

# University of the West of Scotland

## Module Descriptor

### Session: 2022/23

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### Title of Module: Group Project for MEng

<b>Code: ENGG11050</b>	<b>SCQF Level: 11</b> (Scottish Credit and Qualifications Framework)	<b>Credit Points: 40</b>	<b>ECTS: 20</b> (European Credit Transfer Scheme)
<b>School:</b>	School of Computing, Engineering and Physical Sciences		
<b>Module Co-ordinator:</b>	Stephanie Docherty		

### Summary of Module

The module coordinator will form students into groups and allocate a project topic based on academic or industrial research, development, or testing. An academic project supervisor will be allocated. The groups will develop a detailed project proposal and a plan agreeing the deliverables and the schedule with the supervisor (client). Students will apply their project management, technical and if required health and safety risk assessment skills and deliver the project within the agreed scope and time. The group will be assessed at an interim and final stage based on reports and presentations. The group will also disseminate the project through a website which will be assessed. Peer marking of the students will contribute to the student's marks. Students will be expected to reflect on their project deliverables as well as their experience in team working and project management.

During the course of this module students will develop their UWS Graduate Attributes (<https://www.uws.ac.uk/current-students/your-graduate-attributes/>). Universal: Academic attributes - critical thinking and analytical & inquiring mind; Professional: collaborative and research-minded; Work-Ready: Academic attributes - knowledge of subject area and relevant skills, problem-solver, motivated and effective communicator, potential leader that is enterprising and ambitious; Successful: autonomous, innovative, driven and resilient.

- This module has been reviewed and updated, taking cognisance of the University's Curriculum Framework principles. Examples of this are found within the module such as active and engaging module assessment which reflects industry activities, self-direction of curriculum, small group supervision providing concurrent feedback on progress, development of digital intelligence meta-skills, and the use of real-world practical student generated data. In the context of Curriculum Framework this module may be viewed as a capstone module.

### Module Delivery Method

Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
	✓				

#### Face-To-Face

Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.

#### Blended

A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations

#### Fully Online

Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.

**HybridC**

Online with mandatory face-to-face learning on Campus

**HybridO**

Online with optional face-to-face learning on Campus

**Work-based Learning**

Learning activities where the main location for the learning experience is in the workplace.

**Campus(es) for Module Delivery**The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)

Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
✓						

**Term(s) for Module Delivery**

(Provided viable student numbers permit).

Term 1	Term 2	Term 3
	✓	✓

**Learning Outcomes: (maximum of 5 statements)**

On successful completion of this module the student will be able to:

L1. Undertake a complex technical project based on team work in the context of an Engineering Programme and apply research and development, apply their project management and planning skills, demonstrate a critical understanding of the subject specialism. Apply critical analysis, evaluation and synthesis and also apply project technical risk and health and safety risk assessment.

L2. Organize own and the work of others as well as working with others in a team situation and reflecting on their role. Apply their knowledge, skills and understanding to plan and execute a significant project of research, investigation or development. Demonstrate leadership, initiative and contributions to the project and draw a critical reflection.

L3. Develop a multifaceted engineering project proposal and a report to communicate the project to a supervisor / client using their advanced and specialised skills as appropriate.

L4. Prepare effective communication of team's progress and ideas to a supervisor, client or a panel, using a wide range of ICT applications.

**Employability Skills and Personal Development Planning (PDP) Skills**

SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	<p>SCQF Level 11.</p> <p>Demonstrate and/or work with:</p> <p>Knowledge that covers and integrates most, if not all, of the main areas of the subject/discipline/sector – including their features, boundaries, terminology and conventions.</p> <p>A critical understanding of the principal theories, concepts and principles.</p> <p>A critical understanding of a range of specialised theories, concepts and principles.</p> <p>Extensive, detailed and critical knowledge and understanding in one or more specialisms, much of which is at, or informed by, developments at the forefront.</p>

