ENGG*4000 PROPOSAL FOR ENGINEERING DESIGN IV

(0.0 Credits)

Fall 2016

UNIVERSITY of GUELPH

School of Engineering

(Revision 0: 10AUG2016)

1 INSTRUCTIONAL SUPPORT

1.1 Instructor

Instructor: Richard G. Zytner, PhD, P.Eng.,FEC.
Office: THRN 2337; Ext. 53859
Email: rzytner@uoguelph.ca
Office hours: TBD

1.2 Lab Technician - Not Applicable

1.3 Teaching Assistants - Not Applicable

2 LEARNING RESOURCES

2.1 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. **As per University regulations, all students are required to check their <mail.uoguelph.ca> e-mail account regularly**; e-mail is the official route of communication between the University and students.

2.2 Required Resources

None

2.3 Recommended Resources

None

2.4 Additional Resources

None

2.5 Announcements

Information related to ENGG*4000 will be posted on Courselink. In addition, per university regulations, all students are required to check their <mail.uoguelph.ca> e-mail account regularly. This e-mail is the official route of communication between the University and students.

3 ASSESSMENT

3.1 Dates and Distribution

41x0 Registration Form	P/F	Submitted at Time of Course Registration
Proposal	P/F	Before 40 d of classes – Nov. 4, 2016
Group/Advisor Confirmation Form	P/F	Before 40 d of classes – Nov. 4, 2016

3.1.1 41x0 Registration Form

41x0 Registration Form shows what the student will be studying in their final semester, and satisfies the restrictions listed for ENGG*41x0 such as, no 1000 and 2000 level core courses, maximum of 3.25 credits and a cumulative average of 60% or higher in ALL ENGG courses. The 41x0 Registration Form will be reviewed by the Counseling Office and graded Pass/Fall based on all the required conditions, which includes signing up for a group and naming of an advisor.

3.1.2 Proposal

The goal is to have students prepare a proposal that deals with open-ended, multi-faceted design problems similar to those that they will encounter as working professionals and solve in their final semester in ENGG*41x0. The proposal is a written offer to perform a specific design, which has the following characteristics (see CourseLink for more details):

- 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

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.

3.1.3 Group/Advisor Confirmation Form

Each student must complete the PEAR on-line survey found at: http://www.uoguelph.ca/peartool/user. Your central login details will give you access. Some of the information may seem repetitive, but this information helps the School administer ENGG*4000 and ENGG*41x0.

3.2 Course Grading Policies

Missed Assessments: If you are unable to meet an in-course requirement due to medical, psychological, or compassionate reasons, please email the course instructor. See the undergraduate calendar for information on regulations and procedures for Academic Consideration:
http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml

Accommodation of Religious Obligations: If you are unable to meet an in-course requirement due to religious obligations, please email the course instructor at the start of the semester to make alternate arrangements. See the undergraduate calendar for information on regulations and procedures for Academic Accommodation of Religious Obligations:
http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-accomrelig.shtml

Passing grade: In order to pass the course, students must obtain a Pass in both course components as outlined in Section 3.1. Failure to do so in either component will result in a student being departmentally dropped from ENNG*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 (Section 3.1.2), the grade for the Evaluation Package will be changed to a Fail, and ENGG*4000 must be retaken.**

Certification: Students must write their PEO SMP (Student Membership Program) number on their proposal. This 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.

3.3 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.

4 AIMS, OBJECTIVES & GRADUATE ATTRIBUTES

4.1 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 (ENGG*4110, ENGG*4120, ENGG*4130, ENGG*4150, ENGG*4160, ENGG*4170 and ENGG*4180). Teams normally of 3 to 4 students (single student groups not allowed) will prepare the proposal, providing details on the proposed project, identify the groups 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.

Prerequisite(s): All 1000 and 2000 level core courses and ENGG*3100
Restriction(s): Registration in semester preceding the last semester of the B.Eng. Program. Instructor consent required. Restriction waiver requests are handled by the Director, School of Engineering, or designate.

4.2 Course Aims

The goal is to prepare students to deal with open-ended, multi-faceted design problems similar to those that they will encounter as working professionals. To that end, students will apply their academic knowledge to the identification of a specific engineering problem that they will solve in the subsequent

Engineering Design IV course in their program of study (ENGG*4110, ENGG*4120, ENGG*4130, ENGG*4150, ENGG*4160, ENGG*4170 and ENGG*4180).

In addition to preparing their proposal, the 41x0 Application Package will show if the students are going into their final semester, and satisfy the restrictions listed for ENGG*41x0 such as, no 1000 and 2000 level core courses, maximum of 3.25 credits and a cumulative average of 60% or higher in ALL ENGG courses.

4.3 Learning Objectives

The goal is to prepare students to deal with open-ended, multi-faceted design problems similar to those that they will encounter as working professionals. To that end, students will: (1) apply their academic knowledge to identify a complex engineering problem in a project proposal, (2) participate in and further develop group interaction skills and (3) complete Capstone (41x0) Application Package.

4.4 Graduate Attributes

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

Graduate Attribute		Learning Objectives	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

4.5 Instructor's Role and Responsibility to Students

The instructor's role is to provide the required material on CourseLink/D2L so that students can fulfill the requirements of the course.

4.6 Students' Learning Responsibilities

Students are expected to take advantage of the resources posted on CourseLink/D2L 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.

4.7 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

5.1 Timetable

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

Lecture Schedule

Week No. Classroom Activity

Not applicable.

5.2 Student Design Activity and Milestones

Week No. Task

8 Submit project proposal for ENGG*41x0 to Dropbox in CourseLink before Friday at 17:00 h.
8 Submit Group/Advisor Confirmation Form via PEAR before Friday at 17:00 h.

5.4 Other Important Dates

i) First class: Sept. 8, 2016
ii) Holidays: Oct. 10 & 11, 2016
iii) 40th class: Nov. 4, 2016
iv) Last class: Dec. 2, 2016

6 LAB SAFETY

Safety is critically important to the School and is the responsibility of all members of the School: faculty, staff and students. ENGG*4000 does not have a laboratory component for the course. However, for the proposal, some student teams may elect to be in the shop and or lab to build and test their prototype or final design. The proposal must account for this, and comment of the development of an appropriate safety plan when in the shop and lab. When in the shop and lab, students must adhere to the applicable safety requirements and regulations. In addition, if a safety issue arises, you are responsible for reporting it to the laboratory supervisor and faculty adviser.

7 ACADEMIC MISCONDUCT

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 discourages misconduct. 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.

7.1 Resources

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:
http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml

A tutorial on Academic Misconduct produced by the Learning Commons can be found at:
http://www.academicintegrity.uoguelph.ca/

Please also review the section on Academic Misconduct in your Engineering Program Guide.

The School of Engineering has adopted a Code of Ethics that can be found at:
http://www.uoguelph.ca/engineering/undergrad-counselling-ethics

8 ACCESSIBILITY

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability for a short-term disability should contact the Centre for Students with Disabilities as soon as possible

For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: http://www.uoguelph.ca/csd/

9 RECORDING OF MATERIALS

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

10 RESOURCES

The Academic Calendars are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs:
http://www.uoguelph.ca/registrar/calendars/index.cfm?index