ENGR 120: Design and Communication II

January-April 2026

TERRITORIAL ACKNOWLEDGMENT

We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

Table of Contents

Course Instructor

Instructor:

Contact Information:

Class Meeting Information:

Office:

Office Hours:

This course is taught by instructors from the Faculties of both Engineering and Humanities. Office hours for each section will be posted on the relevant course Brightspace.

Engineering Instructor

Name	email	Plenary Lectures & Lab sections

Prerequisites

Students must have successfully completed one of the following AWR courses to enroll in ENGR 120: ENGR 110, ENGR 111, ATWP 135, ENGL 135, or an equivalent transfer course.

Course Description

ENGR 120 introduces you to the principles of professional communication and engineering design. This 2.5-unit course integrates instruction and activities in technical communications (1.5 credits) with engineering design (1 credit). You will be introduced to fundamental principles and practical aspects of mechanical, electrical, and computer engineering (with application to biomedical, civil, software engineering), and will apply this knowledge in developing and implementing your own designs.
In parallel, the course provides a practical introduction to the essential skills needed to write and present information as a technical professional. The course offers an opportunity to develop your skills as a writer, practice techniques and strategies used by technical writers, and collaborate with other students to prepare a formal report following the model of the Faculty of Engineering Co-op Work Term Report. You will acquire practical experience in the writing of short technical documents such as memoranda, letters and abstracts, and longer forms such as proposals and reports, with an emphasis on clarity, precision, and consistency of writing style and document design. Major written assignments will be based primarily on the design work that you do in this course.

Students will receive one grade for the course overall, broken down as follows:

Engineering Design grade (Plenary and Design Labs)	40%
Technical Communication grade (Communications)	60%
Total	**100%**

Communication Lectures

The Communications classes meet twice per week. These classes combine lecture, discussion, practice, and team meetings to enable you to learn and practice the technical communication skills covered in the course. An open educational resource (OER) textbook, *Technical Writing Essentials*, has been developed for this course and is available at https://pressbooks.bccampus.ca/technicalwriting/
In addition, you will have a **Communications Brightspace** course site that contains the resources you will need to read and use to complete your assignments. Please check the site regularly for updates.

Engineering Design

Engineering design will be facilitated through hands-on design labs and a set of plenary lectures. See **the ENGR 120/ENGR 121** Brightspace for details related to lab assignments and plenary lectures.

Design Labs
You will work in teams to complete some design exercises and one major design project.

Plenary Lectures
Plenary lectures will be used to provide general information you will need to undertake the design project work, as well as discussion of topics on other aspects of communicating in engineering professions.

Course Learning Objectives

All assignments and activities are designed to help you achieve the course learning objectives. Upon completion of the course you should be able to do the following:

Engineering Design	Technical Communications
1. **Follow a standard structured process** to design a system comprised of computer, electrical, mechanical, and software subsystems	1. **Follow a structured writing process** to plan, draft, revise, and edit the types of documents commonly required of technical professionals (*e.g.*: routine correspondence, proposals, reports, presentations, and other forms of informational writing)
2. **Apply discipline-specific technical knowledge** in the design process and understand the relevance of that knowledge to the disciplines in professional practice	2. **Apply a problem-solving approach** to a communication task: ○ define the problem (need, goal, objectives, constraints) ○ identify the purpose, audience, and required content for the task ○ develop an effective production plan to communicate your solution

3. **Identify business, social, environmental and regulatory considerations** relevant to the execution of an engineering design project	3. **Design documents for readability**, using headings, lists and visual graphics effectively, and choosing a form and design appropriate to the purpose and audience
4. **Demonstrate teamwork skills** in the successful accomplishment of an engineering design project	4. **Work effectively as part of a team**, applying an understanding of team dynamics, effective communication in groups, collaborative writing, conflict management, and shared leadership
5. **Apply selected tools** for effective management of time and resources in the context of an engineering design project.	5. **Prepare and deliver oral presentations** using appropriate visual aids.
	6. **Incorporate research sources** effectively, ethically, and correctly into technical documents, using IEEE style
	7. **Edit your own and others'** writing so that it is clear, concise, readable, and complete, and conforms to the conventions of standard written English

Course Assessment

Detailed descriptions of assignments will be posted on both the Communications and Design Brightspace sites and discussed in Communication Seminars, Plenary Lectures, and Design Laboratories. If you have questions about lab or plenary assignments, please as the Design instructor. If you have questions about Communications assignments, please ask the Communications instructor.

