

Session: 2022/23

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Title of Module: Digital transformation trends in projects			
Code: ENGG11052	SCQF Level: 11 (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:	Mohamed Abdel-Wahab		
Summary of Module			
<p>The module provides students with a practical understanding of digital Project Management concepts and principles for supporting integrated project delivery. Students will learn the concept of digital transformation and its business imperative for enhancing project performance drawing on specific examples of digital technologies. Ultimately, students will develop knowledge of digitisation of PM practices and process automation and thereby bridging the gap between theory and practice.</p> <p>This module will support students to develop their UWS graduate attributes, namely: Academic (critical and analytical thinking, inquiring, knowledgeable, innovation, and problem solving); Personal (effective communicator, creative, imaginative); Professional (Collaborative, research-minded, and socially responsible).</p> <ul style="list-style-type: none"> Investment in new technologies is paramount for modernising training and practice in project-based industries. The unprecedented pace of change in digital technologies requires urgent and targeted action. Therefore, this module will provide students with a unique learning opportunity for learning about the application of digital technologies in-practice and demonstrating its potential for revolutionising project-based industries. The module will provide an overview of the following digital technologies/concepts: reality capture, sensing, XR, data analytics, and autonomous systems. The emphasis is on applied learning through practical case studies, in addition to experiential learning through industry guest speakers and field visits. The module will help students to acquire key competency areas, as set out by the Association of Project Managers (APM) competency framework, to become a professionally accredited project manager, namely: •SOLUTIONS DEVELOPMENT (through innovation), •QUALITY MANAGEMENT (supporting capturing of quality indicators), •STAKEHOLDER AND COMMUNICATIONS MANAGEMENT (through information gathering & sharing for supporting timely decision-making), •CAPABILITY DEVELOPMENT (informing training needs analysis and potential tools for supporting training delivery for maximising impact), •BENEFITS MANAGEMENT (assess the impact of implementing digital project management practices, e.g. ROI). The new module is cutting-across a range of APM competency areas. Taking this module will support students (including business professionals looking to update their knowledge and business processes) to become at the cutting-edge of project management practice through embracing digital transformation for successful delivery of projects. 			

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. Develop a critical understanding of the principles of digital transformation in projects
- L2. Develop a critical understanding of the application of digital technologies within a project context
- L3. Develop an awareness of the impact of digital transformation practices for enhancing integrated project delivery

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 11. Develop a critical understanding of principles and practices of digital project management
Practice: Applied Knowledge and Understanding	SCQF Level 11. Consolidate and integrate knowledge and develop that knowledge in applying effective strategies in digital project management.
Generic Cognitive skills	SCQF Level 11. Undertake skilled, competent, safe, evaluative and reflective analytical

	practice Formulate and present a coherent and well-researched report.	
Communication, ICT and Numeracy Skills	SCQF Level 11. Present clear concise written reports that focuses on applied learning. Understand the application of appropriate digital tools.	
Autonomy, Accountability and Working with others	SCQF Level 11. Manage time, prioritise workloads and recognise and manage personal emotions and stress	
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	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	Student Learning Hours (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	30
Practice Based Learning	20
Independent Study	150
	200 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: The following e-books will be used in addition to relevant industry literature/use cases: Digital Quality Management in Construction Infrastructure Computer Vision Reality Capture in the Design and Construction Industry	
(**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

Programme Board	Engineering
Assessment Results (Pass/Fail)	No
Subject Panel	Civil and Quality
Moderator	Michele Cano
External Examiner	L Supramaniam
Accreditation Details	
Version Number	1

Assessment: (also refer to Assessment Outcomes Grids below)
Paper
(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)	Weighting (%) of Assessment Element	Timetabled Contact Hours	
Review/ Article/ Critique/ Paper	✓	✓	✓	100	0	
Combined Total For All Components				100%	0 hours	

Footnotes

A. Referred to within Assessment Section above

B. Identified in the Learning Outcome Section above

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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

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)