

Module Code	CEU44E01
Module Name	4E1 Management for Engineers
ECTS credit weighting	5 ECTS
Semester taught	Semester 1
Module Coordinator/s	John Gallagher (j.gallagher@tcd.ie)

On successful completion of the module, students should be able to:

[Module Learning Outcomes](#) with embedded [Graduate Attributes](#)

SECTION A

- LO1. Define an engineering project.
- LO2. Understand the key aspects of project management including: team dynamics and organizational behaviour; project planning tools and critical path; assessment of project feasibility; risk, resources and cost; alternative models of project management; IT, innovation, new product development.
- LO3. Apply project management concepts to a number of hypothetical projects.
- LO4. Assess and reflect on their use of project management concepts.

SECTION B

- LO5. Understand the Law of Contract, and be aware of the different types of contract and methods of dispute resolution in use in Ireland today.
- LO6. Undertake different financial calculations for accounting in an engineering business.
- LO7. Chair and minute meetings with different stakeholders.
- LO8. Make decisions about ethical questions.
- LO9. Implement health and safety legislation, recognising the importance of safety management.
- LO10. Know about the proper management of subordinate staff and operatives, and current HR trends.
- LO11. Capacity to develop, manage and support a creative and entrepreneurial ecosystem within an engineering organisation.

Module Content

This module is divided into two sections. Section A runs for the first six weeks and Section B runs for the last five weeks.

SECTION A

This part of the module aims to introduce students to the concepts and tools of project management. We will use a project management simulation software and undertake a group project to develop the practical skills required to be a successful and effective project manager.

Module Content

- Introduction to project management concepts;
- Project definition and organisation;
- Project feasibility and evaluation;
- Project planning and Critical Path analysis;
- Risks, resources and costs;
- Team dynamics and organizational behaviour;
- Alternative models of project management: IT, innovation, AGILE.

SECTION B

This part of the module aims to provide to young graduate engineers some of the management tools they will need early in their careers. Emphasis is placed on ethics, health and safety and environmental issues, people management, accounting principles, and legal concepts.

Module Content

- Law – general legal concepts, engineering contracts, dispute resolution;
- Professional ethics;
- Office accounting – Bookkeeping, budgets and financial management, current and capital expenditure, company finances;
- Conduct of meetings;
- People management – HR functions, appraisals, staff management, leadership, employment legislation;
- Safety and Health – S&H at Work Act, safety management in industry;
- Supporting creativity and entrepreneurship in engineering.

Teaching and Learning Methods¹

Lectures will be delivered in-person, and students must attend live sessions.

SECTION A

Teaching methods include:

- Lectures
- Simulation-based learning (simulation tool and reflection)
- Case-based learning (group project)

¹ [Trinity-INC](#) provides tips and resources on how to make your curriculum more inclusive.

This section of the module will be assessed through coursework and accounts for 50% of the final module mark. Plagiarism is taken extremely seriously, and all assessments must be submitted on Blackboard via Turnitin plagiarism detection system.

SECTION B

The teaching method in this section is by lectures and complemented with some self-directed learning.

Most of the lecturers on this part of the module are leaders from industry who share their experience, knowledge and expertise with the students, giving an up-to-date insight into current practices. This part of the module will be examined in one two-hour exam. It counts for 50% of the final module mark.

Assessment Details²

Please include the following:

- **Assessment Component**
- **Assessment description**
- **Learning Outcome(s) addressed**
- **% of total**
- **Assessment due date**

It is recommended that module co-ordinators consider assessment types used across the year to ensure varied assessment methods.

Assessment Component	Assessment Description	LO Addressed	% of total	Week due
Coursework	Score on simulation (10%)	LOs 1-4	50%	Wk 6
	Reflective report based on project management simulation (10%)			Wk 6
	Group Project Management case study (30%)			Wk 8
Examination	2-hour written examination	LOs 5-11	50%	

Reassessment Requirements

100% written examination

Contact Hours and Indicative Student Workload³

Contact hours: 18 hours (Section A) + 18 hours (Section B)
Independent Study (preparation for course and review of materials): 36 hours
Independent and Group Study (preparation for assessment, incl. completion of assessment): 40 hours

² <https://www.tcd.ie/academicpractice/resources/assessment/>

³ https://www.tcd.ie/academicpractice/resources/assessment_workload/

**Indicative Reading List
(approx. 4-5 titles)**

SECTION A

- *Project Management*, Clifford F Gray and Erik W Larson; McGraw-Hill.
Several copies in Hamilton library S-LEN.

SECTION B

Textbooks and further reading may be suggested by the individual lecturers.

Module Pre-requisite

Module Co-requisite

Module Website

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

No