

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)
<u>Module Learning Outcomes</u> with embedded <u>Graduate</u> <u>Attributes</u>	<p>On successful completion of the module, students should be able to:</p> <p>LO1. Define and describe the life cycle stages of an engineering project.</p> <p>LO2. Understand key aspects of project management (PM) including team dynamics, project planning tools, feasibility and business case assessment, risk and asset management, alternative PM models, and IT innovation in new product development.</p> <p>LO3. Apply and reflect on PM concepts to hypothetical engineering projects.</p> <p>LO4. Understand how to implement an engineering project successfully, and align with governing legal, ethical, and health and safety considerations.</p> <p>LO5. Describe the responsibilities of a project manager in relation to managing technical aspects of a project, including financial/accounting, infrastructure delivery, and project assets.</p> <p>LO6. Define appropriate structures to effectively lead project meetings and manage subordinate staff and operatives.</p> <p>LO7. Implement a management approach to support a creative and entrepreneurial ecosystem within an engineering organisation.</p>
Module Content	<p>This module aims to introduce students to the concepts and tools of project management, and to develop the practical skills and competencies required to be a successful and effective project manager. Emphasis is placed on ethics, health and safety, environmental and sustainability issues, people management, manage and foster an innovation ecosystem, infrastructure delivery and asset management, accounting principles, and legal concepts. The range of specific topics include:</p> <ul style="list-style-type: none"> • 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 • Law – general legal concepts, engineering contracts, dispute resolution

- Professional ethics for engineers
- 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
- Infrastructure delivery and asset management
- Safety and Health - H&S at Work Act, safety management in industry
- Supporting creativity and entrepreneurship in engineering.

Teaching and Learning Methods¹

This module adopts a mix of problem-based, simulation-based, project-based, and team-based learning in its delivery and assessment. The majority of contact hours are delivered as in-person lectures, by academic and industry experts providing a mix of theoretical and real-world content, with students required to attend all live sessions. Two 2-hour tutorials will take place to address group project related matters.

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 (7.5%)	LOs 1-5	50%	Wk 6
	Reflective report based on project management simulation (7.5%)			Wk 6
	Group Project Management case study (35%)			Wk 10
Examination	2-hour written examination	LOs 1-7	50%	

Plagiarism and the use of Artificial Intelligence tools are taken extremely seriously, and all assessments must be submitted on Blackboard via Turnitin plagiarism detection system and will be reviewed for signs of AI-based content.

Reassessment Requirements

100% written examination

Contact Hours and Indicative Student Workload³

Contact hours: 36 hours (32 hours lectures + 4 hours tutorials)
Independent Study (preparation for course and review of materials): 44 hours
Independent and Group Study (preparation for assessment, incl. completion of assessment): 45 hours

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

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

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

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

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