

# University of Waterloo

## GENE 191: Introduction to Communication in Engineering Fall 2018

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**Office Hours:**  
**Class Location:** RCH 208  
**Class Schedule:** TTh 1:00–2:20

### § CALANDER DESCRIPTION

In this course, you will enhance your written and oral technical communication competencies in contexts relevant to the engineering profession as well as to your future career. By participating in classes and completing course assignments, you will practice genres of communication crafted for audiences that might include employers, clients, peer groups, technical staff, public audiences, and regulatory and policy-focused stakeholders. By focusing on genre, design, and audience, you will come to better understand concepts including meaning-making, perception, and responsibility. In addition, by completing written and oral assignments, you will develop confidence as a reader and writer, and as a listener and presenter.

### § COURSE INTRODUCTION

“Introduction to Communication in Engineering” is an introductory course designed with the objective to develop students’ communication skills and professionalism in the field of engineering. Communication is understood in this course as the shared process of making meaning. Throughout the semester we will engage with assignments that encourage critical and creative competencies, support the development of research skills with imagination and discovery, and prepare students for their professional careers in engineering by critically considering the relationship between agency (a speaker or writer’s ability to make choices) and audience.

### § COURSE GOALS

- Describe and apply conventions, genres, norms, and values of communication in an engineering discipline and in an engineering-related co-op context;
- Compose persuasive technical arguments, appealing to internal and external audiences, including employers, peers, non-technical clients, and others;

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- Analyze and understand technical arguments and summarize documents in clear and concise ways;
- Appraise and reflect on their own compositions and that of their peers to strategically revise and edit documents and presentations.
- Demonstrate a critical awareness of agency, responsibility, power, and shared meaning in relation to engineering and communication more broadly.
- Demonstrate the critical thinking skills required to plan and reflect on your own and others' documents and presentations.

### § COURSE MATERIALS

- Graves, Heather & Roger Graves, *A Strategic Guide to Technical Communication*. 2<sup>nd</sup> edition (Canadian)
- Additional readings will be hosted on Learn and electronic course reserves (mandatory). You must have access to course readings in class. You may use a laptop/tablet to access the readings or bring a printout on paper. There are additional readings and multimedia on course reserves and Learn that are not assigned, but may be helpful.

### § HOW AND WHERE TO SUBMIT WRITTEN ASSIGNMENTS

- Electronic format: **.docx or PDF format only**, online through LEARN
- Paper format is preferred for grading and if you want more detailed comments beyond the grading rubric

### § COURSE DESIGN

Assignments in the course all build off of the original project idea you will generate, following the processes and stages it would in the engineering profession (**Initiate, Propose, Develop, Promote**). The goal is for the work you do for the course to reflect the kinds communication you will need to compose and deliver in your co-op experiences and in your future career.

### § ASSIGNMENT DESCRIPTIONS AND VALUE

1.	E-mail and Memos in Engineering	5%
2.	Proposal (Engineering Project Proposal)	15%
3.	Oral proposal presentation	15%
4.	Peer Feedback on Oral Presentation	5%
5.	Individual Report (Engineering Progress Report)	15%
6.	Public Project Reflection (Impact statement)	5%
7.	Digital Media Project (Non-technical for public/clients)	20%
8.	Questions and Quotations	10%
9.	Participation	15%

**Assignment #1: E-mail and Memos in Engineering (5%)**

You will create a set of email messages that demonstrate the professional norms and conventions of e-mail in a workplace engineering setting. You will need to communicate and assess ideas for an engineering project.

**Assignment #2: Engineering Project Proposal (15%)**

You will now select a specific topic related to computer and electrical engineering and identify an overarching problem for a project proposal that will be communicated to a group of organizational leaders in the industry—the people with the power to approve and fund projects. As a starting point, consider addressing topics connected to the themes you will develop this year in your program

You will then draft a report that follows the genre, norms, and conventions of engineering proposals (summarize problem, known information, explain why problem must be addressed). The project should be original work.

The idea will likely change through the process, but should be clearly situated within the fields of computer or electrical engineering.

