

Module specification

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Module Code	ENG6E3
Module Title	Professional Practice
Level	6
Credit value	20
Faculty	FACE
HECoS Code	100184
Cost Code	GAME
Pre-requisite module	N/A

Programmes in which module to be offered

Programme title	Core/Optional/Standalone
BEng (Hons) Industrial Engineering (Mechanical)	Core
BEng (Hons) Industrial Engineering (Electrical)	
BEng (Hons) Industrial Engineering (Mechatronics)	
BEng (Hons) Mechanical Engineering with Manufacture	
BEng (Hons) Electrical Engineering with Manufacture	
BEng (Hons) Sustainable Energy Engineering	
BEng (Hons) Aerospace Engineering	
BEng (Hons) Mechanical Engineering	
BEng (Hons) Motorsport Engineering	
BEng (Hons) Electrical Engineering	
BEng (Hons) Renewable Energy Engineering	

Breakdown of module hours

Learning and teaching hours	9 hrs
Placement tutor support hours	0 hrs
Supervised learning hours e.g. practical classes, workshops	27 hrs
Project supervision hours	0 hrs
Active learning and teaching hours total	36 hrs
Placement hours	0 hrs
Guided independent study hours	164 hrs
Module duration (Total hours)	200 hrs

Module aims

This module aims to define the role and responsibilities of the modern professional engineer within a global context. It is delivered through a complex engineering project that fosters creativity, innovation, and the development of business awareness, enabling students to understand their impact and position within industry and society.

Module Learning Outcomes

At the end of this module, students will be able to:

1	Deliver a professional, industry-informed group project that applies appropriate engineering and management principles to investigate, evaluate and develop solutions to a complex engineering problem, demonstrating consideration of technical, commercial, societal and environmental factors (AHEP-4 C5, C7, C15, C16).
2	Critically evaluate and apply relevant legislation, regulations, standards, ethical principles, professional codes of practice, and equality, diversity and inclusion requirements in the planning, delivery and management of engineering projects and services (AHEP-4 C5, C8, C11, C15).
3	Demonstrate effective project planning, organisation and quality management, including the allocation of resources, management of risk, and consideration of sustainability and industry requirements throughout the project lifecycle (AHEP-4 C5, C14, C15).

Assessment

Indicative Assessment Tasks:

This section outlines the type of assessment task the student will be expected to complete as part of the module. More details will be made available in the relevant academic year module handbook.

Assessment 1: Group Presentation

Students can complete a group-based engineering project addressing a complex, industry-informed problem. The assessment could comprise a professional project portfolio supported by a group presentation. The portfolio evidences the investigation, development and evaluation of an engineering solution, including consideration of technical, commercial, societal, environmental, legal, ethical and sustainability factors, as well as project planning, risk and resource management. The group presentation communicates the project outcomes to a professional audience and is supported by questioning to assess understanding and engagement.

A structured peer review process will be used to inform moderation of individual contribution.

Assessment number	Learning Outcomes to be met	Type of assessment	Duration/Word Count	Weighting (%)	Alternative assessment, if applicable
1	1-3	Group Project	4000	100	N/A

Derogations

Credits shall be awarded by an Assessment Board for those modules in which a pass mark 40% has been achieved, with a minimum mark of 30% in each assessment element.

Learning and Teaching Strategies

Learning and teaching are dominated by laboratory engagement, where students apply and test advanced concepts through independent experimentation. Activities encourage problem-solving, innovation, and precision, supported by concise theoretical sessions and virtual study materials. Tutorials provide formative feedback and promote critical evaluation of results within a professional context.

Welsh Elements

This module will be delivered through the medium of English; however, students have the option to submit their assessments in the medium of Welsh. While this module is not currently offered fully through Welsh, Welsh language support and guidance are available, and some learning materials or tutorial discussions may incorporate Welsh elements where appropriate. To further promote bilingual learning, all students have the opportunity to take the 20-credit *Welsh for STEM* short course, designed to develop confidence and subject-specific language skills in both English and Welsh.

Indicative Syllabus Outline

Teamworking and Professional Roles: Development of effective teamworking practices, including the definition of roles, responsibilities, and collaboration strategies to deliver complex engineering projects.

Global Engineering Context: Exploration of the role of the engineer within a global industry, considering professional responsibilities, expectations, and the broader impact of engineering solutions.

Professional Ethics and Codes of Conduct: Examination of ethical responsibilities, professional codes of conduct, and obligations of engineers within industry and society.

Intellectual Property, Risk, and Inclusivity: Analysis of intellectual property, contracts, risk management, and the application of equality, diversity, and inclusivity (EDI) principles within engineering practice and organisational frameworks.

Professional Communication and Presentation: Development of professional communication skills to present engineering solutions clearly and effectively to a range of audiences.

Inclusive and Audience-Focused Communication: Application of inclusive communication strategies to ensure technical information is accessible and appropriate for diverse stakeholder groups.

Indicative Bibliography

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads:

Project Management Institute (PMI), *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*, 8th ed., PMI, 2025

R. Burke, *Project Management: Planning and Control Techniques*, 5th ed., Wiley, 2013

Plus, various others to be signposted on Moodle.

Administrative Information

For office use only	
Initial approval date	June 2026
With effect from date	September 2026
Date and details of revision	
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