

MODULE DESCRIPTOR

Module Title

Introduction to Building Technology

Reference	AC1002	Version	14
Created	February 2024	SCQF Level	SCQF 7
Approved	July 2005	SCQF Points	15
Amended	April 2024	ECTS Points	7.5

Aims of Module

To enable the student to analyse and understand the structural and environmental principles that underlie the construction of buildings.

Learning Outcomes for Module

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

- 1 Demonstrate knowledge of the basic principles of structure and its materials as applicable to the design and construction of buildings including performance in the event of fire.
- 2 Demonstrate knowledge of the principles of human environmental comfort.
- 3 Apply knowledge of structural properties to the design and/or testing of a simple structure.
- 4 Apply knowledge of human responses to environmental conditions to specific solutions to issues of comfort.

Indicative Module Content

The module introduces the basic requirements of structures and the principles of structural design, loads and overall stability. Fundamental structural forms such as compression structures, frame structures and tensile structures are introduced and explained in relation to materials, load paths, strength and stability. Structural elements and their functions are explained as are the internal effects of loads on structures. Students will learn to recognise structural forms, arrangements and components in buildings and explain how they behave. The concepts and principles of environmental comfort are introduced. Visual comfort ? light as a qualitative and a quantitative entity. Units of light measurement, principles of diffuse daylight and direct sunlight. Concept of glare. Acoustic comfort ? qualities of acoustic environments, transmission of sound through space, materials and components. Thermal comfort ? Physiological response to temperature change. Key factors that affect our thermal comfort. Indoor air quality ? Factors that affect indoor air quality. Sources of pollution. Basic principles of ventilation.

Module Delivery

This module is delivered by lectures, practical workshops, directed student research and online activities.

Indicative Student Workload	Full Time	Part Time
Contact Hours	30	N/A
Non-Contact Hours	120	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:	Examination	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4
Description:	Examination.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The overall module grade is based on 100% weighting of component 1 (examination). A grade D is required to pass the module. Non submission will result in an NS grade.

Module Grade	Minimum Requirements to achieve Module Grade:
A	A
B	B
C	C
D	D
E	E
F	F
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None in addition to course (SCQF7) entry requirements.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 Borer P. & Harris C., 2005. The Whole House Book. 2nd Edition. Centre for Alternative Technology Publications).
- 2 Ching F D K., 2008. Building Construction Illustrated. 4th Edition . John Wiley & Son.
- 3 Deplazes A., 2013. 3rd edition. Constructing Architecture: Materials, Processes, Structures; A Handbook. Birkhauser Verlag AG.
- 4 Mitchell, J., 1997. The Craft of Modular Post & Beam. Hartley & Marks Publishers.
- 5 Zaretsky M., 2009. Precedents in Zero Energy Design. 1st Edition, Routledge.
- 6 Seward D, Understanding Structures-Analysis, Materials, Design (2003) 3rd edition.