**Assignment #3: Oral Proposal Presentation (15%)**

You will design and deliver a four-minute individual presentation in which you work to convince decision makers that your project is in need of undertaking and that you are the person to undertake it.

In addition to your presentation, you will produce a one-page memo, distributed before the presentation in which you summarize key arguments in clear, persuasive language.

**Assignment #4: Presentation Feedback Assignment (5%)**

For each day of presentations, a team of five classmates will serve as a panel evaluating the proposals. Rather than comment primarily on the merits of the content (though panelists may ask questions), they will provide constructive feedback (spoken and written) on the design (organization, approach to provision of information, approach to argument) and delivery of each presentation. Each panelist will then be assigned to a single speaker, and the panelist will provide thoughtful, detailed written feedback to that speaker.

**Assignment #5: Engineering Progress Report (15%)**

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In this assignment, you will complete the work you proposed in first few assignments, conducting research on your topic in preparation for an engineering progress report. Your work will be both informative and persuasive: You will provide information relevant to solutions to the problem you articulated in your proposal and advocate for a particular solution. Provide updates on any setbacks, challenges, and changes to budgets and/or timelines.

Your audience for this report will be moderately technical—a panel of decision makers who know about as much as you do about engineering; however, other decision makers, such as executives, must also be able to understand your work.

### **Assignment #6: Public Project Reflection (Impact Statement/White Paper) (5%)**

You will prepare an engineering white paper to explain and sell the project to the public, anticipating ethical and logistical objections. The audience for this paper is non-expert: think a non-engineering client or a municipal/local government audience. This is also an opportunity for you to reflect on the questions of responsibility, power, and meaning making in relation to both engineering and communications.

### **Assignment #7: Digital Media Project (20%)**

In this assignment, you will translate your work for a new audience: the general public who might access your content via the web or other public media. To reach this audience, you will use the core aspects of your report and presentation as the basis of a four-minute digital media presentation. Options include translating your work into a public news format, producing a short film within a narrative and visual frame, or creating an online presentation with visuals and voice-over.

### **Question and Quotation from Assigned Texts (10%)**

On days on which we will discuss readings and viewings of speeches, you must bring to the start of class one **typed** question and one **typed** quotation from the assigned reading or viewing, as well as short notes about each quotation. (On days for which you are assigned multiple readings and viewings, you only need to provide one question and one quotation in total. It is your choice which reading you draw on). Please pose open-ended questions that address ideas and arguments in the texts. Quotations may be anything from the texts and speeches that resonates with you. A quotation could be a line that you liked in an essay or a sentence from a speech that you thought was interesting. You should also write a few brief notes on why you chose each quotation. Why did you like it? How does it relate to the class or the profession? This assignment is intended to (a) foster students' skills in close reading and engaging with texts; (b) encourage personal reflections that connect with assigned texts; and (c) build student confidence concerning their interpretation, questions, and ability to draw connections between texts, speech design and performance, and future inquiry. Each missed submission will result in a loss of 1% from your final grade.

## Participation (15%)

As a course on public communication, this class depends upon the presence and attention of listeners and the participation of speakers. Thus, participation is mandatory.

- **Attendance:** Because of the interactive nature of this course, your attendance is expected for all classes. The first class you miss will result in a 1% deduction from your course grade. Each missed class thereafter will result in a deduction of 2% from your course grade. Deductions are not capped. Each late arrival or early exit will result in a deduction of 0.5% from your course grade. Legitimate exemptions for absences (e.g. illness, religious observances) will be granted on a case by case basis and may require documentation.
- **In-Class Participation:** Classroom participation can mean a variety of activities, including but not limited to taking notes, sharing relevant information, asking questions, actively listening, and moderating, timing, or recording during a presentation day. Please make sure that only class-related websites and documents are accessible on your desktop, including your laptop or smartphone. When we are not discussing readings in this class, you will not be permitted to have any electronic devices visible in the classroom. Key questions: “How engaged were you in the class?” “What would your classmates and your instructor have missed had you not been in the class?” You will begin with a “B” (75%) in this category. This grade will increase or decrease in light of your performance on the above criteria.