Practice: Applied Knowledge and Understanding	<p>SCQF Level 11.</p> <p>Apply knowledge, skills and understanding:</p> <p>In using a significant range of the principal professional skills, techniques, practices and/or materials associated with the subject/discipline/sector.</p> <p>In using a range of specialised skills, techniques, practices and/or materials that are at the forefront of, or informed by forefront developments.</p> <p>In applying a range of standard and specialised research and/or equivalent instruments and techniques of enquiry.</p> <p>In planning and executing a significant project of research, investigation or development.</p> <p>Select and apply appropriate materials, equipment, engineering technologies and processes, recognising their limitations.</p> <p>Discuss the role of quality management systems and continuous improvement in the context of complex problems.</p> <p>Apply knowledge of engineering management principles, commercial context, project and change management, and relevant legal matters including intellectual property rights.</p> <p>In demonstrating originality and/or creativity, including in practices.</p> <p>To practise in a wide and often unpredictable variety of professional level contexts.</p> <p>Select and apply appropriate computational and analytical techniques to model complex problems, discussing the limitations of the techniques employed.</p> <p>Select and critically evaluate technical literature and other sources of information to solve complex problems.</p> <p>Design solutions for complex problems that evidence some originality and meet a combination of societal, user, business and customer needs as appropriate. This will involve consideration of applicable health &amp; safety, diversity, inclusion, cultural, societal, environmental and commercial matters, codes of practice and industry standards.</p> <p>Apply an integrated or systems approach to the solution of complex problems.</p> <p>Evaluate the environmental and societal impact of solutions to complex problems (to include the entire life-cycle of a product or process) and minimise adverse impacts.</p> <p>Use a risk management process to identify, evaluate and mitigate risks (the effects of uncertainty) associated with a particular project or activity.</p>
Generic Cognitive skills	<p>SCQF Level 11.</p> <p>Apply critical analysis, evaluation and synthesis to forefront issues, or issues that are informed by forefront developments in the subject/discipline/sector.</p> <p>Identify, conceptualise and define new and abstract problems and issues.</p> <p>Develop original and creative responses to problems and issues.</p> <p>Critically review, consolidate and extend knowledge, skills, practices and thinking in a subject/discipline/sector.</p> <p>Deal with complex issues and make informed judgements in situations in the absence of complete or consistent data/information.</p>
Communication, ICT and Numeracy Skills	<p>SCQF Level 11.</p> <p>Use a wide range of routine skills and a range of advanced and specialised skills as appropriate to a subject/discipline/sector, for example:</p> <p>Communicate, using appropriate methods, to a range of audiences with different levels of knowledge/expertise.</p> <p>Communicate with peers, more senior colleagues and specialists.</p> <p>Use a wide range of ICT applications to support and enhance work at this level and adjust features to suit purpose.</p> <p>Undertake critical evaluations of a wide range of numerical and graphical data.</p>
Autonomy, Accountability and Working with others	<p>SCQF Level 11.</p> <ul style="list-style-type: none"> <li>• Exercise substantial autonomy and initiative in professional and equivalent activities.</li> <li>• Take responsibility for own work and/or significant responsibility for the work of others.</li> <li>• Take significant responsibility for a range of resources.</li> </ul> <p>Work in a peer relationship with specialist practitioners.</p> <p>Demonstrate leadership and/or initiative and make an identifiable contribution to change and development and/or new thinking.</p> <p>Practise in ways which draw on critical reflection on own and others' roles and responsibilities.</p>

Identify and analyse ethical concerns and make reasoned ethical choices informed by professional codes of conduct.  
 Adopt an inclusive approach to engineering practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion.  
 Function effectively as an individual, and as a member or leader of a team.  
 Evaluate effectiveness of own and team performance.  
 Communicate effectively on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used.  
 Plan and record self-learning and development as the foundation for lifelong learning/CPD.

<b>Pre-requisites:</b>	Before undertaking this module the student should have undertaken the following:	
	<b>Module Code:</b>	<b>Module Title:</b>
	<b>Other:</b>	
<b>Co-requisites</b>	<b>Module Code:</b>	<b>Module Title:</b>

\* Indicates that module descriptor is not published.

### Learning and Teaching

The Group Project for MEng module uses the project-based learning method where students engage in academic or industrial based research and development as a team applying their project management skills. Formal lectures in the first part of the term 1 will give introductory lectures and be used to form the teams.

<b>Learning Activities</b>	<b>Student Learning Hours</b> (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	
Lecture/Core Content Delivery	6
Tutorial/Synchronous Support Activity	24
Independent Study	370
	400 Hours Total

### \*\*Indicative Resources: (eg. Core text, journals, internet access)

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Access to library services and journals specific to the project will be required.

(\*\*N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk\*) to wait until the start of session for confirmation of the most up-to-date material)

### Engagement Requirements

In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the relevant learning platform, and complete assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: [Academic engagement procedure](#)

## Supplemental Information

<b>Programme Board</b>	Engineering
<b>Assessment Results (Pass/Fail)</b>	No
<b>Subject Panel</b>	Engineering
<b>Moderator</b>	Obeid Obeid
<b>External Examiner</b>	E Tingas
<b>Accreditation Details</b>	To be confirmed.
<b>Changes/Version Number</b>	1.05 Terminology in module descriptor updated to reflect IMechE accreditation feedback. This change is to ensure clearer links between AHEP4 Learning Outcomes and module descriptor are evident.  v1.04 Updates to assessment categories to streamline assessment.

**Assessment: (also refer to Assessment Outcomes Grids below)**

Formative assessment and feedback will be provided to the group by the academic supervisor and the mentor of the group.

Assessment Category 1:  
Final report worth 50% of the final mark.

Assessment Category 2:  
Interim presentation worth 10% of the final mark and final presentation worth 15% of the final mark.

Assessment Category 3:  
Continuous assessment in the form of website design worth 10% of the final mark and CPD Log worth 15% of the final mark.

(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.

(ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.)

**Assessment Outcome Grids (Footnote A.)****Component 1**

Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Dissertation/ Project report/ Thesis	✓	✓	✓	✓	50	0

**Component 2**

Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Presentation	✓	✓	✓	✓	25	2

### Component 3

Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Workbook/ Laboratory notebook/ Diary/ Training log/ Learning log	✓	✓	✓	✓	15	0
Demonstrations/ Poster presentations/ Exhibitions	✓	✓		✓	10	0
<b>Combined Total For All Components</b>					100%	2 hours

#### Footnotes

A. Referred to within Assessment Section above

B. Identified in the Learning Outcome Section above

#### Note(s):

1. More than one assessment method can be used to assess individual learning outcomes.
2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note).  
This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

### Equality and Diversity

The programme leaders have considered how the programme meets the requirements of potential students from minority groups, including students from ethnic minorities, disabled students, students of different ages and students from under-represented groups. Students with special needs (including additional learning needs) would be assessed/accommodated and any identified barriers to particular groups of students discussed with the Enabling Support Unit and reasonable adjustments would be made for classes and site visits.

[UWS Equality and Diversity Policy](#)

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)