Module Title **Building Structure and Technology** **Keywords** Moderately complex buildings, structure, construction.	Reference SU2025 SCQF Level SCQF 8 SCQF Points 15 ECTS Points 7.5 Created May 2005 Approved July 2005 Amended September 2012 Version No. 3

This Version is No Longer Current

The latest version of this module is available here

Prerequisites for Module

None in addition to SCQF8 entry requirements.

Corequisite Modules

None.

Precluded Modules

None.

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:

Mode of Delivery

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

Assessment Plan

	Learning Outcomes Assessed
Component 1	1
Component 2	2

Component 2 is a closed book, summative assessment. This assesses knowledge, understanding and application of details in relation to the structure and construction of moderately complex buildings.

Component 1 is a coursework which normally consists of a viva voce

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 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; presentation of a specific building analysis. This requires the student to research the structure and construction of a moderately complex building.

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.

environmental impact and architectural considerations; impact of interstitial condensation; basement waterproofing and foundation strategies; construction of retaining walls, earthworks and hard standings.

Indicative Student Workload

Contact Hours	Full Time
Assessment	5
Lectures	10
Online Tutoring	10
Seminars	10
Directed Study	
	65
Private Study	
	50