class to make an appointment.

Samantha Smith
Mechanical Engineering
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Zachary Toothman
Chemical Engineering
Office hours (by Zoom or in-person appointment): Contact via email or during class to make an appointment.

Course Description & Objectives

ENGR 398 has the goal to introduce you to practical business, global, and ethical issues that shape the environment for communication among professional engineers. The course will focus on professionalism and leadership; intellectual property and technology transfer; entrepreneurship, design, and individual and collective creativity; ethics; and technological, economic, and cultural aspects of globalization. ENGR 398 promotes knowledge of contemporary engineering issues; understanding of professional, ethical, academic, and workplace responsibilities; and practices of life-long learning.

ENGR 398 is taught in conjunction with ENGL 398, a 2-credit co-requisite seminar course that introduces principles and strategies for effective communication in academic and workplace

engineering settings. For specific details of ENGL 398 objectives, work commitments, grade breakdowns, and assignments, please see the syllabus for your section.

Grading

40% in-class participation, e.g., discussion and exercises. Each class will have an activity worth 4% for participation with the highest ten grades contributing to the final grade.

30% online reflection and discussion via Slack. This will be based on posts and reflections on readings, in-class activities, discussions, etc. throughout the semester.

30% quizzes. There will be three quizzes (10% each) on content/reflections.

The grades will be assigned as follows: A is 90% or above; B is 80% to 89%; C is 70% to 79%; D is 60% to 70%; F is below 60%.

Assignments must be submitted by the deadline to receive full credit. Late assignments will be accepted but receive only 50% credit (but no penalty if for a Navigator-approved reason)

Course Materials

Readings on Canvas

Stella Online (available at no cost)

Slack for online reflection, discussion, etc.

Recordings of lectures via Canvas.

Course Schedule

Date	Topic	Reading/assignments
Aug 29	Welcome and introduction	Syllabus
Sep 5	Systems thinking and leverage points	Donella M. 1999. Leverage points: places to intervene in a system. The Sustainability Institute, Hartland, VT.
Sep 12	How to do things with words	Lakoff G. 2010. Why it matters how we frame the environment. *Environmental Communication* **4**(1): 70-81.
Sep 19	Thinking beyond technological innovation	Martin, D. and More, A. (2020). AI engineers need to

		think beyond engineering. *Harvard Business Review*,
Sep 26	Guest lecture	Quiz 1
Oct 3	Problem solving in pictures and words	Petroski H. 2011. *The essential engineering: Why science alone will not solve our global problems.* Vintage, New York: NY.
Oct 10	Design science	Herbert Simon
Oct 17	System dynamics of technology and innovation in society	Richardson. 2020. Core of system dynamics. In *Encyclopedia of Complexity and Systems Science* (pp. 11-20). Springer
Oct 24	Fall break	No class (take a break!)
Oct 31	Guest lecture	Quiz 2
Nov 7	Equity by design	Benjamin R. 2019. *Race after technology: abolitionist tools for the new Jim code*. Polity Press, Medford, MA.
Nov 14	Data and intellectual property	Lanier, J. (2013). *Who owns the future?* Simon & Schuster: San Jose, CA.
Nov 21	Managing the commons	Ostrom, E. (2016). The comparative study of public economies. *The American Economist, 61*(1), 91-107.
Nov 28	Guest lecture	Quiz 3
Dec 5	How to market your skills	Memo on marketing your

Course Policies

Academic Integrity

The ethical exchange of ideas is at the heart of academic inquiry and innovation. Such exchanges require both that you complete your own work and that you give proper credit to those whose ideas have influenced your own. Failing to do so constitutes plagiarism (the unacknowledged use of another's words or ideas). A variety of online reference manuals will aid you in proper citation methods, and Case's Academic Integrity policy is available online (http://studentaffairs.case.edu/groups/aiboard/policy.html). If you are at any time feeling overwhelmed or confused, please see your instructor to discuss strategies for handling the workload, timetables for assignments, and ways to articulate ideas.

Attendance

Students are responsible for being familiar with the content of the class regardless of whether the student was able to attend. As such, there is no specific need to let the instructor know of an upcoming absence from class, nor is it the responsibility of the instructor or TAs to help you catch up from a missed class. However, note that 40% of the grade is based on participation, which is not possible to complete without attending class.

Students with Additional Needs
During the semester, Prof. Hovmand is happy to meet (by appointment) with all students enrolled in this course. If you have a learning or other disability, please contact your instructors as soon as possible to discuss appropriate accommodations. For more information about services for students with disabilities, or to register with the Coordinator of Disability Resources, please call 368-5230.