

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

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

Learning outcomes

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

- LO1. Understand the wider role of the professional engineer in society;
- LO2. Learn to 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. Manage a team project by 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. Write a well structured detailed report and make an oral presentation.

**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.

<b>Assessment Details<sup>2</sup></b> <b>Please include the following:</b> <ul style="list-style-type: none"> <li>• <b>Assessment Component</b></li> <li>• <b>Assessment description</b></li> <li>• <b>Learning Outcome(s) addressed</b></li> <li>• <b>% of total</b></li> <li>• <b>Assessment due date</b></li> </ul>	Assessment Component	Assessment Description	LO Addressed	% of total	Week due	
		Oral presentation	Oral presentation of the group project.	2,8	20	Week 11
		Written report	Written report of the group project.	1,2,3,4,5,6,7,8	80	Week 12

**Reassessment Requirements**

<b>Contact Hours and Indicative Student Workload<sup>2</sup></b>	<b>Contact hours: 44</b>
	<b>Independent Study (preparation for course and review of materials): 20</b>
	<b>Independent Study (preparation for assessment, incl. completion of assessment): 40</b>

**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 9<sup>th</sup> 2019

**Academic Year of Date**

2019/2020

