APPROVED

Master of Engineering in Civil Engineering (Environment and Energy)

Faculty of Engineering & Science

Award Class					
Awards					
MEng					
Programme Code	CR_CCEEE_9	**Mode of Delivery**	Full Time, Part Time, ACCS	**No. of Semesters**	10
NFQ Level	9	**Embedded Award**	No	**Programme Credits**	300

Next Review Date	
Review Type	*Date*
Programmatic Review	01/09/2024

Department	CIVIL, STRUCTURAL & ENVIRONMENTAL ENGINEERING
Field of Study	5822 - Civil Engineering

Programme Outcomes

Upon successful completion of this programme the graduate will be able to demonstrate... :

#	PO Domains	Programme Learning Outcome
PO1	Knowledge - Breadth	A wide and systematic knowledge of scientific principles and the design process in Civil Engineering (Environmental and Energy); an understanding of the key parameters and the technical, economic, environmental and social issues pertaining to these disciplines
PO2	Knowledge - Kind	The ability to apply knowledge of mathematics, science, ICT, design, business and engineering practice to the analysis and solution of complex problems in Civil Engineering (Environmental and Energy).
PO3	Skill - Range	Mastery of a range of specialist research and design tools and methods of investigation and analysis in the field of Civil Engineering (Environmental and Energy); the ability to use engineering principles to design and develop new solutions to complex Environmental and Energy Engineering problems
PO4	Skill - Selectivity	The ability to select appropriate advanced skills and use new methods required for novel situations and the ability to develop, to a high level, new skills in emerging technologies as required in Civil Engineering (Environmental and Energy) design and analysis; the ability to undertake analysis of a design and justify decisions throughout a particular design process
PO5	Competence - Context	The ability to act at a variety of professional levels, particularly in the initiation, development and promotion of design solutions in Civil Engineering (Environmental and Energy); the ability to identify and critically appraise potential projects and opportunities, conduct appropriate research and undertake the design and development of solutions to ill-defined and complex engineering problems
PO6	Competence - Role	The technical competence necessary to take significant responsibility for the work of individuals and groups, lead and initiate activity in Civil Engineering (Environmental and Energy) practice
PO7	Competence - Learning to Learn	The ability to evaluate their own learning, identify knowledge gaps, and take responsibility for the pursuit of academic professional development pathways
PO8	Competence - Insight	An awareness of the impacts of Civil Engineering (Environmental and Energy) infrastructure on society and the ability to critically evaluate the technical, economic, environmental and social implications of appropriate Engineering solutions.

Semester Schedules

Year 1 / Semester 1

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
CMOD6001	**Creativity Innovation&Teamwork**	MARESE BERMINGHAM	3	5
CIVL6034	**Design Graphics**	DES WALSH	1	5
CHEM6001	**Engineering Chemistry**	Donagh OMahony	5	5
MATH6005	**Engineering Maths 101**	David Goulding	5	5
MECH6009	**Engineering Mechanics**	DES WALSH	4	5
PHYS6003	**Engineering Physics 1**	Donagh OMahony	3	5

Year 1 / Semester 2

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
DESI6031	**AEC Design Thinking**	DES WALSH	3	5
MATH6031	**Engineering Computing 1**	David Goulding	2	5
MATH6006	**Engineering Maths 102**	David Goulding	5	5
CIVL6006	**Mechanics of Materials**	DES WALSH	4	5
CIVL6013	**Properties of Materials**	DES WALSH	4	5

Elective				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
INTR6021	**3D Built Environment Modelling**	DES WALSH	2	5
INTR7018	**Collaborative BIM 1**	DES WALSH	2	5
FREE6001	**Free Choice Module**	PAUL GALLAGHER	3	5

Year 2 / Semester 1

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
MATH7006	**Engineering Mathematics 211**	David Goulding	5	5
CIVL6031	**Health and Safety - Built Env**	DES WALSH	3	5
CIVL7026	**Reinforced Concrete Design**	DES WALSH	4	5
CIVL7012	**Soil Mechanics and Geology**	DES WALSH	4	5
CIVL7034	**Solid Mechanics and Structures**	DES WALSH	1	5

Elective				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
FREE6001	**Free Choice Module**	PAUL GALLAGHER	3	5
MATH7015	**Numerical Methods 1**	David Goulding	3	5

Year 2 / Semester 2

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
CIVL7027	**Civil & Struc Eng Construction**	DES WALSH	2	5
CIVL7003	**Communication**	DES WALSH	4	5
MECH7006	**Fluid Mechanics**	NIALL MORRIS	4	5
CIVL7035	**Land Surveying Data Capture**	DES WALSH	1	5
CIVL7028	**Struct Steel & Timber Design**	DES WALSH	4	5
CIVL7036	**Structural Analysis of Beams &**	DES WALSH	1	5

Year 3 / Semester 1

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
CIVL8007	**Engineer in Society**	DES WALSH	3	5
MATH8003	**Engineering Mathematics 311**	David Goulding	4	5
CIVL8036	**RC Design &Concrete Technology**	DES WALSH	1	5
CIVL8034	**Structural Modelling**	DES WALSH	1	5
CIVL8033	**Water Services Engineering**	DES WALSH	1	5

Elective				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
FREE6001	**Free Choice Module**	PAUL GALLAGHER	3	5
INTR8044	**GIS and Remote Sensing**	DES WALSH	1	5
CIVL8011	**Harbour & Coastal Engineering**	DES WALSH	3	5

Year 3 / Semester 2

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
CIVL8031	**AEC Project & Contract Mgmt**	DES WALSH	1	5
CIVL8008	**Environmental & Energy Eng**	DES WALSH	4	5
CIVL8010	**Geotechnical Engineering**	DES WALSH	3	5
CIVL8035	**River Basin Engineering**	DES WALSH	1	5
STAT8005	**Statistics for Engineering**	David Goulding	3	5
CIVL8027	**Steel & Timber Design Studio**	DES WALSH	3	5

Year 4 / Semester 1

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
CIVL9006	**Biofuel and Biomass Technology**	DES WALSH	2	5
ELEC9001	**Energy Source Analysis**	MARTIN HILL	1	5
CIVL8009	**Foundation Engineering**	DES WALSH	3	5
CIVL8011	**Harbour & Coastal Engineering**	DES WALSH	3	5
INTR8032	**Interdisciplinary Project**	JOSEPH HARRINGTON	1	5
INTR9005	**Sustainability in Engineering**	DES WALSH	4	5

Year 4 / Semester 2

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
PLAC8017	**Work Placement (MEng)**	DES WALSH	2	30

Year 5 / Semester 1

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
CIVL9010	**Adv Wastewater Treatment**	DES WALSH	2	5
CIVL9008	**Advanced Hydro & Flood Control**	DES WALSH	2	5
CIVL9011	**Advanced Water Engineering**	DES WALSH	2	5
INTR9007	**Eng. Project Management**	DES WALSH	3	5
INTR9006	**Engineering Research Skills**	DES WALSH	2	5
INTR9017	**Infrastructure Asset Mgmt**	DES WALSH	2	5

Year 5 / Semester 2

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
INTR9019	**Eng. Project Realisation**	DES WALSH	1	20
CIVL9012	**Infrastructure Design Office**	DES WALSH	1	10