



Department of English Winter 2020
English 119 (001): Communications in Mathematics and Computer Science
Tuesdays and Thursdays, 2:30 - 3:50 in SJ1 2009

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Office hours: Tuesdays and Thursdays, 1:00 - 2:00 in Sweeney Hall 2207; I will usually be in the office on Wednesdays, but if you plan to drop by, please e-mail me to confirm.

Course Description: Far from being “human calculators,” mathematics students often find themselves in situations requiring strong communication skills: for example, they need to explain their ideas to their peers and colleagues, they need to explain technical concepts to those who do not share their technical background, and they need to reassure managers about their projects’ progress. Many sources emphasize the need for communication in technical fields:

In one CAS survey, “the top non-quantitative skill was communication. Other key non-quantitative skills were project management, business knowledge, networking, leadership, and industry knowledge. . . . ‘You have to make a conscious effort at it,’ said [XL Group senior vice president Kimberly] Holmes. “It didn’t matter how good I was at mathematics. If I couldn’t communicate my ideas, I couldn’t add any value to the business.”

Casualty Actuarial Society, “In Predictive Modeling, Actuaries Essential to the Future,” 2015

“Actuaries often collaborate with various personnel, including programmers, accountants, and senior management, which makes it imperative that they can communicate and work effectively with others. Strong oral communication skills enable actuaries to explain complex technical and statistical details to a diverse audience, while solid writing skills ensure that findings and solutions are easily understood in memos and written reports. . . . Actuaries also often lead teams on a variety of projects and thus must be able to handle an assortment of personalities.”

Johnston, Matthew, “The Top 5 Skills Every Actuary Needs,” 2019

“Other evidence suggests that more assets than STEM skills alone are required for productivity growth. First, there are many types of innovation, and not all of them depend on STEM skills. Complementary skills, such as communication, teamwork, and leadership, are also important in and of themselves, as well as to maximize the impact of STEM skills.”

Council of Canadian Academies, 2015. *Some Assembly Required: STEM Skills and Canada’s Economic Productivity*. Ottawa (ON): The Expert Panel on STEM Skills for the Future, Council of Canadian Academies.

“The fast-moving and unpredictable job market is likely to give a growing head-start to job-seekers who have paid less attention to skills tied to a specific occupation than to broad “competencies” applicable to a wide range of jobs These attributes – also known as employability skills or soft skills – include critical thinking, problem-solving, communication skills, numeracy, teamwork and time management.”

Simon, Bernard, *Skills development in Canada: so much noise, so little action*. Report for the Council of Chief Executives, 2013.

This course is designed to give you instruction and practice in the oral and written forms of communication that you as a Math and/or Computer Science student will need in the academic environment and in the workplace. Much of the work that you do this term will rely on your cooperation as a member of a team. By the end of the term you will have gained confidence in your ability to complete a variety of projects that involve strong communication skills; you may also have samples of your best writing to show potential

employers. In addition, you will acquire confidence in working as part of a team, practicing professional behavior, thinking critically, and making oral presentations.

Recommended Text: link to [Purdue University's Online Writing Lab \(OWL\)](#).

Course Requirements and Assessment:

Assessment	Due Date	Weighting
Participation and peer assessment	Throughout the term	10%
In-class and homework assignments	Throughout the term	25%
"Client meeting" video assignment	Feb. 25	15%
Project proposal presentation	Feb. 27	5%
White paper or report	March 26 and April 7	20%
Team presentation	March 31/April 2	10%
Team presentation visuals	within 24 hours of presentation	5%
Reflection assignment	April 7	10%

1. Participation and peer assessment (10%). Students are expected to attend all lectures, complete all in-class written exercises and group work, participate in peer editing, and act professionally at all times (as you would in a workplace environment). Arriving late often disrupts classroom activities; latecomers will therefore be penalized unless a valid excuse is provided in writing. Unexplained and unwarranted chronic lateness and absences will affect your grade – as will distracted/distracting in-class activities such as watching YouTube, texting, playing games, working on math assignments, and so on. Peer editing (Feb. 27, March 26, March 31/April 2) will be done in response to guiding questions.

2. In-class and homework assignments (25%). In the Thursday classes of most weeks you will either be given an assignment to work on in class or an assignment to begin in class and finish at home. These assignments will usually involve assessing and revising texts, as well as providing a rationale for your revisions. Each assignment will be worth 5%, and I will choose your best five out of six to count towards your grade for this assignment.

3. "Client meeting" video assignment (15%). Working with a partner, act out the roles of a math specialist explaining (using non-technical language) a math concept to a non-specialist (client or other interested person). The video will be 10 minutes in length and will make use of strategies such as narrative, analogy, and the use of props to help the client understand the concept. The student playing the role of the non-specialist client will ask appropriate questions in seeking clarification. The "client" will be assumed to have *absolutely no* technical background. A document will also be submitted along with the video.

4. Team project proposal presentation (5%). Teams of 5 members will be formed in week 6. The objective of the project is to research an issue related to mathematics or a related branch of mathematics, targeted to a specific audience. There will also be an option to explore the viability of a new technology or product targeting your peers; for this option you must provide a rationale for your design *based on research* and suggest what will be unique about your product. Specific guidelines will be provided. On Feb. 27, teams will present their project proposals to the class (focusing on persuasion). Your team presentation will be no longer than 10 minutes, so you will need to carefully plan it.

5. Research report or white paper (20%). I will provide some insights about the content and design of white papers and reports. Each member of the team will be expected to contribute an equal amount of content and writing, including analytical content. On March 26, your first draft will be given to another

team for assessment / feedback. After your draft is returned, you will have until April 7 to revise it and submit it. The white paper or report must show evidence of persuasive content, effective design, and strong clarity of expression. Shared or individual grades will be awarded based on the team's preference.

6. Final team (formal) presentation (15%). In week 12, each team will have between 15-18 minutes to present (demonstrate) their deliverable to their stakeholders. 10% of this grade will be for students' performance in the presentation itself (delivery and professionalism, use of presentation visuals, and contributions to team cohesiveness). 5% will be for the presentation slides, which team members must send by e-mail attachment within 24 hours of the presentation.

7. Learning reflection assignment (10%). For this assignment you will write honestly about your work during the term, focusing on ideas that are relevant to your current learning needs and your career goals (as they relate to professional communication). You will be expected to provide examples from your work to validate your ideas. I will provide guiding questions to help you to compose your learning reflections. The assignment is due April 7.

POLICY ON LATE WORK, MISSED ASSIGNMENTS, AND MAKE-UP TESTS: Project assignments that are submitted late without a valid excuse will be penalized 2% per weekday. If you have legitimate reasons for requesting an extension or missed in-class assignment, compose a formal and polite e-mail to me, outlining the reasons for the request (including documentation if available) and justifying a new due date. This e-mail should be sent at least 24 hours in advance of the original due date.

RULES FOR GROUP WORK IN ASSIGNMENTS: When working on a group assignment, a [Group Assignment Checklist](#) must be completed and submitted.

ATTENDANCE POLICY: Attendance in all classes is mandatory; unwarranted absences will result in marks deducted from the Participation grade. See the description under "Participation and Peer Assessment."

ELECTRONIC DEVICE POLICY: Devices (laptops, phones, tablets, etc.) may only be used in ways that are conducive to learning (taking notes, examining documents on Learn, or looking for research articles). Be courteous in your use of devices; do not distract others in the class who may have different learning styles.

CORRESPONDENCE: Students using e-mail to contact me must include their first and last names, student number, and course section in which they are enrolled in the e-mail subject line. E-mails composed in English 119 must be formally and professionally written.

OTHER IMPORTANT INFORMATION

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect, and responsibility. [Check www.uwaterloo.ca/academicintegrity/ for more information.]

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing an academic offence, and to take responsibility for their actions. [Check www.uwaterloo.ca/academicintegrity/ for more information.] 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 instructor, academic advisor, or the Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under the [St. Jerome's University Policy on Student Discipline, www.sju.ca/sites/default/files/PLCY_AOM_Student-](http://www.sju.ca/sites/default/files/PLCY_AOM_Student-)

[Discipline 20131122-SJUSCapproved.pdf](#). For information on categories of offences and types of penalties, students should refer to University of Waterloo [Policy 71, Student Discipline](#). For typical penalties, check the [Guidelines for the Assessment of Penalties](#).

Grievance: A student who believes that a decision affecting some aspect of their university life has been unfair or unreasonable may have grounds for initiating a grievance. [Read the St. Jerome's University Policy on Student Petitions and Grievances, www.sju.ca/sites/default/files/upload_file/PLCY_AOM_Student-Petitions-and-Grievances_20151211-SJUSCapproved.pdf](#). When in doubt, please be certain to contact the St. Jerome's Advising Specialist, Student Affairs Office, who will provide further assistance.

Appeals: A decision made or penalty imposed under the [St. Jerome's University Policy on Student Petitions and Grievances](#) (other than a petition) or the [St. Jerome's University Policy on Student Discipline](#) may be appealed if there is a ground. A student who believes they have a ground for an appeal should refer to the [St. Jerome's University Policy on Student Appeals](#).

Note for students with disabilities: [AccessAbility Services](#), located in Needles Hall (Room 1401) at the University of Waterloo, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with [AccessAbility Services](#) at the beginning of each academic term.

Course Outline / Class Schedule

Week 1	Jan. 7/9: course introduction, academic integrity, ways of thinking about professional communication, learning "reflection"
Week 2	Jan. 14/16: communicating to employers and colleagues
Week 3	Jan. 21/23: communicating procedures
Week 4	Jan. 28/30: clarity and elegance in writing
Week 5	Feb. 4/6: communicating technical ideas to non-specialists, start of video assignment
Week 6	Feb. 11/13: start of team project, team selection, working collaboratively and communicating ideas
Week 7	Feb. 25/27: creating effective proposals, preliminary; research skills, presentation skills and creating effective presentation visuals
Week 8	March 3/5: working with research and communicating analysis, proposal presentations (Feb. 27), peer review of presentations
Week 9	March 10/12: reports and white papers.
Week 10	March 17/19: examination of sample reports and white papers, team meeting/work session
Week 11	March 24/26: presenting as a team, reflection assignment, team meeting, peer review of project work
Week 12	March 31/April 2: research presentations (both days), peer review of presentations, presentation slides due by e-mail attachment within 24 hours