



ENGG*4000 Proposal for Engineering Design IV

01

Fall 2021

Section(s): C01

School of Engineering

Credit Weight: 0.00

Version 1.00 - September 08, 2021

1 Course Details

1.1 Calendar Description

In this course students will prepare a proposal for the design project that will be completed in the Engineering Design IV course in their program of study. Teams normally of 3 to 4 students (single student groups not allowed) will prepare the proposal, providing details on the proposed project, identify the group's members and identify the faculty adviser, who has a P.Eng.. Students are responsible for creating their own design group and securing a faculty advisor.

Pre-Requisites:

ENGG*3100

Restrictions:

Registration in the semester preceding the last semester of the BENG Program. Instructor consent required. Restriction waiver requests are handled by the Director, School of Engineering, or designate.

1.2 Course Description

This is an on-line course that has no scheduled meeting times. Students are expected to arrange their own groups, ideally 3 to 4 students in size, with no solo projects allowed. Smaller (or larger) groups are only considered by the course coordinator under extraordinary circumstances, and approval is conditional on availability of sufficient resources and suitability of project. Inter-disciplinary groups are encouraged if a particular problem has sufficient scope to provide appropriate experience to all team members. CourseLink maintains a discussion thread that the students can use to help with arranging group members.

1.3 Timetable

No formal lectures or tutorials. Students are self-directed in preparing the proposal and

capstone application package.

1.4 Final Exam

There is no final exam for this course.

2 Instructional Support

2.1 Instructional Support Team

Instructor:	Richard G. Zytner Ph.D., P.Eng., FEC, FCSCE
Email:	rzytner@uoguelph.ca
Telephone:	+1-519-824-4120 x53859
Office:	THRN 2337
Office Hours:	With this being an on-line offering, please use e-mail for any questions.

2.2 Graduate Teaching Assistants

Not applicable

3 Learning Resources

3.1 Course Website

Course material, news, announcements, and grades will be regularly posted to the ENGG*4000 *CourseLink* site. You are responsible for checking the site regularly.

4 Learning Outcomes

Students will: (1) apply their academic knowledge to identify a complex engineering problem and prepare a project proposal to address the problem, (2) participate in and further develop group interaction skills.

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Apply academic knowledge to identify a complex engineering problem in a project

proposal.

2. Participate in and further develop group interaction skills.

4.2 CEAB Graduate Attributes

Successfully completing this course will contribute to the following CEAB Graduate Attributes:

Graduate Attribute	Learning Objective	Assessment
4. Design	1, 2	Proposal
5 Engineering Tools	1, 2	Proposal
6 Individual and Teamwork	1, 2	Proposal
7 Communication	1, 2	Proposal
11 Project Management	1, 2	Proposal

Relationships with other Courses & Labs

ENGG*4000 is a zero credit course that prepares the student for the 1.0 credit capstone course (ENGG*41x0) that will be taken in the student's final semester. As such, students are required to build on the knowledge gained in all the preceding courses, applying engineering analysis and design principles to develop the proposal. This includes assessment of socio-economic, environmental impact and safety.

5 Teaching and Learning Activities

Timetable: No formal lectures or tutorials. Students are self-directed in preparing the proposal and capstone application package.

Lecture Schedule: Not applicable

Student Design Activity and Milestones

Week 8: Submit project proposal to Dropbox in CourseLink before Friday Nov. 5, 2021 at 17:00 h. **Submitted as a group.**

Week 8: Answer questions on Capstone Questionnaire (See CourseLink) before Friday Nov. 5, 2021 at 17:00 h. Available after Oct. 29. **Completed individually or a group.**

Week 12: Prepare a REB draft submission by Friday Dec. 3, 2021. **Submitted as a group.**
(consult Project Advisor for additional information)

Other Important Dates

1. First class: Sept. 9, 2021
 2. Holidays: Oct. 11 (Thanksgiving) & 12 (Fall Study Break Day), 2021
 3. Last class: Dec. 3, 2021
-

6 Assessments

6.1 Marking Schemes & Distributions

Proposal	P/F	Nov. 5, 2021
Capstone Questionnaire	P/F	Nov. 5, 2021
REB Draft Submission (if required)		Dec. 3, 2021

6.2 41x0 Registration

Students registered in ENGG*4000 must select ENGG*41x0 using WebAdvisor during the course selection period. Eligibility to remain registered in ENGG*41x0 is dependent on meeting all of the conditions listed on the Registration Request for ENGG*4000 form, located on the SOE website.

