

Basic details

UID		Cohorts covered	Earliest cohort 2026
Long title	Ethics, Sustainability and Professional Competencies Portfolio		
New code	ELEC70146	New short title	
Brief description of module (approx. 600 chars.)	This module equips you with the knowledge and skills to manage non-technical yet vital aspects of engineering practice. It explores themes such as ethics, sustainability, global development challenges, health and safety, equality, diversity and inclusion (EDI), security and resilience, and professional development. You will learn to make responsible engineering decisions, evaluate impacts, manage risks, and develop an evidence-based portfolio aligned with UK-SPEC competencies for Chartered Engineer progression. Through lectures, case discussions, and workshops, the module promotes critical thinking, teamwork, and reflective practice essential for professional engineering.		
Available as a standalone module/ short course?	N		

Statutory details

	ECTS	CATS	Non-credit	HECOS codes
Credit value	10	20	N	
FHEQ level	Level 7			

Allocation of study hours

	Hours	
Lectures	10	
Group teaching	10	<i>Incl. seminars, tutorials, problem classes.</i>
Lab/ practical	0	
Other scheduled	0	<i>Incl. project supervision, fieldwork, external visits.</i>
Independent study	230	<i>Incl. wider reading/ practice, follow-up work, completion of assess</i>
Placement	0	<i>Incl. work-based learning and study that occurs overseas.</i>
Total hours	250	
ECTS ratio	25.00	

Project/placement activity

Is placement activity allowed?	No
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Module delivery

Delivery mode	Taught/ Campus	Other	
Start term	Autumn	Other	Autumn and Spring

Ownership

Primary department	Department of Electrical and Electronic Engineering
Additional teaching departments	

Delivery campus South Kensington

Collaborative delivery

Collaborative delivery? N

External institution N/A

External department N/A

External campus N/A

Associated staff

Role	CID	Given name	Surname
Module Leader		Prabhav	Reddy
Topic Leader		Zohaib	Akhtar
Topic Leader		Evona	The

Learning and teaching

Module description

Learning outcomes

By the end of the module, students will be able to:

- 1.Critically appraise engineering scenarios using ethical frameworks and justify decisions with reference to professional responsibilities.
- 2.Evaluate environmental and social impacts across a product or process life cycle and propose strategies to minimise adverse effects.
- 3.Identify, assess and prioritise health, safety, and security risks and recommend appropriate mitigation measures.
- 4.Integrate EDI principles into engineering practice and design inclusive stakeholder engagement strategies.
- 5.Synthesise technical, ethical, sustainability, and security considerations to develop responsible engineering solutions.
- 6.Curate and evidence a professional portfolio mapping competencies to UK-SPEC and plan continuing professional development (CPD).
- 7.Demonstrate effective collaboration and communication in the development and justification of integrated recommendations for complex engineering cases

Module content

- Ethics in engineering and professional responsibility
- Sustainability and life-cycle impact assessment
- Global development challenges and responsible innovation
- Health and safety risk management
- Security-minded engineering and resilience (including cybersecurity)
- Equality, diversity and inclusion in engineering practice
- Systems thinking, quality and project management essentials
- Professional formation: UK-SPEC competencies, reflective practice, and CPD planning

Learning and Teaching Approach

The module combines expert-led lectures with interactive seminars and collaborative workshops. Students engage in case-based exercises, risk assessment laboratories, and portfolio development sessions. Peer discussion and feedback are vital to the learning process, fostering critical analysis and professional communication skills.

Assessment Strategy	•Group case analysis and presentation: Students work in teams to produce a policy or design brief that addresses ethics, sustainability, risk, security, and EDI considerations, followed by a presentation that is accessible to a non-technical audience. Effective collaboration will be evaluated through structured case-based activities that require the integration of multiple perspectives. Assessment will focus on the quality and coherence of the integrated recommendations produced, alongside individual reflective evidence demonstrating contribution to collaborative work. This ensures that both collaborative outcomes and individual engagement are appropriately evaluated. •Individual professional portfolio: Students compile an evidence-based portfolio that maps their competencies to UK-SPEC and outlines a CPD plan. Assessment is based on the integration of concepts, depth of analysis, clarity of communication, and quality of reflection. •In-session engagement: This is a core module, and attendance and active participation in workshops are mandatory. Absence without mitigating circumstances will result in a zero mark for the learning outcome. Each assessment component must be passed individually to pass the module.
Feedback	•Immediate verbal feedback during workshops and presentations •Written feedback on individual portfolios •Peer feedback during collaborative activities
Reading list	•UK-SPEC: Competence and Commitment for Chartered Engineers (link). •IET AHEP4: Accreditation of Higher Education Programmes (link) •Additional resources and case studies provided via BlackBoard

Quality assurance

Date of first approval	
Date of last revision	May 2026
Date of this approval	
Notes/ comments	

Assessment details

Grading method	Pass/Fail
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Pass mark

100%

Assessments

[illegible]