You must pass both Communications and Design portions of the course to pass.
Failing one portion means you must retake the entire course (both Communications and Design portions) again. You must attend all Design lab sessions and complete all Communications assignments to the satisfaction of your instructor to pass the course. Your course grade will be based on the assignments in the table below. Each instructor may have slightly different assignment descriptions and may use different short assignments. There is no final exam for this course.

ENGR 120 Assignment Overview			
Communications Assignments		**Design Assignments**	
Teamwork Memo (500-600 words)	10%	**Design Lab Assignments – three labs each worth 5%** (team activity)	15%
Design Proposal (800-1200 words)	20%	**Concept sketch** (individual video submission)	5%
Team Report (~2500 words) Recommendation Report (written in teams of 3-4)	25%	**Subsystem demonstrations – two milestones** (team activity)	35%

Team Presentation (on the team project)	10%	**Final demonstration** (team activity)	30%
Teamwork Summary (1000 words)	10%	**Open labs – these are lab sessions where teams are expected to prepare for milestone/demonstration activities**	15%
Miscellaneous short assignments, discussions, milestones, and quizzes	25%		

Notes: ***Failure to complete all required Communications assignments (Teamwork Memo, Design Proposal, Team Report, Team Presentation, and Teamwork Summary) or Laboratory requirements will result in a grade of N being awarded for the course. This course has no supplemental exam.***

Peer assessments may be used to help the instructors determine individual grades.

Academic Concession

If your academic performance is affected by illness, injury, family or personal affliction, or other emergency situations, contact your instructor as soon as possible to let them know. Also, you have access to a variety of support through the Student Wellness Centre, which offers physical, mental and spiritual health support services.
When accompanied by supporting documentation, you may request an Academic Concession, which can grant you deferrals on due dates, with no loss of grades.
Students who do not complete all of the required Communication assignments will receive an "N grade for the course, unless they can apply for an academic concession. An "N" grade is the equivalent of an "F" on your transcripts and GPA. Students who cannot complete **up to two** of the main Communication assignments by the end of term deadline due to **1) unexpected or unavoidable circumstances, or 2) conflicting responsibilities** should review the University's Academic Concession Regulations.
Students who have not completed 3 or more of the required Communication assignments cannot be considered for deferred status, will receive an "N" grade, and will have to repeat the course. It may be possible to apply for a late withdrawal if you meet conditions 1 or 2 above. Please do not hesitate to contact your instructor or ATWP Director (atwpdir@uvic.ca) if you have any questions about this policy.

The final grade will be based on the UVic grading scale as outlined below:

Grades	Percentage	Criteria
A+ A A-	90 – 100 85 – 89 80 – 84	Outstanding to excellent work that meets all and exceeds many expectations. Consistently excellent work that meets all expectations. Generally excellent work that may need very minor revision.

B+ B B-	77 – 79 73 – 76 70 – 72	Great to good work that meets most or all expectations in an acceptable manner, but needs some/several minor improvements in some areas to fully meet expectations and objectives.
C+ C	65 – 69 60 – 64	Solid work that meets some expectations but needs obvious improvement in several areas.
D	50 – 59	Marginal work; minimally acceptable. Significant revision needed.
F	0 – 49	Fail, no supplemental.
N	0 – 49	Did not complete all Labs or other course requirements by the end of term or session; no supplemental exam.

Grade Appeals

If you feel that an assignment you submitted has been improperly evaluated, your first step is to discuss your concerns with your instructor. Grading of written work follows the rubric outlined in the grading standards for first-year writing, as well as any specific assignment rubric supplied.

If you request that your instructor perform a grade review, aim to show how your work matches the standards for the letter grade (as described in the first-year grading standards and/or assignment rubric) you feel you should have received. If you are not satisfied with our discussion, you may apply for a formal grade review, which is described in detail in the UVic academic calendar.

Resources to Support *Y*our Learning

UVic has many support services for students that are all available remotely. Student Mental Health site, and UVic Counselling Services continue to be fully available online. The following resources are also available to help support your learning:

- **Instructor Office hours:** Instructors are available for one-on-one or team consultations every week (office hours will be posted once term starts). If the posted office hours are not convenient for you, please contact your instructor to arrange alternative times. These meetings can be very helpful in clarifying assignment expectations, reviewing key concepts and materials, troubleshooting team issues, or simply connecting for a chat.
- **Brightspace:** Each Communication (A01 – A17) section has its own Brightspace site. There is one Brightspace site for the Design components of the course (Design Lab and Plenary information). Students should refer to these sites regularly for information on assignments and preparation for lectures and labs. Please ensure that you are subscribed to the course announcements for these sites.
- **Academic Skills Centre**

  The centre provides free one-on-one tutoring to help students build their writing skills and proficiency in English. The centre also runs workshops that address common problems in academic writing. You can book an appointment online HERE.
- **UVic Libraries**

The ENGR 120 Library Guide at the UVic Library offers students help with their research, writing papers, locating resources, and identifying people to ask for more help. You can also ask questions by e-mail or chat, or talk to a subject librarian by phone. The Engineering subject librarian is Aditi Gupta, aditig@uvic.ca

- **Centre for Accessible Learning**

If you are you a student with a learning disability or health issue that affects your learning, and if you need academic accommodation to address barriers to your education, you can access these supports by registering with the Centre for Accessible Learning. https://www.uvic.ca/services/cal/

Course Attendance Policy

The University of Victoria calendar specifies that students are expected to attend all courses that they are enrolled in. This is a minimal expectation for successful completion. However, since illness and emergency situations happen, **you are expected to contact your instructor to let them know if you cannot attend a class meeting as soon as possible.** You will also be required to make up any missed work and catch up on lecture materials.

Failure to attend 6 or more classes without first communicating with your instructor in a timely manner may result in grade penalties. In serious cases, where prolonged absence may prevent a student from meeting minimal learning objectives for the course, and/or have negative impacts on the student's team mates on group projects, this student may be de-registered from both the Design and Communication portions of the course.

Attendance during the First Week of the Term:

Students who miss the first 2 class meetings of the term without notifying instructors may be deregistered from the class, as it will be assumed that the student does not wish to remain enrolled in and complete the course.

NOTE: Students are strongly discouraged from switching Design or Communications sections after the first week of classes, as teams are formed for term projects at the beginning of term. If you must switch sections for some reason, be sure to record and save any graded work you have done before switching.

General University Policies

For various university polices, see the following links:

- **General University Polices,** including Policy on Human Rights, Equity and Fairness; Discrimination and Harassment Policy; Creating a Respectful and Productive Learning Environment; and Student Discipline.
- UVic Policy on Accommodation of Religious Observance
- Faculty of Engineering Standards for Professional Behaviour
- Faculty of Engineering and Computer Science Diversity & Inclusion Supports

Policy on Academic Integrity

Cheating, plagiarism, and other forms of academic fraud are taken very seriously by the University of Victoria in general and the Engineering Faculty and ATWP in particular. Note that **Policy on Academic Integrity** specifies that, "*single or multiple instances of inadequate attribution of sources should result in a failing grade for the work. A largely or fully plagiarized piece of work should result in a grade of F for the course.*" For more detailed information on academic integrity, unauthorized use of editors, and other issues, please make sure that you read the information linked here: https://www.uvic.ca/students/academics/academic-integrity/index.php

Unauthorized Use of an Editors

An editor is an individual or service, other than the instructor or supervisory committee, who manipulates, revises, corrects or alters a student's written or non-written work. The use of AI tools for generating or editing any text for any assignment is treated as the use of an editor. **No AI tools may be used on any assignments unless specifically approved by the instructor in writing.**

The use of an editor, whether paid or unpaid, is prohibited unless the instructor grants explicit written authorization. The instructor should specify the extent of editing that is being authorized.

Peer Review by fellow students and tutoring that do not include editing are normally permitted. In addition to consulting with their instructors, students are encouraged to seek review of and feedback on their work that prompts them to evaluate the work and make changes themselves.

Fair Use of Course Content

Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructors, who therefore own their Intellectual Property. These materials are intended for use in this course only, and are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites such as Course Hero, OneClass, or similar sharing platforms, or to others not enrolled in this course. Uploading course materials, including PowerPoint slides, video lectures, project/assignment descriptions, and quizzes, onto online sharing platforms is considered to be a copyright violation, regardless of whether an individual did so intentionally or unintentionally. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar, and can lead to penalties.

Standards of Professional Behaviour

You are advised to read the Faculty of Engineering document *Standards for Professional Behaviour,* which contains important information regarding conduct in courses, labs, and in the general use of facilities: https://www.uvic.ca/ecs/_assets/docs/student-forms/professional-behaviour.pdf

Student Experience of Learning (SEL)

We value your feedback on this course. Towards the end of term, as in all other

courses at UVic, you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is vital to providing feedback regarding the course and teaching effectiveness, as well as to help the department improve the overall program for students in the future. The survey is accessed via MyPage and can be done on your laptop, tablet, or mobile device.

