

CHEE 361 – ENGINEERING COMMUNICATIONS, ETHICS AND PROFESSIONALISM

Course Syllabus – Winter 2022

This is your course syllabus. Please download the file and keep it for future reference.

Land Acknowledgement

Queen's University is situated on traditional Anishinaabe and Haudenosaunee Territory.

See: <http://www.queensu.ca/encyclopedia/t/traditional-territories>

Inclusivity Statement

Queen's students, faculty, and staff come from every imaginable background – small towns and suburbs, urban high rises, Indigenous communities, and from more than 100 countries around the world. You belong here: <https://www.queensu.ca/inclusive/>.

TEACHING TEAM

COURSE INSTRUCTOR

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Please check the course website for an up-to-date list of TAs and other course personnel.

COURSE INFORMATION

COURSE DESCRIPTION¹

This course provides advanced instruction and practice in engineering communications, ethics, and professionalism. Effective engineering writing and speaking skills are developed with an emphasis on technical reports and oral presentations. Students will learn how to gather information from literature sources, apply appropriate citation styles, present data, and write effective documents. Activities include case studies involving the application of codes, engineering ethics, equity, and professionalism. This course is integrated with CHEE 331. (0/0/12/0/0)

PREREQUISITES: APSC 200 or APSC 202, APSC 293 or permission of the Department.

COREQUISITES: CHEE 331, or permission of the Department.

COURSE LEARNING OUTCOMES (CLO)

The objective of this course is to develop proficiency in written and oral technical communications. Self-assessment and peer review are key components of the course. The course is coupled with CHEE 331 (Design of Unit Operations).

Specific course learning outcomes (CLO) include:

CLO	DESCRIPTION	INDICATOR
CLO 1	Critically evaluate written material, including scholarly sources.	CO-Written LL-Information
CLO 2	Present concise, coherent, and grammatically correct materials (written and oral) that reflect critical analysis and synthesis, and appropriately address the needs of the audience.	CO-Written LL-Acquisition TW-Feedback LL-Reflection
CLO 3	Create accurate and complete technical graphics to explain, interpret, and assess information.	CO-Graphics LL-Information
CLO 4	Deliver formal and informal oral presentations with appropriate language, style, timing, and flow.	CO-Oral PR-Interpersonal
CLO 5	Apply principles of engineering ethics and equity to issues encountered during engineering practice.	EE-Ethics EE-Equity IM-Social LL-Reflection
CLO 6	Analyze social and environmental aspects of engineering activities.	PR-Interpersonal IM-Environment IM-Social

¹ Course Author: L. Meunier: Professional Engineering, Ethics, and Communications, Winter 2022; Queen's University holds a license for the use of the Course Author's Intellectual Property for CHEE 361.

This course assesses the following program indicators:

Teamwork (TW)

TW-Feedback Share ideas and information by eliciting, giving, and applying positive and effective feedback.

Communications (CO)

CO-Written Produce clear, concise, precise, and well-organized written communication with language appropriate for the audience

CO-Graphics Create figures, maps, tables, and drawings to engineering report standards

CO-Oral Deliver formal and informal oral presentations with suitable language, content, style, timing, and flow, while adapting format, content and tone to audience and purpose.

Professionalism (PR)

PR-Interpersonal Demonstrate professional conduct and integrity.

Impact of Engineering (IM)

IM-Environment Evaluate the environmental impact of engineering activities and promote environmental stewardship of the natural and built environments.

IM-Social Evaluate cultural, societal, and technical norms while maintaining ethical position required for engineering practice in Canada.

Ethics and Equity (EE)

EE-Ethics Identify and resolve potential ethical issues using ethical principles and codes, demonstrating knowledge of professional accountability in engineering.

EE-Equity Intentionally incorporate principles of fairness, access and opportunity into decision making.

Lifelong Learning (LL)

LL-Information Identify, organize, and critically evaluate information from an appropriate range of sources, to meet learning needs.

LL-Acquisition Independently acquire new knowledge and skills for ongoing personal and professional development.

LL-Reflection Evaluate and reflect on own knowledge, skills, and learning.

RELEVANCE TO THE PROGRAM

This course builds on communication and professionalism skills introduced in APSC100, APSC200, and APSC293. These skills will be used in co-requisite CHEE 331 assignments, in the fourth-year projects, and in future engineering work.

COURSE STRUCTURE AND ACTIVITIES

Activities will be completed individually, in groups, online or in class, in preparation for, during, and following the two-period facilitated weekly workshops during the term.

Support material will be posted in advance on the course learning management system (LMS).

EXPECTATIONS FOR LECTURES/TUTORIALS

Students should study assigned materials and prepare draft assignments for feedback during workshops. Students are expected to refine their assignments during workshops with the help of instructors; peer editing will also be encouraged. Workshops are intended as consultation time with instructors and group work for both CHEE 331 and CHEE 361 assignments.

In group assignments, each group member is expected to contribute fairly and equitably. In the event of serious deficiencies in the contributions (e.g. observed by instructor, through peer assessments, or through complaints from other group members and/or teaching assistants), the student will be issued a written warning, stating the expectations and timeline for remediation and compliance. The student may be assigned individual work to compensate for a lack of contribution. If the student does not comply within the specified time frame, a second written warning will be issued (with a copy to the Associate Head and Undergraduate Chair). Failure to comply will result in automatic expulsion from the group, and possibly a failing mark in the assignment and/or in the course. A peer evaluation form is available through the LMS. This form may be filled out by a group member at any time during the semester. The form must be submitted to the instructor, who will take appropriate action in response to this submission (response may include a request for each group member to fill out a peer evaluation, individual meetings, group meetings, and follow up action as described above).

COURSE MATERIALS

Textbook and Resources

All resources, including references, instructions, and details for each assignment, will be available from the course LMS.

Learning Support

All members of the teaching team are available during workshops, office hours and by appointment (through e-mail).

Additional review and help sessions may be scheduled as required during the term.

COURSE EVALUATION

Deliverable	Week or Date	Weight	Alignment with CLOs
331 Assignment Reports (2 group marks)	Weeks 3, 10	15+25%	2,3,6
Annotated Bibliography	Weeks 1-2	15%	1
Oral Communication	Weeks 3-6	20%	2,4
Memo (with annotated draft)	Weeks 3-6	10%	2,5
Ethics and Equity Reflections (1 short report)	Weeks 5-7	15%	5,6
Resume and Cover Letter	Week 4	Up to 4%	2
One-minute introduction/presentation	Weeks 2-7	Up to 2%	2,4,6

Assessment Descriptions

Two assignments (design reports) will be submitted for marking in CHEE 331 (for technical content) and in CHEE 361 (for technical communication and written form). Other assignments will be marked toward the CHEE 361 grade only. Optional assignments on job search skills (a resume and cover letter) and/or a one-minute introduction presentation may be handed in for additional marks. Students who wish to submit these optional assignments must register and attend the relevant CHEE 361 job search skills workshop and/or presentation activity.

This course makes use of Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments to through OnQ to Turnitin. In doing so, students' work will be included as source documents in the Turnitin reference database, where they will be used solely for the purpose of detecting plagiarism.

Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. Turnitin compares submitted files against its extensive database of content and produces a similarity report and a similarity score for each assignment. A similarity score is the percentage of a document that includes content resembling information held within the database. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to determine the authenticity of work as a part of a larger process.

Please read Turnitin's Privacy Pledge, Privacy Policy, and Terms of Service, which governs users' relationship with Turnitin. Also, please note that Turnitin uses cookies and other tracking technologies; however, in its service contract with Queen's Turnitin has agreed that neither Turnitin nor its third-party partners will use data collected through cookies or other tracking technologies for marketing or advertising purposes. For further information about how you can exercise control over cookies, see Turnitin's Privacy Policy.

Turnitin may provide other services that are not connected to the purpose for which Queen's University has engaged Turnitin. Your independent use of Turnitin's other services is subject solely to Turnitin's Terms of Service and Privacy Policy, and Queen's University has no liability for any independent interaction you choose to have with Turnitin.

GRADING

All assessments in this course will receive numerical percentage marks. The final grade a student receives for the course will be derived by converting the numerical course average to a letter grade according to the established [Grade Point Index](#).

All assignments must be completed, handed in, and marked to a passing grade to pass the course. If one or more assignment is missing, the final grade in the course will be an F. No final exam (and no supplemental exam) will be given for this course. Marks from a dropped assignment may be transferred to other marked tasks for extenuating circumstances or medical reasons supported with proper documentation following the stipulations of the [departmental policy](#), and in consultation with the instructor before the assignment due date.

Assignments must be typed, formatted, and submitted according to specified instructions. For group work, only one submission per group, with the name of each group member clearly indicated. Each member of a group is responsible for the entire contents of their group assignment submission. Group submissions will be graded as a whole, and each group member will receive the same mark.

Feedback on Assessments

The teaching team will provide feedback on graded activities. Markers will take the time necessary to provide detailed feedback on assessed tasks and tests; the goal is to return marked activities within seven to ten days following the due date, however some assignments require longer making times.

To be eligible for mark reassessment of an assignment, a request must be submitted within one week of the initial return date along with a mark reassessment form (available on the course LMS) and the complete original submission. Please note that a selection of marked assignments will be archived.

Accessing Final Grade

Final grades will be posted on SOLUS. Official transcripts showing final grades will be available on the Official Grade Release Date. Please note that, in official transcripts, a mark of IN (incomplete) is considered a grade, and your transcript is released with this grade.

HOW TO DO WELL IN THIS COURSE

This course introduces and explores important concepts in professional communications for engineers, ethics, and professionalism. Students are expected to apply the concepts presented in the online tools and in course materials, and during workshops to prepare effective written documents and oral presentations. Students are encouraged to prepare assignments in a timely fashion to benefit from feedback and edits. Progressive drafts are also beneficial during preparation of reports that are marked for both the communications portion and the design project portion of the twinned course CHEE 331. Basic language skills are not taught in CHEE 361. Students are expected to apply their knowledge of grammar and appropriate communication forms, and to expand on their knowledge through this course. Students who require support in basic language skills are referred to other resources available at Queen's (e.g., Student Academic Success Services).

Assignments must emulate a professional engineering standard. All work must be submitted exactly as indicated in the instructions. Marks will be deducted for failure to submit work in the correct format (e.g., using Word instead of the specified PDF format), the correct document title, document length, etc.

Suggested Time Commitment

This course is offered through a study period of one semester spanning 12 weeks. Learners can expect to invest on average 2-3 hours per workshop hour in this course. Learners who adhere to a pre-determined work schedule are more likely to successfully complete the course.

Only those who dedicate the required time and effort into the preparation of professional-level assignments will truly benefit from this course.

COURSE COMMUNICATION

In this course, you may be expected to communicate with your peers and with the teaching team in person and through electronic communication. You are expected to use the utmost respect in your dealings with your colleagues and instructors, and when participating in activities, discussions, and online communication.

Following is a list of etiquette and *netiquette* guidelines that the teaching team and Queen's personnel has adopted. Please read them carefully and use them to guide in-person and online communication in this course and beyond.

1. Make a personal commitment to learn about, understand, and support your peers.
2. Assume the best of others and expect the best of them.
3. Acknowledge the impact of oppression on the lives of other people and make sure your words and writings are respectful and inclusive.
4. Recognize and value the experiences, abilities, and knowledge each person brings.
5. Pay close attention to what your peers say and write before you respond. Think through your response formulation and re-read your writings before you post or send them to others.
6. Be kind and courteous. It's alright to disagree with ideas, but do not make personal attacks.
7. Be open to be challenged or confronted on your ideas and challenge others with the intent of facilitating growth. Do not demean or embarrass others.
8. Encourage others to develop and share their ideas.

Course Announcements

The teaching team will routinely post course news in the Announcements section on the course LMS. Please sign up to be automatically notified by email of these posts. Instructions on how to modify your notifications are available on the LMS platform.

Office Hours

In addition to interaction through Q&A sessions, students can interact in a synchronous fashion, via online communications or in person, with members of the teaching team through office hours. A schedule for office hours will be determined in consultation with the class at the beginning of the term. Students may also contact the teaching team by e-mail to ask questions and/or to request an appointment. Points of contact are available on the course LMS home page.

Confidential Matters

Students who wish to discuss a confidential matter can reach the instructor by e-mail to make an appointment. The instructor will normally reply within 48 hours during workdays.

COURSE POLICIES

Please review the following policies concerning copyright, academic integrity, absences, and academic accommodations. Further details are available on the faculty website.

Confidential Matters Copyright

Course materials created by the course instructor, including all slides, presentations, synchronous and asynchronous course recordings, handouts, tests, exams, and other similar course materials, are the intellectual property of the instructor. It is a departure from academic integrity to distribute, publicly post, sell, or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution, posting, sale, or other means of dissemination, without the instructor's express consent. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights and, with respect to recordings, potentially privacy violations of other students.

Academic Integrity

Engineering students decided to join the profession of engineering, a long-respected profession with high standards of behaviour. As future engineers, students are always expected to behave with integrity. Please note that Engineers have a duty to:

- Always act with devotion to the high ideals of personal honour and professional integrity.
- Give proper credit for engineering work.

The standard of behaviour expected of professional engineers is explained in the [Professional Engineers Ontario Code of Ethics](#). Information on policies concerning academic integrity is available in the [Queen's University Code of Conduct](#), in the [Senate Academic Integrity Policy Statement](#), on the [Faculty of Engineering and Applied Science website](#), and from the course instructor.

Late Policy

Students are expected to complete their work on time. The course instructor will provide notification (during lectures and/or on the course LMS) of due dates and any revisions thereof.

Submissions after the due date will not be accepted without prior arrangement and may be penalized at up to 20% per day (24-hour period following due date/time) unless a suitable justification is provided.

Late Policy Extenuating Circumstances

In the event of extenuating circumstances, A student may request an extension to an assignment due date without penalty. Requests must be made to the instructor prior to the original due date of the assignment, and some substantiating documentation may be required (see information below on absences). Note that unacceptable reasons include extra-curricular activities, travel plans, generally behind on schoolwork, etc. In the absence of substantiating documentation, the normal late penalty will apply as described above and according to departmental policies.

Invalid Exams

An exam may be declared invalid in case of a significant interruption in an in-person examination; if the instructions in a remote or online exam were not followed; if the student uploads wrong materials; or if a situation arises where the integrity of the exam cannot be verified. If an exam is declared invalid, the student may be granted a re-write, subject to review and in accordance with academic integrity.

Absences (Academic Consideration) and Academic Accommodations

For absences and academic accommodations please review the information on the [FEAS website](#).

ACADEMIC AND STUDENT SUPPORT

Queen's has a robust set of supports available to you including the [Library](#), [Student Academic Success Services \(Learning Strategies and Writing Centre\)](#), and [Career Services](#). Learners are encouraged to visit the Faculty of Engineering and Applied Science [Current Students](#) web portal for information about various other policies such as academic advisors, registration, student exchanges, awards and scholarships, etc.

Individual Needs and Support

If you have a disability or health-related condition that may require academic accommodations, please approach the [Queen's Accessibility Services](#). The staff at Accessibility Services are available by appointment to develop individualized accommodation plans, provide referrals, and assist with advocacy. The sooner you let us know your needs, the better we can assist you in achieving your learning goals. For questions or assistance with requesting Academic Consideration or Accommodation, contact the FEAS Academic Accommodation Coordinator at engineering.aac@queensu.ca.

Accommodations requests must be made as soon as an issue arises, and normally well before each affected due date. Although every effort will be made to accommodate students, retroactive applications after an exam has been attempted, or past an assignment due date may not be possible.

Every effort has been made to provide course materials that are accessible. For further information on accessibility compliance of the educational technologies used in this course, please consult the following links.

EDUCATIONAL TECHNOLOGY	ACCESSIBILITY COMPLIANCE INFORMATION
onQ (Brightspace Learning Management System by D2L)	https://www.d2l.com/accessibility/standards/
RocScience	https://www.rocscience.com/
Google Spreadsheets	https://www.google.com/accessibility/products-features/
MS-Teams	https://support.microsoft.com/en-us/office/accessibility-support-for-microsoft-teams-d12ee53f-d15f-445e-be8d-f0ba2c5ee68f
Zoom	https://zoom.us/accessibility

If you find any element of this course difficult to access, please discuss with the instructor how accommodations may be obtained.

RELIGIOUS OBSERVANCE

Students in need of accommodation for religious observance are asked to speak to their professor within a week of receiving their syllabus. Students in need of accommodation should speak to their professors right away. Note also that alternative assignments are considered a "reasonable accommodation" under the Ontario Human Rights Code. Students with questions about their rights and responsibilities regarding religious accommodation should contact Chaplain Kate Johnson via Chaplain@queensu.ca.

TECHNICAL SUPPORT

Basic hardware and software skills and online access are required for this course. If you require technical assistance, please contact [Technical Support](#).

SUPPORTIVE PERSONAL COUNSELLING

If at any time you find yourself feeling overwhelmed, anxious, sad, lonely, or distressed, consider confidential supportive counselling offered by the [embedded counselors](#) at the Student Wellness Service Faculty of Engineering and Applied Science.

COURSE OVERVIEW

CHEE 361 Course overview			
Course learning outcomes (CLO): Students will be able to:			
<ol style="list-style-type: none"> 1. Critically evaluate written material, including scholarly sources. 2. Present concise, coherent, and grammatically correct materials (written and oral) that reflect critical analysis and synthesis, appropriate to audience needs. 3. Create accurate and complete technical graphics to explain, interpret, and assess information. 4. Deliver formal and informal oral presentations with appropriate language, style, timing, and flow. 5. Apply principles of engineering ethics and equity to issues encountered during engineering practice. 6. Analyze social and environmental aspects of engineering activities. 			
Time	Lecture approach and content	Practice	Assessment
Week 1-7	MODULE 1: Technical Writing Review <ul style="list-style-type: none"> • Review grammar, format, technical writing practices. 	Introduced in week 1 Online resources	<i>Review and assignment preparation</i>
Weeks 1-2	MODULE 2: Citation. <ul style="list-style-type: none"> • Review library research and citation procedures. • Prepare an annotated bibliography 	Workshop week 1	Annotated Bibliography individual submission in support of CHEE 331 group work (CLO 1)
Weeks 2-7	MODULE 3: Oral Communication <ul style="list-style-type: none"> • Prepare and deliver an oral presentation. • Prepare a presentation skills critique memo. • Prepare a presentation document with annotations. 	Introduced in week 2 Presentations during weeks 3 - 7	Oral presentation delivered by project group, (CLO 2,4) Individual Critique Memo (CLO 2,5) <i>optional individual oral presentation</i> (CLO 2,4,6)
Week 4	MODULE 4: Job Search Skills (optional) <ul style="list-style-type: none"> • Consult Career Services Resources. • Prepare a cover letter and resume. 	Workshop week 4	<i>optional individual written submission of</i> Cover Letter and Resume (CLO 2)
Weeks 5-7	MODULE 5: Ethics, Equity and Social Impact of Engineering <ul style="list-style-type: none"> • Participate in workshop activity and complete online quiz. • Prepare a written reflection. 	Workshops weeks 5 and 7	Reflections (choice of: Ethics <u>or</u> Equity report) prepared by project groups and individual online Quiz (CLO 5,6)
Weeks 1-12	MODULE 6: Technical Report <ul style="list-style-type: none"> • Prepare formal technical reports (CHEE 331 format). 	Workshops, progressive drafts	Design Challenges 1 and 3 Reports submitted to CHEE 331 and CHEE 361, (CLO 2,3,6)