## GRADING STANDARDS

### A (80-100%)

Exceeds assignment guidelines; strong and consistently applied definition of audience and purpose; thoughtful and innovative adaptation of the subject to the audience’s needs; subject developed and organized at every level for listener comprehension; speaker uses language appropriately, effectively and even inventively; maintains relaxed, inviting delivery free of verbal fillers and distractions; cites sources appropriately both in spoken and written work; submits well-prepared required materials.

### B (70-79%)

Meets assignment guidelines well; purpose and audience clearly defined; format consistently appropriate to audience and subject; subject supported with specifics as well as generalities; speaker maintains an economy of expression; information provided is sufficient to audience needs and coherently explained; speaker makes appropriate word choices. Citations clearly stated both on the outline and during delivery; speaker submits all required materials. Delivery may demonstrate signs of nervousness (pace, reading, etc.) but not sufficiently to interfere with the audience’s comprehension. Minor revisions required.

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### **C (60-69%)**

Meets assignment guidelines; adequate use of format, organization, and content to meet audience needs; speaker demonstrates some problems with audience adaptation, content, organization, or format, but not to the extent that the presentation fails to meet minimal expectations. Citations adequately present; submitted materials may be poorly prepared. Delivery awkward in several categories, but again—meets minimal expectations. Considerable revision required.

### **D (50-59%)**

Does not meet important requirements of the assignment; inadequate use of format; poor development of subject for audience needs; inadequate awareness of audience and/or purpose; problems with organization, content, logic, research and citations; ineffective use of language; delivery sufficiently poor to impede reception of presentation. Required materials poorly prepared or absent. Serious revision required.

### **F (0-49%)**

Fails to meet most of stated assignment requirements: lack of focus on a subject; unsatisfactory format; lack of audience awareness and/or purpose; inadequate content poorly developed; lack of logical connection between parts of presentation and/or ideas; ineffective and/or careless use of language; absence of prepared materials. While delivery may be adequate, revision is pointless: speaker should start a new assignment, take the course more seriously, or drop the course.

## **§ OTHER COURSE POLICIES AND EXPECTATIONS**

**Missed Presentation Days:** If you miss the day on which you were assigned to speak (without documentation of illness or other unavoidable difficulty), you will receive 0% on the assignment. If you are late for your presentation, you will receive a grade of 0%.

**Late or Missed Assignments:** Students will not be permitted to make up missed presentations without official documentation of illness or of another unavoidable difficulty (such as a car accident). Late written submissions will be penalized at a rate of 5% per calendar (not business) day. For instance, a paper due on Tuesday that was scored at 80% would be graded at 70% if submitted on Thursday. Requests for extensions must be made at least 24 hours before deadlines. All assignments are due on paper at the beginning of class.

**Research and Documentation:** You must follow either the APA or MLA documentation conventions for your submissions. You may learn about these methods on-line at the Purdue Owl website mentioned above.

**Electronic Devices and Laptops:** As a courtesy to the class, you must turn off your cell phones and other similar electronic devices, and they should not be visible to anyone in the class; laptop computers may be used in the classroom only if relevant to class activities.

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**Written Work:** Students are expected to submit professionally presented and grammatically correct written work. All required work is to be submitted as a hard copy. Electronic versions will not be permitted. All secondary resources including media must be properly cited with a works cited page. If students wish to strengthen their writing skills, please visit the Writing and Communication Centre at the University of Waterloo Library. Please see your instructor for additional information if required.

**Access to Learn:** To complete this course, students require access to Learn throughout the term beginning in Week 1. The instructor cannot in any way accommodate students who do not have access. Students who do not have access to Learn will be dropped from the course.

**Communicating in Class:** To fulfill the mission of University of Waterloo “to advance learning and knowledge [...] in an environment of free expression and inquiry,” students and instructors are expected to work to break down harmful and malicious stereotypes that could hinder the pursuit of critical thought. Students should be both critical and aware of how they communicate; therefore, students should be respectful and not verbally or nonverbally communicate anything that may be inappropriate, indecent, harmful, or hurtful to others.

**Syllabus Information:** This syllabus represents a contract between the instructor and the student. Violations of class policies are perceived as a breach of contract and provide the instructor the right to dismiss any student for any reason, including but not limited to repeated violations of course policies, poor attendance/lateness, disrespectful or rude behaviour, and failing to complete assignments. Further, the instructor reserves the right to change the syllabus, assignments, or schedule with appropriate notice in class, via email, and on Learn to better accommodate fulfillment of class objectives. You should have an updated email address on Learn and check it frequently as this is the primary means whereby the instructor will post changes and/or announcements. To contact the instructor, use the email address provided at the top of this syllabus.

### University Policies on Academic Integrity:

**Academic Integrity:** In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility.

**Discipline:** A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When student misconduct has occurred disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students

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should refer to Policy 71 - Student Discipline

<http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>

**Grievance:** A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4

<http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>

**Appeals:** A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 - Student Appeals

<http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>

**Academic Integrity website (Engineering):** <https://uwaterloo.ca/engineering/current-undergraduate-students/academic-support/academic-integrity>

**Academic Integrity Office (University):** <http://uwaterloo.ca/academicintegrity/>

**First Year Website:** <http://uwaterloo.ca/engineering/current-undergraduate-students/first-year>

**Engineering Computing Website for Software on Nexus:** <https://uwaterloo.ca/engineering-computing/computer-labs/software>



## § Tentative Course Schedule

Chapters taken from textbook, *A Strategic Guide to Technical Communication*, 2<sup>nd</sup> Edition (Canadian). All other readings/viewings linked on LEARN.

*Additional readings may be added on LEARN at the instructor's discretion*

Class Session	Date	Topics for Lecture, Discussion and Activities	Readings/Viewings/Assignments
1	Thurs. Sept. 6	Introduction to course; opening exercise  Storytelling	Review Course Outline and Schedule for Classes on LEARN.  Class Expectations.  Viewings: 1. Amber Case – “We Are All Cyborgs Now”
2	Tues. Sept. 11	What is communication? What is the relationship among self, community, society?	Readings: 1. Crowley and Hawhee “Ancient Rhetorics: Their Differences and the Differences They Make” (especially pp. 14-end, “Language as Power”). LEARN  Assignment:  1. Submit questions and quotations #1
3	Thurs. Sept. 13	Communicating for Audience, Purpose, Tone, and Publication Venue  Interviewing: Asking and Answering Questions  Email and Memos	Readings: 1. Chapter 7: “Writing E-Mail and Letters for the Workplace,” pp. 151-164 2. Selection of Interview materials, LEARN.  Viewings: 1. <i>General Writing and Rhetoric</i> (Perdue OWL), <a href="https://www.youtube.com/playlist?list=PL9C5Gc2Rka0YFd4aSZyWdKEFXtjVLMfEz">https://www.youtube.com/playlist?list=PL9C5Gc2Rka0YFd4aSZyWdKEFXtjVLMfEz</a>

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			Submit questions and quotations #2
4	Tues. Sept. 18	Library Research Session  <b>Assignment # 1 Due</b>	Visit from librarian  Readings:  1. Chapter 3, "Researching Technical Subjects"
5	Thurs. Sept. 20	The Professional Audience; Proposal Design	Readings:  1. Chapter 8, "Writing Winning Proposals"  Submit questions and quotations #3
6	Tues.. Sept. 25	Audience analysis	Readings: 1. "Analyzing the Audience." LEARN 2. Chapter 1, "Thinking about audience, purpose, and genre"  Viewings: 1. Julian Treasure. "How to speak so that people want to listen." (Ted Talk.) Web. <a href="https://www.youtube.com/watch?v=elho2S0Zahl">https://www.youtube.com/watch?v=elho2S0Zahl</a>  Submit questions and quotations. #4
7	Thurs. Sept. 27	Rhetorical situation. "The Pitch"  <b>Assignment #2 Due</b>	Readings: 1. Chapter 2, "Leading and misleading the reader" 2. Chapter 13, "Presenting technical information orally"
8	Tues. Oct. 2	Speaking to Persuade	Readings: 1. "The Strategy of Persuasion" LEARN  Viewings: 1. Megan Washington. "Why I live in mortal dread of public speaking." (Ted Talk).

