ChE 600 – Engineering and Research Methods, Ethics, Practice, and Law

1 Administrative Information

Instructor: Jason Grove, PEng
Seminar times: Thur 10:00–11:50 in E6-4022
Contact: jagrove@uwaterloo.ca
https://teams.microsoft.com/l/chat/0/0?users=jagrove@uwaterloo.ca
Office hours: Available in-person or via MS Teams; please e-mail or chat to arrange appointment.
Course Website: https://learn.uwaterloo.ca/d2l/home

2 Learning Outcomes

2.1 Course description
Introduction to methods and ethics relevant to engineering practice and postgraduate research. Literature search and review, defining research problems, planning and communication. Responsible research conduct and laboratory safety. Introduction to non-technical aspects of a professional engineering career, including the Canadian legal framework, profession licensure, ethics, safety and environmental protection.

2.2 Intended Learning Outcomes
At the end of this course a successful student should be able to:

- Describe the responsibilities of a researcher with respect to integrity and ethics.
- Conduct a systematic and thorough literature search to identify relevant good-quality scholarly references for a given topic.
- Articulate a research question.
- Appreciate the need to develop a research plan.
- Recognise the importance of experimental design.
- Describe the responsibilities of a student with respect to academic integrity and ethics.
- Describe how the practice of professional engineering is regulated in Ontario.
- Describe Federal and Provincial law as relevant to engineering practice, including the Canadian legal framework, contract and tort law, and environmental and safety regulations.

3 Attendance and Grading Scheme
This is a seminar course and a core component of your learning requires attendance and engagement in class. In order to achieve a credit in the course, you must both:

- Attend a minimum of 10 (out of 12) classes
• Achieve a grade of 60% on the final exam.

3.1 Missed classes
• Up to two classes may be missed without penalty.
• If you are unable to attend due to illness, you should self-declare on Quest and are exempt from that week (this does not contribute towards the two missed class allowed).
• If you are going to miss class due to known conflict, you should:
  o Let the instructor know.
  o Make-up for the class by submitting a short written reflection on that week’s content.
  o Further instructions for this can be found on Learn

3.2 Final Examination
• The final exam will be a time-limited electronic quiz available via Learn.
• This will be at a date and time scheduled by the Registrar’s Office.

4 Remote Teaching Contingencies
In the event that we are directed to suspend in-person teaching, the seminar will proceed via a synchronous, online MS Teams meeting. Links will be provided online. In order to encourage open participation by all, these meetings will not be recorded. You are expected to keep your camera on most of the time.

Grading is unaffected (attendance online replaces in-person, and the final exam will proceed in the same way).

5 Mental Health and Wellness
University can be a rewarding and challenging environment. At times you may feel overwhelmed, stressed, anxious, demotivated, or depressed. Counselling services offers individual, group and peer support counselling, seminars and workshops aimed to facilitate personal and social growth, assist with life difficulties and intervene in times of crisis (https://uwaterloo.ca/counselling-services/).

6 Note for Students with Disabilities
AccessAbility Services, located in the Needles Hall extension, Room 1401, 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.

7 Intellectual Property
Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo. Intellectual property includes items such as:

• Lecture content, spoken and written (and any audio/video recording thereof);
• Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides);
• Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
• Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student’s educational experience. However, sharing this intellectual property without the intellectual property owner’s permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

8 Expectations of 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. More information available at: http://www.uwaterloo.ca/academicintegrity/.

**Discipline:** Academic offences will not be tolerated. Every student is expected to know what constitutes academic integrity to avoid committing an academic offence and to take responsibility for his/her actions. For information on categories of offences and types of penalties, students should refer to Policy 71, Student Discipline:

(https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-71)

For typical penalties, please refer to the Guidelines for the Assessment of Penalties
(http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines).

**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


When in doubt, please be certain to contact the department’s administrative assistant who will provide further assistance.
**Appeals:** A decision made or penalty imposed under Policy 70: Student Petitions and Grievances (other than a petition) or Policy 71: Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72: Student Appeals (https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-72).