

MODULE DESCRIPTOR

Module Title

Integrated Building Technology 1

Reference	AC3011	Version	15
Created	June 2022	SCQF Level	SCQF 9
Approved	August 2002	SCQF Points	15
Amended	November 2022	ECTS Points	7.5

Aims of Module

To provide students with critical and research skills to enable them to evaluate contemporary conservation practice and develop informed technological strategies in and around the renovation and adaptive reuse of moderately complex existing buildings.

Learning Outcomes for Module

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

- 1 Understand issues related to the conservation, renovation, retrofit and adaptive reuse of existing buildings.
- 2 Understand refurbishment and retrofit strategies by appraising the construction and structure of an existing building through its pathology.
- 3 Define the issues and evaluate design and specification strategies related to environmental and energy performance when working with existing buildings, in the context of the drive to zero carbon
- 4 Analyse and apply strategies for energy efficient servicing and lighting systems by demonstrating a grasp of both passive and active systems.
- 5 Analyse and apply strategies for high performance building fabric in the context of retrofit.

Indicative Module Content

This module focuses on contemporary technological practice concerning conservation design and the adaptive reuse of existing buildings. It includes building pathology, masonry structures, environmental analysis, specification and detail design. It will consider new best practice in renovation, particularly focusing on how to make existing building stock more energy efficient by explaining embodied energy and the wider environmental impact of materials, fabric energy efficiency and moisture performance of buildings. These issues are part of the broader topic of sustainable design.

Module Delivery

This module is delivered by a blended learning approach focusing on directed student research, lectures with accompanying workshops.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	39	N/A
Non-Contact Hours	111	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

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

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	Individual Report into the technical feasibility and evaluation of development of an existing building in a specified studio brief.				

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

The overall module grade is based on 100% weighting of Component 1 (Report). An overall minimum 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.
Corequisites for module	None.
Precluded Modules	None.

ADDITIONAL NOTES

The module may involve visits to construction sites and completed buildings. These will be dependent on arrangements with contractors, the existence of appropriate insurance cover, satisfaction of relevant Health and Safety requirements, and a risk assessment being undertaken in advance.

INDICATIVE BIBLIOGRAPHY

- 1 Clark, D. (2013) Information Paper No. 20?: Ventilation rates in offices - mechanical and natural. [Online]. Cundall. Available from: <https://cundall.com/Knowledgehub/Information-Papers-19-to-27.aspx?categoryid=66>.
- 2 Watt, D. 2007, Building Pathology: Principles and Practice, Wiley-Blackwell
- 3 Jager, F,P. 2010, Old & New: Design Manual for Revitalizing Existing Buildings, Birkhauser
- 4 Alison. Cotgrave & Mike Riley (eds.) (2013) Total sustainability in the built environment . Basingstoke, Palgrave Macmillan.
- 5 Halliday, S. (2019a) Sustainable construction . Second edition.; Second edition. London?; New York?;; London?; New York?;, Routledge.
- 6 Halliday, S. author. (2019b) Sustainable construction . Second edition. London, Routledge.
- 7 Anon (2015b) Environmental Design: CIBSE guide A. 8th edition. London, The Chartered Institution of Building Services Engineers.
- 8 Voss, K. & Musali, E. (2013) