ENGR 110: Design & Communication I

Section:

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.

Instructor:

E-mail:

Class Meeting Information:

Office Hours:

Office:

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# Engineering 110: Design & Communication I

Course Description

ENGR 110 is a 2.5 credit course that offers students an introduction to the principles of engineering design processes through projects to be undertaken by teams of students, and offers integrated development of writing, research, design and presentation skills through research and design projects. The communications portion emphasizes writing, research and organizational skills appropriate for university-level writing and meets the University of Victoria's Academic Writing Requirement (AWR). The 1 credit ENGR portion of the course is taught by Engineering faculty; the 1.5 credit Communication sections are taught by instructors from the Academic and Technical Writing Program (ATWP). Learning is also supported by ENGR Teaching Assistants, the Engineering Librarian, and the Centre for Academic Communication (CAC). See instructor contact information below.

Textbooks

Our online textbooks, *Why Write? A Guide for Students in Canada* (WW) and Technical Writing Essentials (TWE), are available as Open Educational Resources. These will be used in the Communication section of the course. Additional readings will be posted/linked on the course Brightspace site.

Course Structure

ENGR 110 is a 2.5 unit course, in which instruction and activities in academic writing and engineering design are presented in an integrated manner. The full set of contact hours for the courses are as follows:
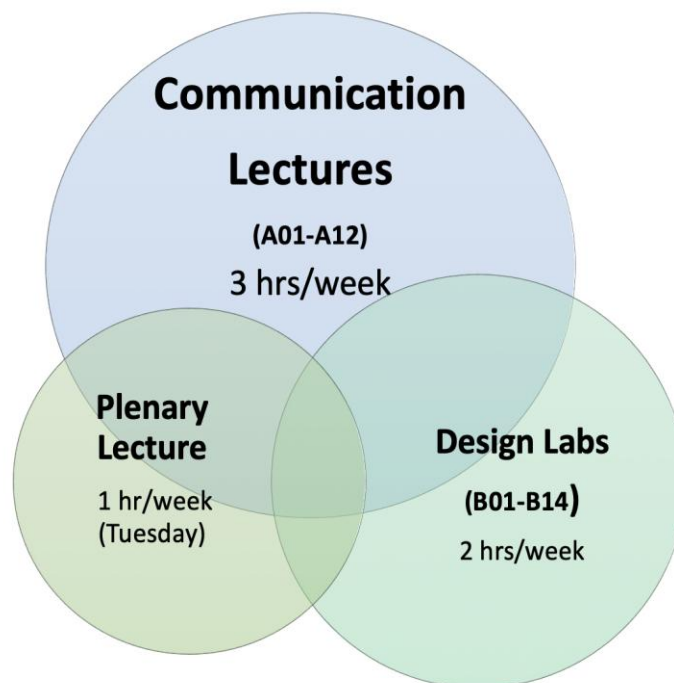
Communication Lecture (3 hrs/week)

The Communications portion of the course will introduce you to the basics of academic reading, researching, and writing in the context of the discipline of Engineering. You will read a variety of academic articles on both engineering and writing topics; and you will identify academic conventions, rhetorical strategies, structures and patterns, examine them critically, and apply them to your own writing. You will develop and use writing processes to plan, draft, and revise a variety of typical academic writing assignments that ask you to summarize, analyze and synthesize ideas and forms of academic writing. Throughout the term, you will be encouraged to actively reflect on your learning. Learning activities and policies vary slightly from section to section of the communication seminars. Your communication instructor will provide you with a schedule of the communication learning activities and a statement of policies for your section (see Section-Specific Information at the end of this document).

Plenary Lecture (1 hr/week)

The plenary lectures will cover the different stages of the design process and the methods that are followed in order to explore the design space and select an appropriate solution concept. Students will implement these methods in the Design Labs and Design Project. In some plenary lectures, there will be guest speakers or short videos that will describe different stages of the design process. See your Design Brightspace for details.

Engineering Design Studio (Laboratory) (2 hrs/week)

Students will work in teams to complete a number of Design Exercises and a major Design Project. These activities will provide opportunities for students to experience the design process, from problem definition, to generation of conceptual designs, to evaluation, implementation, and testing. A schedule of the activities for the Design Laboratories (ENGR 110 Activity Schedule) is posted on the Design Brightspace site. Note that this schedule is subject to change.

Course Learning Resources

Brightspace Learning Management System: Each Communication section (A01-A14) has its own Brightspace site. There is a single Brightspace site for all Design components of the course, which includes all lab sections (B01-B14) and Plenary lectures. Students should refer to these sites regularly for information on assignments and preparation for lectures and labs. Written assignments will generally be submitted to dropboxes in these Brightspace sites.

The Centre for Academic Communication (CAC): The Centre for Academic Communication provides free one-on-one tutoring to help students build their writing/communication skills and proficiency in English. The centre also runs workshops that address common problems in academic writing. You can book appointments online or visit on a drop-in basis. The Centre for Academic Communication is located in rooms 135j, k, l, and m in the Academic Help corridor of the Learning Commons, in the McPherson Library.

UVic Libraries: The ENGR 110 Research Guide at the UVic Libraries Gateway offers students help with their research, writing papers, locating resources, and identifying people to ask for more help. The Research Help section includes links to eTutorials on basic research skills. You can also ask questions by e-mail or talk to a subject librarian by phone. The Engineering librarian is Aditi Gupta, aditig@uvic.ca

Centre for Accessible Learning (CAL): If you are you a student with a learning disability, ADHD, mental health issue, long-term recurring physical or sensory disability, or chronic health issues – and if

you need academic accommodation and support to address barriers to your education – please register with the Centre for Accessible Learning. https://www.uvic.ca/services/cal/

Instructor Office Hours: all instructors hold office hours each week – sometimes in person, in their actual office, and sometimes over Zoom. You are invited to come by during office hours (whether in person or via zoom) and chat about anything related to the course. If you need help with something, or just want to discuss something you find interesting, this is a great time to get some one-on-one help and get to know your instructors. If the posted office hours conflict with your schedule, feel free to email to set up an alternative time to meet.

Course Learning Outcomes

Learning outcomes form the basis of assessment. Student work is evaluated on how well it demonstrates achievement of the designated learning objectives for each assignment. The Design and Communications portions of the class each have their own learning objectives, listed below.

Engineering Design Learning Outcomes:

Students exiting ENGR 110 will be able to work effectively in teams and individually to develop solutions for open-ended engineering problems. In developing these solutions, students will be able to follow a formal design process in which they will:

1. Understand the role of the Professional Engineer and reflective practitioner in engineering design work

2. Develop a set of user requirements to address needs/requirements of a client

3. Undertake research to identify relevant background information, including: engineering and scientific principles and methods; prior art; regulatory, social, business, and environmental considerations

4. Apply creative thinking to develop innovative solutions for engineering design problems

5. Apply a formal decision-making method to assist in choosing between alternative conceptual designs

6. Apply informed judgment in deciding when and how to revisit an earlier stage of the design process (i.e. when and how to iterate; "fail fast, fail early, fail often")

7. Appreciate the need for effective project management practices

8. Recognize the importance of incorporating sustainability and equity/diversity/inclusiveness principles in engineering design

9. Work professionally and effectively as members of a team, including team charter definition, inter and extra-team communication and presentations.

Communication Learning Outcomes:

Students successfully completing ENGR 110 will be able to:

1. Recognize, understand, and apply the standard conventions of academic writing to produce academic documents with appropriate content, effective organization, grammatically correct usage, and formal style

2. Apply the Writing Process to plan, draft, revise, edit and proofread their work

3. Apply a problem-solving approach to writing assignments and developing research questions

4. Comprehend challenging texts; identify main ideas and supporting details; and distinguish facts from opinions

5. Reflect on their progress as learners, identify strengths and weaknesses in their own and others' writing, and set learning goals for themselves

6. Analyze challenging texts in terms of rhetorical purpose, audience, genre, patterns of development, and stylistic features

7. Incorporate source material into their own writing according to standard academic conventions; quote, paraphrase, and summarize the words and ideas of others effectively and ethically to support their own ideas

8. Distinguish academic from non-academic sources; find, evaluate, and use academic research sources to support ideas in their research papers; and evaluate others' arguments for validity and reliability in an academic context

Assessment Plan

The Communication portion of the course is worth 60% of the total grade, and the Design side is worth 40%. These are combined to give you one grade for ENGR 110. You must pass both portions of the course to pass ENGR 110. Students who fail either portion of the course must retake the entire course. You must submit all design deliverables and the communication main assignments and final assessment to successfully complete the course and receive a passing final grade. All sections will have the same basic assessment plan outlined in the table below. There may be some differences in the shorter writing assignments in different Communications sections.

Communication Deliverables			Design Deliverables		
Short Assignments (20%)	Short tasks for each section may vary	20%	Plenary	Quiz	15%
			Labs Exercises	Design Studio Exercises	30%
Main Assignments (60%)	Summary	10%	Design Project Deliverables (50%)	Problem Definition	10%
	Rhetorical Analysis	15%			
	Synthesis Essay	15%		Project Management	5%
	Research Essay	20%		Design Conceptualization	10%
Final Assessment (20%)	Portfolio	20%		Team Presentation	10%
				Final Selection	15%
			Peer Assessment		5%
Comm Total		**100**	**Design Total**		**100**
X 60% = Communication portion of the final grade for ENGR 110			X 40% = Design portion of the final grade for ENGR 110		

Notes on Assessment

i. Only the Design lab portion of the course will be undertaken in teams.

ii. Students will complete a Peer-Review and Self-Assessment at the conclusion of the term to evaluate the performance of team members. These evaluations may affect Design grades.

iii. Only the names written on the title page of the project report deliverables will be entered. Any missing names will be considered as if the student had not participated.

iv. All components of the Design course will be graded on the UVic 0-9 scale, with grades assigned per the wording in the UVic calendar per grade level. The final grade obtained from the marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar

v. If you believe that an assignment you submitted has been unfairly evaluated, first discuss your concerns with the instructor. If you are not satisfied with the outcome of that discussion, you may apply for a formal grade review.

Student Counselling

University can be stressful and it's easy to find yourself feeling overwhelmed. If you're lonely, worried about the future or struggling with mental health issues, counselling, at the Student Wellness Centre can help. We offer free professional, confidential, and inclusive support to UVic students.

Classroom Community

Over the course of the term, we'll work together to create and foster a learning environment both in the classroom and online that promotes collaborative learning and effective, thoughtful discussion. This entails respecting the rights and dignity of others as we engage in class discussion, particularly when the topic might be provocative, as may sometimes be the case in this class. Active listening is an integral aspect of such discussion. Please give all students the opportunity to fully express themselves. Obviously, flippant, aggressive remarks and personal attacks will not be tolerated. Though beliefs may occasionally be questioned or challenged (and, I'd argue, should be--including my own!), they will always be heard and respected.

Likewise, the University of Victoria is committed to promoting critical academic discourse while providing a respectful and supportive learning environment. All members of the university community have the right to this experience and the responsibility to help create such an environment. The University will not tolerate racism, sexualized violence, or any form of discrimination, bullying or harassment.

Please be advised that by logging into UVic's learning systems and interacting with online resources you are engaging in a university activity. All interactions within this environment are subject to the university expectations and policies. Any concerns about student conduct, may be reviewed and responded to in accordance with the appropriate university policy. To report concerns about online student conduct: *onlineconduct@uvic.ca*.

Attendance and Participation Policy

Attending class, taking good notes, and participating in class discussion and activities are typical requirements for success in a university class. To help ensure regular attendance is possible, wearing masks if necessary, frequent hand sanitizing, and getting your booster vaccine as soon as you are able. If you cannot come to campus, you must contact your instructors as soon as possible to let them know, and to arrange how you will catch up on required material, exercises, and assignments. In most cases,

information and activities will be available on your course Brightspaces, so you should check them regularly and participate if you are able. Students who cannot come to class are expected to regularly log on to their course Brightspace sites and participate in online activities. Students who have not contacted their instructor or logged on to the course site for 6 or more class days may be directed to drop the course, withdraw, or seek a formal academic concession. It is very likely that students who miss more than 6 days in-class will fail the course.

PLEASE NOTE: Students who do not attend the first two Communication lectures of the term (starting Sept 4), do not complete the Diagnostic assignment, and who do not contact their instructor regarding their absence may be dropped from the course (it will be assumed that you do not intend to take the course). *Please contact your instructor via email if you cannot attend the first 2 classes!*

Late Assignment Policy

Communications Assignments: All assignments in this specific section have an automatic 48 hour extension. In the professional world, it is standard practice for extensions to be expected and given. If you require more than the 48 hour extension to submit an assignment you must send me an email before the assignment deadline. Meeting deadlines is important to keep your work on track and to enable your instructor to give you timely feedback on assignments and scaffold tasks effectively. If you anticipate that you will not be able to meet a deadline, let your instructor know as early as you can. Since work in this course is done individually, we are open to arranging extensions if needed. 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 (i) may not receive a full set of comments and (ii) your assignment grade may be lowered by 5% for every day it is late.

Design Assignments: The Design course is tightly structured to progress through the term, with most components done in teams creating inter and intra-team scheduling challenges. Due to this timeline, extension requests may only be granted in extremely extenuating circumstances. The standard penalty for late submissions is 20% for every day it is late.

General UVic Information and Policies

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 feel free to contact the Chair/Director of the Department/Unit by email or the Chair/Director's assistant to set up an appointment.

Course Experience surveys (CES)

You will have the opportunity at the end of the semester to evaluate the course and provide feedback to instructors on your learning experience and on the course overall. The feedback is vitally important in helping us to continually improve the course. The instructors also value informal feedback throughout the term.

UVic Policies

For various university policies, see the following links:

- **General University Policies)**, 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**

- **University of Victoria's Communicable Disease Safety Plan**

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

AI Tools: In the context of Academic and Technical Writing Program classes, there are some tasks connected to assignments for which it might be appropriate to use an artificial intelligence tool. For example, there's not a meaningful difference between asking MS CoPilot to suggest possible paper topics, discussing your interests during an appointment with a librarian, generating topic ideas through conversation with a friend, or getting ideas by skimming news headlines. Each of these resources used thoughtfully could guide you to appropriate ideas, but in all cases, you would still need to choose your topic and then do the work of thinking, reading, researching, and writing.

However, in some instances, using an artificial intelligence tool would keep a student from benefiting from the purpose of the assignment. If you're supposed to be practicing your reading and analytical skills by summarizing a complex article, you won't learn much by having Perplexity generate a summary for you. Your ability to find and rework unclear phrasing in your own writing won't improve if you always let MS Editor decide what is correct.

And in some cases, using an artificial intelligence tool would contravene the principles of academic integrity. Handing in a paragraph generated by an AI tool as an example of your writing is a form of plagiarism and thus would violate UVic's Academic Integrity Policy.

Therefore, you should not use any artificial intelligence tools when working on assignments for this class **unless your instructor has explicitly authorized their use**. In some cases, that "authorization" will be specified in assignment instructions. In some cases, you will get guidance in class or in an announcement in the Brightspace course site. If you're ever unsure of whether it's appropriate to use an artificial intelligence tool in an ATWP class to complete an assignment, **ask your instructor**.

In all cases, you are expected to make explicit if you have made use of an artificial intelligence tool **to generate content** just as you would cite any other source of ideas and language. The UVic Libraries website offers information regarding the Scholarly use of A.I. Tools, including guidelines for how to cite content created by artificial intelligence tools.

Fair Use of 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, and are intended for use in this course only. These materials 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.

Accessibility

Each student brings to this course diverse interests, learning styles, and needs. The assignments and activities in 110 have been designed to draw upon a variety of different aptitudes and strengths. In general, the aim here is for accessibility over accommodation; this is the ideal. "Accommodation" means that you have to show or prove that you need something, and then I try to make sure that you get enough of what you need, whereas "accessibility" means that I design things to make it so that you don't even need to ask in the first place.

That being said, communicating your personal learning needs with me early on in the term is immensely valuable and helps me to support you in different ways. If you have a permanent disability, a temporary disability, or a health consideration that may require accommodations, you may approach me and/or the Centre for Accessible Learning (CAL) as you feel comfortable. Note that CAL staff members are available by appointment to assess specific needs, provide referrals, and arrange appropriate accommodations (https://www.uvic.ca/services/cal/). To be clear, this is not a matter of students needing "more" support; rather, it's a matter of students needing different kinds of support.

The sooner you feel comfortable discussing your learning needs, the sooner we can assist you in achieving your learning goals. So, if at any point in the term you find yourself prevented from fully accessing this online course or not getting the support you need, you are strongly encouraged – though not required – to contact me by e-mail or to visit me during office hours to discuss ways to improve accessibility. I will also ensure there are multiple anonymous opportunities for you to provide me with this kind of feedback as the term progress (i.e. not just at the end of the term).

Requests for Academic Concession: Students who do not complete all of the required assignments (*Summary, CRA Essay, Research Essay* and *Portfolio*) will receive an "N grade for the course. An "N" grade is the equivalent of an "F" on your transcripts and GPA. Students who cannot complete **up to two** of the main 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 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.

Fall 2024 Weekly Schedule

WW: Why Write
TWE: Technical Writing Essentials

DATES	TOPICS/Readings	Assignments
Week 1 **Sep 4-6** **Classes Start Wed Sep 4**	Welcome to ENGR 110 ● Identify course outcomes, requirements, and resources ● TWE Chapter 1.5: Writing Processes	Diagnostic Due Monday, September 9
Week 2 **Sep 9-13**	Academic Reading & Writing Conventions ● WW Chapter 1: Learning Goals Summaries ● TWE Chapter 1.1: Problem Solving Approach to Writing ● Summary Article	
Week 3 **Sep 16-20** **Add deadline Sep 20**	Peer Review ● WW Chapter 2.6: Common Sub-Genres of Academic Writing Common Sub-Genres of Academic Writing In-class Summary Peer Review IEEE Citation ● TWE Chapter 6: Citing and Documenting sources in IEEE Style ● ENGR 110 Library Guide	Summary Due Friday Sep 20 by 11:59 pm
Week 4 **Sep 23-27**	The Rhetorical Situation ● Metaphors we Think With ● TWE Chapter 2.3: Writing to Persuade Rhetorical Appeals ● WW Chapter 3: Learning Goals	
Week 5 **Sep 30-Oct 4** **No class Mon Sep 30**	Analyzing Rhetorical Arguments The Research Question ● WW Chapter 4.4-4.6	Rhetorical Analysis Due Friday Oct 4 by 11:59 pm
Week 6 **Oct 7-11**	Research Consultations Choosing a Research Topic Thesis Statements ● Demystifying Thesis Statements ● Writing an Annotated Bibliography	
Week 7 **Oct 14-18** **No class Mon Oct 14**	Synthesis: Secondary Source Integration ● TWE Appendix C: Integrating Source Evidence Into Your Writing ● WW Chapter 2.7: The Essay	Research Plan Due Friday Oct 18 by 11:59 pm
Week 8 **Oct 21-25**	Synthesis In-class Workshop In-class Synthesis Essay Peer Review ● Read Individual Articles	

Week 9 Oct 28-Nov 1 **Last day to withdraw Oct 31**	Conclusions In-class Draft Research Essay Writing Workshop Read Individual Articles	Synthesis Essay Due Friday Nov 1 by 11:59 pm
Week 10 **Nov 4-8**	Introductions In-class Draft Research Essay Peer Review	Post Draft Research Essay Sunday, Nov 10 by 11:59 pm
Week 11 **Nov 11-15** **Reading Break Nov 11-13 (Mon-Wed)**	Online Writing Workshop WW Ch. 5 Grammar as a Situated Practice	Draft Research Essay Feedback Due Friday Nov 15 by 11:59 pm
Week 12 **Nov 18-22**	Revision - WW Chapter 4.6: Citational Practice: Writing from Sources - TWE Chapter 5: Conducting Research - TWE Chapter 2: Professional Style - TWE Chapter 2.4: The Importance of Verbs	Reverse Outline Due Friday Nov 22 by 11:59 pm
Week 13 **Nov 25-29**	Portfolio In-class Research Essay Workshop Accessible Document Design In-class Research Essay Workshop - How to Create Accessible Documents - Accessible Documents	
Week 14 **Dec 2-4** **Last day of classes Dec 4**	In-class Portfolio Workshop	Research Essay Due Wednesday Dec 4 by 11:59 pm
Exams **Dec 7-20**		Portfolio Due Date TBD