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MODULE DESCRIPTOR

Module Title

Building Structure and Technology

Reference	SU2025	Version	6
Created	July 2021	SCQF Level	SCQF 8
Approved	July 2005	SCQF Points	15
Amended	September 2021	ECTS Points	7.5

Aims of Module

To enable the student to understand the structure and construction of moderately complex buildings.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Analyse the structure and construction of moderately complex buildings.
2	Demonstrate knowledge, understanding and application of the structural and construction details of moderately complex buildings.

Indicative Module Content

Structure: Structural materials - properties and environmental impact; timber, steel, reinforced concrete, plain and reinforced masonry, glass; alternative structural systems - simple frames, portal & moment frames and load bearing walls; vertical and lateral loading; lateral stability including diagonal bracing, shear walls and moment connections; integration of structure and architectural design; basic structural theory in relation to tension, compression, bending, shear and deflection; application to the approximate sizing of simple beams, continuous beams, cantilever beams, composite beams, trusses, slabs, columns and walls. Construction: Alternative materials and systems for roofing, cladding and flooring; assembly of components and installation of systems; environmental impact and architectural considerations; impact of interstitial condensation; basement waterproofing and foundation strategies; construction of retaining walls, earthworks and hard standings.

Module Delivery

This module is delivered by an approach involving student research, online activities, targeted lectures, group work and seminars.

Module Ref:	SU2025 v6

Indicative Student Workload	Full Time	Part Time
Contact Hours	40	N/A
Non-Contact Hours	110	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	50%	Outcomes Assessed:	1
Description:	The coursework consists of the presentation of an analytical investigation into the structure and construction of a moderately complex building.				

Component 2

Type:	Examination	Weighting:	50%	Outcomes Assessed:	2
Description:	The examination consists of an electronic, knowledge and understanding based quiz.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The overall module grade is based on 50% weighting of Component 1 (coursework x axis) and 50% weighting of Component 2 (examination y axis). An overall minimum grade D is required to pass the module. Non-submission of either component will result in an NS grade. Architecture students must pass each component with a minimum D grade to pass the module. The main grid applies to all other courses.

		Coursework:						
		A	**B**	**C**	**D**	**E**	**F**	**NS**
Examination:	**A**	A	A	B	B	C	E	
	B	A	B	B	C	C	E	
	C	B	B	C	C	D	E	
	D	B	C	C	D	D	E	
	E	C	C	D	D	E	E	
	F	E	E	E	E	E	F	
	NS	Non-submission of work by published deadline or non-attendance for examination						

Module Requirements

Prerequisites for Module	None in addition to SCQF8 entry requirements.
Corequisites for module	None.
Precluded Modules	None.

Module Ref:	SU2025 v6

INDICATIVE BIBLIOGRAPHY

1	Macdonald, A.J., 2019. Structure and Architecture. 3rd ed. London: Routledge.
2	Ching, F., 2020. Building Construction Illustrated. 6th ed. Wiley.
3	Chudley, R., 2012. Advanced Construction Technology. 5th ed. Harlow: Pearson/Prentice Hall.
4	Silver, P. & McLean, W.,2013, Introduction to Architectural Technology, 2nd Edition,London: Laurence King.
5	Megson, T. H. G., (2019), Structural and stress analysis, Butterworse-Heinemann.
6	Yeomans, D. T., 2015, How structures work : design and behaviour from bridges to buildings, 2nd edition, Wiley Blackwell.
7	Silver, P., (2013), Structural engineering for architects : a handbook, London Laurence King.
8	Davison, B.,(2012),Steel designers' manual, Wiley-Blackwell.