University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Engineering Industry			
Code: ENGG07003	**SCQF Level: 7 (Scottish Credit and Qualifications Framework)**	**Credit Points: 20**	**ECTS: 10 (European Credit Transfer Scheme)**
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Luc Hughes Rolland		

Summary of Module

This module is intended to provide students with an introduction to engineering as a profession.

Outcome 1- The students will gain an understanding about engineering industries, how they and the economy are closely linked and how the engineering industries make a significant contribution to the economy. Students will also gain an understaning of roles within the engineering sectors, refecting on their motivations, preferences, values and personal working styles.

Outcome 2- Students will develop team-working skills by working in a group setting on pre-defined tasks.

Outcome 3- Students will develop an understanding of how informed decisions are a key to success in design, manufacture, and construction stages. To address this, students are provided with an overview of effective decision-making principles and processes. To improve the ability of making formal, structured decisions, students will learn multi-criteria decision analysis (MCDA) process and apply it for a decision-making project.

Outcome 4- The importance of Health and Safety for the individual, staff, public, project and company is demonstrated to the students in a range of settings. Complementing this, the students will learn how to apply risk analysis techniques for engineering practice in industry.

Outome 5- Students will gain an understanding of ethical behaviour/practice from a professional codes of conduct perspective.

- The Graduate Attributes relevant to this module are given below. Academic: Inquiring, Analytical, Knowledgeable, Problem-solver Personal: Ethically-minded, Culturally aware, Effective communicator, Motivated Professional: Collaborative, Socially responsible

- 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 laboratory and tutorial activity, weekly formative tutorial groups scaffolding towards end of module summative assessment, recorded lecture content supporting students to organise their own study time and the use of integrated group activities supporting learning communities- particularly useful as this is a programme entry level module.

Module Delivery Method					
Face-To-Face	**Blended**	**Fully Online**	**HybridC**	**Hybrid 0**	**Work-Based Learning**
☒	☒	☐	☐	☐	☐
See Guidance Note for details.					

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) (tick as appropriate)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
☒	☐	☐	☐	☐	☐	Add name

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1	☒	Term 2	☐	Term 3	☐

Learning Outcomes: (maximum of 5 statements) **These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.** At the end of this module the student will be able to:	
L1	To recognise what engineering is, its relation to society and individuals current and desired career paths in the engineering sector.
L2	Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance
L3	To review and analyse multi-criteria to make a structured decision on selecting the most feasible product/process/project in the engineering industry and apply the most advantageous design methodology.
L4	To understand health and safety and to apply risk analysis to the engineering practice as it is encountered in the industry.
L5	Demonstrate an understanding of ethics from a professional codes of conduct perspective.

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)	SCQF Level **7** Appreciate the roles of engineers in society. Introduce the knowledge of the wider multidisciplinary engineering context and its underlying principles together with the commercial context and sustainability of engineering activities. An understanding of decision making tools. An understanding of the importance of risk analysis to the engineering industry. An understanding of ethical practice and behaviours in relation to professional codes of conduct.	
Practice: Applied Knowledge and Understanding	SCQF Level **7** Knowledge and practical engineering skills acquired through work carried out in engineering settings. Practical engineering skills acquired through individual and group project work. Demonstrate the importance of ethical behaviour from a professional codes of conduct perspective.	
Generic Cognitive skills	SCQF Level **7** Develop transferable skills that will be of value in problem solving.	
Communication, ICT and Numeracy Skills	SCQF Level **7** Develop transferable skills in oral and written communication the use of IT facilities and information retrieval skills.	
Autonomy, Accountability and Working with others	SCQF Level **7** Exercise autonomy and initiative in carrying out the defined activities at a professional level. Develop transferable skills that will be of value in working with others. Develop skills in planning, self-learning and improving performance, as the foundation for lifelong learning/CPD.	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	**Module Title:**
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

*Indicates that module descriptor is not published.

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.	
Learning Activities During completion of this module, the learning activities	**Student Learning Hours** (Normally totalling 200

undertaken to achieve the module learning outcomes are stated below:	hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	12
Tutorial/Synchronous Support Activity	24
Laboratory/Practical Demonstration/Workshop	12
Asynchronous Class Activity	18
Independent Study	134
	Hours Total 200

****Indicative Resources: (eg. Core text, journals, internet access)**
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Various handout materials The University's VLE
(**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)
Attendance and Engagement Requirements
In line with the Student Attendance and Engagement Procedure: Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	Engineering
Assessment Results (Pass/Fail)	Yes ☐No ☒
School Assessment Board	Engineering
Moderator	TBC
External Examiner	P Lewis
Accreditation Details	This module is accredited by Joint Board of Moderators of the ICE, IStructE, IHE and CIHT as part of BEng (Hons) Civil Engineering. This module is accredited by IMechE as part of BEng (Hons) Mechanical Engineering. This module is accredited by IChemE as part of BEng (Hons) Chemical Engineering.
Changes/Version Number	3.05 v3.04 LO's updated to reflect AHEP4 more accurately for assessment Module coordinator updated to Luc Rolland. Module Summary updated to better reflect AHEP 4 accreditation guidelines. Signposting to reflect Curriculum Framework principles. Module Delivery Method updated to include Face-To-Face in addition to Blended. Learning Outcomes updated to better reflect AHEP 4 accreditation guidelines. PDP updated to reflect module summary and include some previous missing content. Learning activities updated to reflect Curriculum Framework contact hours. Module Moderator updated to Adelaide Marzano Assessment Outcome Grids updated to reflect Learning Outcome changes. v3.03 Luc Rolland added in lieu of Asraf Uzzaman as module coordinator. Assessment outcome grid component 1 and 2 extensively rewritten and updated; a third component is added to improve clarity. The outcome is a reduction of the number of evaluations from 8 to 5. Summary of module updated Learning outcomes and assessment types updated, by holding existing assessment categories

Assessment: (also refer to Assessment Outcomes Grids below)
Assessment 1: AHP design group coursework 45%
Assessment 2: Risk Analysis group coursework 30%

Assessment 3: Individual - personal reflective development log book 25%
(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 Module Handbook.)

Assessment Outcome Grids (See Guidance Note)

Component 1							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Design/ Diagram/ Drawing/ Photograph/ Sketch		✓	✓	✓	✓	25	10
Presentation		✓	✓	✓	✓	20	5

Component 2							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Report of practical/ field/ clinical work		✓		✓		30	20

Component 3							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Workbook/ Laboratory notebook/ Diary/ Training log/ Learning log	✓				✓	25	5
Combined Total for All Components						**100%**	**40 hours**