



ENGG860

Society, Sustainability, and Engineering

S2 Day 2016

Dept of Engineering

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Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff

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Credit points

4

Prerequisites

Admission to MEng

Corequisites

Co-badged status

Unit description

Engineering is the application of science to solve problems in society. As such, engineers must operate within accepted norms of society. Today's global economy and emphasis on corporate responsibility makes the engineers job more complicated. This unit will introduce concepts in engineering around the need for sustainability in engineering in different societal contexts as preparation for incorporating these same issues in real world problems and projects.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

Demonstrate an understanding of the importance of responsible ethical behaviour as a professional engineer in the community

Demonstrate a knowledge of the purpose of Codes of Ethics in the Engineering Profession

Demonstrate the ability to investigate and objectively report in a professional manner on a major engineering project

Demonstrate an understanding of the important responsibilities held by a professional

engineer

General Assessment Information

Student Responsibilities

Be familiar with University policy and College procedures and act in accordance with those policy and procedures. It is the responsibility of the student to retain a copy of any work submitted. Students must produce these documents upon request. Copies should be retained until the end of the grade appeal period each term. Student is to perform the required due diligent for their assessment grade and rectify as soon as possible upon finding any errors.

Notifications

Formal notification of assessment tasks, grading rubrics and due dates will be posted on iLearn. Although all reasonable measures to ensure the information is accurate, The University reserves the right to make changes without notice. Each student is responsible for checking iLearn for changes and updates.

Report and Assignment Tasks

Assignment tasks will be posted on iLearn at least two weeks before their submission date.

Assignment submissions and plagiarism policies

All assignments and reports must be submitted electronically through iLearn (in pdf format). Submissions will undergo plagiarism checkers using the turnitin software and any work deemed to have 20% or higher similarity score may incur academic penalty. For more details on the policies of academic penalties relating to academic honesty, please refer to the policies and procedures section below.

Submissions are expected to be typed set in a logical layout and sequence.

Late submissions

Late submissions or absences from tutorials and laboratories will not be accepted without prior arrangement made at least one week before the submission date. Extenuating circumstances will be considered upon lodgement of a formal notice of disruption of studies.

Grading and passing requirement for unit

For further details about grading, please refer below in the policies and procedures section.

In order to pass this unit a student must obtain a mark of 50 or more for the unit (i.e. obtain a passing grade P/ CR/ D/ HD).

Assessment Tasks

Name	Weighting	Due
<u>Exercise on Virtues</u>	20%	Week 4-12

Name	Weighting	Due
Exercise on Code of Ethics	40%	Week 8
Engineering Error Reporting	40%	Week 10

Exercise on Virtues

Due: **Week 4-12**

Weighting: **20%**

Speak for no more than 10 minutes on the way human ethical behaviour in an individual is developed and implemented as applied from your personal cultural background, and experience

On successful completion you will be able to:

- Demonstrate an understanding of the importance of responsible ethical behaviour as a professional engineer in the community

Exercise on Code of Ethics

Due: **Week 8**

Weighting: **40%**

Obtain a copy of a Code of Ethics from either the Institute of Engineers Australia (Engineers Australia), the Institution of Engineering Technology (IET) or the Institute of Electrical and Electronic Engineers; In no more than 2000 words explain how you interpret this document as it relate to yourself as a practicing engineer

On successful completion you will be able to:

- Demonstrate a knowledge of the purpose of Codes of Ethics in the Engineering Profession

Engineering Error Reporting

Due: **Week 10**

Weighting: **40%**

Exercise on Engineering error or accident reporting. Investigate and prepare a summary report on a major engineering project where considerable damage and loss of life has resulted from the way in which the work was carried out or operated; This investigation should include any reports from Coroners, Royal Commissions, etc.; In no more than 2000 words explain how you consider the situation could have been handled with a better outcome. Provide details of all references used.

On successful completion you will be able to:

- Demonstrate the ability to investigate and objectively report in a professional manner on a major engineering project
- Demonstrate an understanding of the important responsibilities held by a professional engineer

Delivery and Resources

The lecturer will provide links to reading material and lecture handouts

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

New Assessment Policy in effect from Session 2 2016 http://mq.edu.au/policy/docs/assessment/policy_2016.html. For more information visit http://students.mq.edu.au/events/2016/07/19/new_assessment_policy_in_place_from_session_2/

Assessment Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Complaint Management Procedure for Students and Members of the Public http://www.mq.edu.au/policy/docs/complaint_management/procedure.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit ask.mq.edu.au.

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcomes

- Demonstrate an understanding of the importance of responsible ethical behaviour as a professional engineer in the community
- Demonstrate the ability to investigate and objectively report in a professional manner on a major engineering project
- Demonstrate an understanding of the important responsibilities held by a professional engineer

Assessment tasks

- Exercise on Virtues
- Engineering Error Reporting

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- Demonstrate a knowledge of the purpose of Codes of Ethics in the Engineering Profession
- Demonstrate the ability to investigate and objectively report in a professional manner on a major engineering project
- Demonstrate an understanding of the important responsibilities held by a professional engineer

Assessment tasks

- Exercise on Code of Ethics
- Engineering Error Reporting

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- Demonstrate an understanding of the importance of responsible ethical behaviour as a professional engineer in the community
- Demonstrate the ability to investigate and objectively report in a professional manner on a major engineering project
- Demonstrate an understanding of the important responsibilities held by a professional engineer

Assessment tasks

- Exercise on Virtues
- Engineering Error Reporting

PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Learning outcomes

- Demonstrate an understanding of the importance of responsible ethical behaviour as a professional engineer in the community
- Demonstrate a knowledge of the purpose of Codes of Ethics in the Engineering Profession
- Demonstrate the ability to investigate and objectively report in a professional manner on a major engineering project
- Demonstrate an understanding of the important responsibilities held by a professional engineer

Assessment tasks

- Exercise on Virtues
- Exercise on Code of Ethics
- Engineering Error Reporting