

Module Title Building Structure and Technology	Reference SU2025 SCQF SCQF Level 8 SCQF Points 15 ECTS Points 7.5 Created May 2005 Approved July 2005 Amended Version No. 1
Keywords Medium rise, long span, structural forms and elements, construction, associated civil engineering	

This Version is No Longer Current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 medium rise and long span buildings and associated civil engineering work.

Learning Outcomes for Module

On completion of this module,

Mode of Delivery

This is a lecture based module supplemented by tutorials and practical work. A substantial part of the module is devoted to student centred learning and private study in the form of directed reading of core texts, journals and resource material.

Assessment Plan

	Learning Outcomes Assessed
Component 1	1,3
Component 2	1,2,3

Component 2 will be a closed book, summative assessment. This will assess knowledge and understanding of the general principles of structure, construction

students are expected to be able to:

- 1.Explain the structural forms and construction of medium rise and long span buildings.
- 2.Discuss and comment on the design of structural elements.
- 3.Appraise and discuss the nature of civil engineering work associated with medium rise and long span buildings.

Indicative Module Content

Structural forms: simple frames, portal frames and load bearing walls; vertical and lateral loading; lateral stability including diagonal bracing, shear walls and moment connections; new and existing buildings; timber, steel, reinforced concrete, plain and reinforced masonry and glass.

Construction: secondary structure; roofing, cladding, flooring and assembly of components.

Design of members: basic theory; tension, compression, bending, shear and deflection; approximate sizing of simple beams, continuous beams, cantilever beams, composite beams, trusses, slabs, columns and walls; connections.

Civil engineering work: complex foundations, basements, retaining walls, earthworks and

and associated civil engineering work and the design of structural elements. This component contributes 50% towards the final grade.

Component 1 will normally consist of an individual viva voce presentation of a specific building analysis. This will require the student to apply the taught elements of the course to explain structure, construction and associated civil engineering work. This component contributes 50% towards the final grade.

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, Butterworth-Heinemann.
- 6.Yeomans, D. T., 2015, How structures work : design and behaviour from bridges to buildings, 2nd edition, Wiley Blackwell.

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Indicative Student Workload

	Full	Part
<i>Contact Hours</i>	Time	Time
Lectures	24	24
Tutorials	14	14
Practical Work	12	12
Assessment	5	5
 <i>Directed Study</i>		
	40	40
 <i>Private Study</i>		
	55	55

7.Silver, P., (2013), Structural engineering for architects : a handbook, London Laurence King.

8.Davison, B.,(2012),Steel designers' manual, Wiley-Blackwell.