6.3 Proposal

The goal of the course is for students to prepare a proposal that deals with open-ended, multi-faceted design problems similar to those they will encounter as working professionals. Once approved, students will work on the proposal in ENGG*41x0. The proposal is a written offer to perform a specific design, that has the following characteristics:

- special type of engineering report, with common characteristics of all engineering reports (i.e., layout, front material, subject groupings, etc.)
- use a positive, optimistic tone (persuasive without being misleading) that is more familiar than usual in scientific reports (e.g., can be written in 1st person active voice rather than 3rd person passive)
- must be brief and to the point (5-8 pages of body text, not including appendices)
- written so the reader gets the main ideas of the proposed work but not all the technical details
- must clearly highlight benefits and costs (drawbacks) and other impacts as identified by the Rubric on CourseLink
- Identifies:
 - **what:** statement of need, problem definition, design ideas
 - **why:** point out benefits to client (monetary profit, social need, a perceived operational problem, system improvement, etc.)
 - **how:** personnel involved, resources required (budget, facilities, equipment, personnel), plan of attack, methodology
 - **when:** plan of project with timeline (brief in proposal), deliverables and due dates
 - **names** of all group members
 - **name of faculty advisor** who has the P.Eng. designation

Proposals are submitted as a group. Proposal will be graded Pass/Fail according to the Rubric posted on CourseLink. Proposals graded as Fail, can be resubmitted to obtain a Pass prior to the start of ENGG*41x0.

Part of the submission of the proposal is the completion of the Capstone Questionnaire. Groups or individuals not in a group must complete the Capstone Questionnaire given in CourseLink. The information collected is required and helps the School of Engineering administer ENGG*4000 and ENGG*41x0.

6.4 Research Ethics Board (REB) Approvals

Groups may require approval from the Research Ethics Board (REB) as part of their planned project work in ENGG*41X0. Approval is required for research that involves contact with human and/or animal subjects, their tissue and/or data about them (this could include the designers themselves... You count as human, so if you test the prototype on yourself, you have a human participant).

If any of the following statements apply to your project, you may need REB: During the design, development, testing, and/or demonstration (demo day),

1. my project will be placed on or in a human/animal. (e.g., medical sensors, VR headset, etc.)

2. a human/animal be placed on or in my project. (e.g., training device, assistive device, etc.)

3. my project will capture and retain data about a human/animal. (e.g., video, survey, cellphone MAC address, etc.)

If the work outlined in the proposal submission is identified as meeting these criteria, a draft of the REB application form must be completed and submitted to the faculty advisor by the last day of class, as published in the Undergraduate Calendar Schedule of Dates. In the event that the draft is not completed by this deadline, the group will have to determine an alternate project, and may receive a fail for the proposal component if the project proposed is no longer feasible. For more information on the approval process, see <https://www.uoguelph.ca/research/services-divisions/ethics/approval-process>.

6.5 Course Grading Policies

Passing grade: In order to pass the course, students must obtain a Pass in all course components. Failure to do so will result in a student being departmentally dropped from ENGG*41x0. In the event that a student fails a course or courses taken concurrently with ENGG*4000, and those failures affect eligibility to take ENGG*41x0, the student will be removed from the ENGG*41X0 course and ENGG*4000 will also be removed from the student's record so that the student can register for ENGG*4000 in the next offering of the course.

Certification: When students attached their name and student ID to the proposal, it signifies that the SOE Code of Ethics was adhered to. Students must also state that they contributed to the group effort in an equitable manner by including an attestation statement.

6.6 Course Format

This is an on-line course that has no scheduled meeting times. Students are expected to arrange their own groups, ideally 3 to 4 students in size, with no solo projects allowed. Smaller (or larger) groups are only considered by the course coordinator under extraordinary circumstances, and approval is conditional on availability of sufficient resources and suitability of project. Inter-disciplinary groups are encouraged if a particular problem has sufficient scope to provide appropriate experience to all team members. CourseLink maintains a discussion thread that the students can use to help with arranging group members.

7 Course Statements

7.1 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website [hyperlink to the website] and circulated by email.

7.2 Illness

The University will not require verification of illness (doctor's notes) for the fall 2020 or winter 2021 semesters.

8 School of Engineering Statements

8.1 Instructor's Role and Responsibility to Students

The instructor's role is to develop and deliver course material in ways that facilitate learning for a variety of students. Selected lecture notes will be made available to students on CourseLink but these are not intended to be stand-alone course notes. Some written lecture notes will be presented only in class. During lectures, the instructor will expand and explain the content of notes and provide example problems that supplement posted notes. Scheduled classes will be the principal venue to provide information and feedback for tests and labs.

8.2 Students' Learning Responsibilities

Students are expected to take advantage of the learning opportunities provided during lectures and lab sessions. Students, especially those having difficulty with the course content, should also make use of other resources recommended by the instructor. Students who do (or may) fall behind due to illness, work, or extra-curricular activities are advised to keep the instructor informed. This will allow the instructor to recommend extra resources in a timely manner and/or provide consideration if appropriate.

8.3 Lab Safety

Safety is critically important to the School and is the responsibility of all members of the

School: faculty, staff and students. As a student in a lab course you are responsible for taking all reasonable safety precautions and following the lab safety rules specific to the lab you are working in. In addition, you are responsible for reporting all safety issues to the laboratory supervisor, GTA or faculty responsible.

9 University Statements

9.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

9.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

9.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

9.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

9.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

9.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community—faculty, staff, and students—to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

9.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

9.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

9.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

9.10 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g.. final exam or major assignment).

9.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.