Note to Students

Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should contact the ENGR Communication Coordinator jasoncollins@uvic.ca the academic advisor or the Chair or Director of the department by email or the Chair's Secretary to set up an appointment.

Section Specific Information

Communications Late Assignment Policy: Meeting deadlines is important to keep your own work and your team's work on track. It also enables your instructor to give you timely feedback on assignments and scaffold tasks effectively to support your learning. Time management is an important skill to develop, especially when collaborating with team members. That being said, all major assignments have an automatic 48 extension. If you anticipate that you will need an extension beyond 48 hours, you will need to request that extension through an email to me. **To request an extension, please send an email indicating the assignment, the original deadline, a reason you need more time (highly personal details are not required), and a proposal for a new deadline**. If you submit an assignment after the posted deadline without having negotiated an extension, however, your work (a) may not receive a full set of comments and (b) your assignment grade may be lowered by 5% for every day it is late.

Weekly Activity Schedule

This schedule is subject to change with advanced notice.

DATES	TOPICS	TASKS
Week 1 Jan 5-9 Classes start Mon. Jan. 5	**Welcome**: Course overview **Module 1**: **Introduction** • Introduction to Technical Writing • Samples of Technical Writing • Problem Definition - Review • Read TWE Ch. 1 and Ch. 2	Case Study Post 1% (Jan 9)
Week 2 Jan 12-16	**Module 2: Professionalism** • Professional Communication (Ch. 2) • Teamwork (Ch. 4) • McCahan "Introduction to Teamwork"	*Problem Def Post 1% (Jan 16)*
Week 3 Jan 19-23 Jan 21 add deadline	**Module 3: Document Design** Go over Memo 1 Assignment Read: Ch. 3 Document Design • Headings • Lists • Figures and Tables • Read Ch. 7.1 Memos • ENGR 120 Style Guide	McCahan Reading Quiz 3% (Jan 19) Document Design Quiz 3% (Jan 23)
Week 4 Jan 26-30	**Module 4**: **Design Proposals** • Read: Ch. 7.2 Proposals • Read: Ch. 7.4 Technical Descriptions	**Teamwork Memo 10%** (Feb 1)
Week 5 Feb 2-6	**Module 4: Design Proposals con't** • Read: Ch. 5: Conducting Research • Review: ENGR 120 Lib Guide	Design Proposal Peer Review (2%) in class **Design Proposal 20%** (Feb 8)
Week 6 **Feb 9-13**	**Module 5: Team Report – Collaborative Writing** • Read: Ch. 4 Teamwork and Communication	Form teams Team exercise
Week 7 Feb 16-20	Reading Break	
Week 8 Feb 23-27 Feb 28 last day to withdraw	**Module 5 continued** • Read: Ch. 7.5: Long Reports • Review: Co-op Work Term Reports	Milestone 1: Team Charter 2.5%
Week 9 Mar 2-6	**Module 5 continued** • Read: Ch. 4.1 – Project Management Tools • Go over Team Documents	Milestone 2: Writing Plan 2.5% Practice Revision Exercises Practice Sentence Quiz

	• Task Analysis • Weighted Objectives Charts	
Week 10 Mar 9-13	**Module 6**: **Style Matters** • Review Ch. 2 • 7 Cs PPT • Punctuation & Sentence Structure • Crafting Coherent Paragraphs	Practice Comma Quiz Milestone 3: Report Outline & Draft (2.5%) Revision Assignment 5%
Week 11 Mar 16-20	**Module 5 Continued** • Read: Ch. 4.4 Managing Team Conflict • Read: Ch. 7.3 Progress Reports	Milestone 4: Progress Report (2.5%)
Week 12 Mar 23-27	**Module 7**: **Oral Presentations** Read: Ch. 8.3: Presenting as a Team Team presentations Mar 25 & 28	**Team Presentation 10%**
Week 13/14 Mar 30-Apr 3 Thu. Apr. 2 last class	**Module 8**: **Finalize and Reflect** Team presentations April 4 & 8 Finalize Team Report Final Reflection Memo	Team Presentations **Team Report 25%** Due Mar 30 **Final Reflection Memo 10%** Due April 2
Exams April 7-25	No Final Exam	