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			<a href="https://www.ted.com/talks/megan_washington_why_i_live_in_mortal_dread_of_public_speaking">https://www.ted.com/talks/megan_washington_why_i_live_in_mortal_dread_of_public_speaking</a> Submit questions and quotations #5
9	Thurs. Oct. 4	<b>Assignment #3 Due</b>	Presentations
		<b>Scheduling Notes</b>	Oct. 8: Thanksgiving Day Holiday (no classes) Oct. 9, 10: Study Days (no classes) Oct. 11: Follows Tuesday Schedule Oct. 12: Follows Wednesday Schedule
10	Thurs. Oct. 11		Presentations
11/12	Tues. Oct. 16, Thurs. Oct. 18	CEE Exams	No in-class meetings: Oct. 15-19
13	Tues. Oct. 23	Report Writing and Tech Workshop  <b>Assignment #4 Due</b>	Readings: 1. Chapter 9, "Reporting technical information" 2. Chapter 4, "Writing Technical Prose"
14	Thurs. Oct. 25	Document Design  Genre	Readings: 1. Chapter 5, "Document Design"
15	Tues. Oct. 30	Speaking to publicize and solve problems  <b>Assignment #5 Due</b>	Viewings: 1. Margaret Heffernan "Dare to Disagree" (TED)  Readings: 1. "Supporting Your Ideas"  Submit questions and quotations #6

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16	Thurs. Nov. 1	White Papers and Methods of Persuasion  In-class annotation exercise	Readings: 1. Sample White Paper
17	Tues. Nov. 6	Ethics  <b>Assignment #6 Due</b>	Readings: 1. Chapter 2, "Ethics" 2. ""An Analytical Framework for Identifying Ethical, Legal, and Societal Issues," (National Research Council and National Academy of Engineering).
18	Thurs. Nov. 8	Digital Media	Readings: 1. John F. Barber. (2016). "Digital storytelling: New opportunities for humanities scholarship and pedagogy." <i>Cogent Arts &amp; Humanities</i> . 3.1. (2016) LEARN  Viewings: 1. "Seven Seconds Ago; Digital Conservation and Citizen Science SXSW 2016 Proposal." Web. <a href="https://vimeo.com/134294528">https://vimeo.com/134294528</a>  Submit questions and quotations #7
19	Tues. Nov. 13	Discourse, cultural norms, and dissent	Viewings: 1. Joy Buolamwini. (2016). "How I'm fighting bias in algorithms." <i>The Inherent bias in our technology</i> . TED. Web. <a href="https://www.ted.com/playlists/514/the_inherent_bias_in_our_technology">https://www.ted.com/playlists/514/the_inherent_bias_in_our_techn</a> 2. Michael Sandel, "The Lost Art of Democratic Debate" (TED)  Submit questions and quotations #8

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20	Thurs. Nov. 15	Discourse and power; persuasion	<p>Readings:</p> <ol style="list-style-type: none"> <li>1. Excerpt from Michel Foucault (1975). "Panopticism." <i>Discipline and Punish: The Birth of the Prison</i>. LEARN <a href="https://foucault.info/doc/documents/disciplineandpunish/foucault-disciplineandpunish-panopticism-html">https://foucault.info/doc/documents/disciplineandpunish/foucault-disciplineandpunish-panopticism-html</a></li> </ol> <p>Submit questions and quotations #9</p>
21	Tues. Nov. 20	Peer workshop	Peer workshop and revisions
22	Thurs. Nov. 22	Digital Media Project Presentations and Discussion  <b>Assignment #7 Due</b>	
23	Tues. Nov. 27	Digital Media Project Presentations and Discussion	
24	Thurs. Nov. 29	Closing Remarks	Wrap Up Activities