



MODULE SPECIFICATION

Part 1: Information			
Module Title	Engineering Practice 1		
Module Code	UFMFKS-30-1	Level	Level 4
For implementation from	2020-21		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Environment & Technology	Field	Engineering, Design and Mathematics
Department	FET Dept of Engin Design & Mathematics		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Overview: This module provides a broad comprehension of the competencies and social responsibilities required in order to be a professional engineer in the workplace. The module will develop the engineering habits of mind of: Problem-finding, Creative problem-solving, Visualising, Systems Thinking, Improving, and Adapting.</p> <p>Holistic design thinking is important for systems engineering, and so particular focus will be placed on the role of a creative skilled practitioner to develop sustainable solutions to problems in today's world, with reference to the Sustainable Development Goals. As well as module learning materials, students will be expected to demonstrate this through module projects involving locally relevant problems, and with a consideration for sustainability issues and civic responsibility.</p> <p>Engineers typically spend most of their careers working in project teams. Managing projects is a critical skill for career development. To be effective they need to understand the tools and techniques available to them and the issues associated with meeting business and personnel needs. Project management training includes time and budget planning, communication between peers and with clients, teamwork skills, and leadership opportunities.</p> <p>Communication skills are therefore essential both within a professional work context, and also to engage with communities and groups that are impacted by engineering and mathematics projects and developments. Students will learn about and experience a variety of communication methods</p>

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such as technical reports, laboratory reports, oral presentations, posters, and digital media. They will also experience public engagement strategies utilised by professional organisations, as well as the variety of audiences with which these skills can be practiced and explored.

Successful completion of this module will establish students ready for future learning in their degrees, ahead of being student professionals in their chosen careers. This enables students to work towards achieving the UWE graduate attributes of being Self-Reliant and Connected, Ready and Able, Enterprising, Globally Responsible and Future-Facing. Students will also begin working towards Engineering Competencies for the UK SPEC EngTech Matrix.

Educational Aims: The aim of the module is to promote the development of student engineers on their journey to becoming graduate engineers. The module therefore plays an important role in satisfying the professional awareness and development requirements of engineering awards.

Outline Syllabus: This module provides a broad comprehension of the competencies and social responsibilities required in order to be a professional engineer in the workplace.

The module will develop the engineering habits of mind of:

Problem-finding,
Creative problem-solving,
Visualising,
Systems Thinking,
Improving,
Adapting.

Teaching and Learning Methods: This module will combine lectures, class-based interactive workshops, technical workshops, and experience with the local community. The module includes time spent in simulated workplace environments (such as laboratories or workshops) in order to demonstrate technical and safe conduct in the workplace as well as professional conduct with peers.

Part 3: Assessment

The assessments will enable students to demonstrate their understanding of the engineering habits of mind, while reflecting on becoming socially responsible engineers in appropriate professional formats.

Formative feedback takes place during the module and considers the development of the student's engineering habits of mind and reflective thinking. An individual log book is maintained over the whole module as a 'container' for academic outputs at regular intervals, as evidence of professional work in progress, and to track and reflect on professional and personal development.

Formative feedback will consist of:

Discussion between peers within class workshops
Discussing between peers within the project groups
Project week feedback from professionals within the community contexts

Component A: Group presentation (poster with peer review)

Component B: Consists of a portfolio consisting of

Workshop practice and training
Design and modelling software exercises
Project management tasks
Library skills
Reflective report on their learning and professional development, including their specific contribution to the group activity

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Resit Strategy			
Component A: Requires the student to give an individual poster based on a tutor-specified scenario, alongside a reflection on roles and responsibilities within a group work environment.			
Component B: has the same profile as the first sit assessment.			
First Sit Components	Final Assessment	Element weighting	Description
Poster - Component A		30 %	Group poster and presentation (15 mins)
Portfolio - Component B	✓	70 %	Individual portfolio workbook (2500-3000 words)
Resit Components	Final Assessment	Element weighting	Description
Poster - Component A	✓	30 %	Individual poster presentation (10 mins)
Portfolio - Component B		70 %	Portfolio Workbook (2500-3000 words)

Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will achieve the following learning outcomes:	
	Module Learning Outcomes	
	Reflect on the roles and responsibilities within a team delivering a project outcome. (EL3, D8m, P11, G1, G4)	MO1
	Communicate accurately and reliably in a variety of forms, demonstrating coherent argument (D1, D2, D6)	MO2
	Apply design thinking and modelling skills including through relevant software (D8m, G1)	MO3
	Reflect on personal strengths, developmental needs, and competencies in both an academic and professional context and engage in appropriate development activities (P1, P6).	MO4
	Identify environmental issues and sustainability considerations in engineering environments (D2, P3, P6, G4).	MO5
Contact Hours	Independent Study Hours:	
	Independent study/self-guided study	191
	Total Independent Study Hours:	191
	Scheduled Learning and Teaching Hours:	
	Computer-based activities	36
	Laboratory work	18
Lectorials	20	

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	Project work (individual or group)	25
	Tutorials	10
	Total Scheduled Learning and Teaching Hours:	109
	Hours to be allocated	300
	Allocated Hours	300
Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://rl.talis.com/3/uwe/lists/401B7E56-835F-C71F-7ACD-EAE7D8B2A68F.html?lang=en-GB&login=1</p>	

Part 5: Contributes Towards

This module contributes towards the following programmes of study: