

Module Code	MEU11E08
Module Name	Introduction to Professional Engineering
ECTS Weighting	5 ECTS
Semester taught	Semester 1
Module Coordinator/s	Professor David Taylor (dtaylor@tcd.ie) Professor Brian Broderick (bbrodrck@tcd.ie) Professor Khurshid Ahmad (khurshid.ahmad@scss.tcd.ie) Assistant Prof. Enda Bates (ebates@tcd.ie)

Module Learning Outcomes with reference to the Graduate Attributes and how they are developed in discipline

Upon completion of this module, students should be able to:

- LO1. Contextualise the wider role of the professional engineer in society;
- LO2. Articulate the ethical, economic, social, regulatory and political issues that also arise in the context of a technical project;
- LO3. Organise a team project by defining team roles and planning a set of tasks and actions;
- LO4. Explain the different roles involved in the management of a team project as well as checking progress and monitoring results;
- LO5. Self-structure a work programme around a set of open ended questions;
- LO6. Apply structured design processes to achieve design outcomes
- LO7. Provide evidence for ideas, concepts and suggestions;
- LO8. Communicate effectively in written and verbal formats.

Graduate Attributes: levels of attainment

- To act responsibly - Introduced
- To think independently - Introduced
- To develop continuously - Introduced
- To communicate effectively - Introduced

Module Content

The module involves 24 lectures, 6 each from: Civil, Structural and Environmental Engineering; Mechanical and Manufacturing Engineering; Computer Science and; Electronic and Electrical Engineering over the first six weeks. This is followed by 20 hours of structured tutorials focused on project work.

- Introduction to engineering
- Environmental issues in engineering
- Engineering ethics
- Engineering forensics
- Physical and cyber sustainability
- Group interaction and team collaboration
- Design processes and outcomes
- Survey design and trend identification
- Report writing

Teaching and Learning Methods

This module is taught using traditional lectures for the first six weeks. In the last five weeks, students work in groups to self-structure their agendas and workloads with appropriate supervision from lecturers and demonstrators in tutorial sessions.

Assessment Details Please include the following:	Assessment Component	Assessment Description	LO Addressed	% of total	Week due
<ul style="list-style-type: none"> • Assessment Component • Assessment description • Learning Outcome(s) addressed • % of total • Assessment due date 	Oral presentation	Oral presentation of the group project (each individual has to present a section).	2,8	20	Wk 11
	Written report	Written report of the group project (~ 5000 words)	1,2,3,4,5,6,7,8	80	Wk 12

Reassessment Requirements

Submission of 5000 word individual report on new subject (defined by Module Coordinators)

Contact Hours and Indicative Student Workload³

Contact hours: 44
Independent Study (preparation for course and review of materials): 20
Independent Study (preparation for assessment, incl. completion of assessment): 40

Recommended Reading List

Module Pre-requisite

None

Module Co-requisite

Not applicable

Module Website

<https://www.tcd.ie/Engineering/undergraduate/baiyear1/modules/1E8.pdf>

Are other Schools/Departments involved in the delivery of this module? If yes, please provide details.

Yes, Computer Science

Module Approval Date

Approved by

Academic Start Year

September 9th 2019

Academic Year of Date

2019/2020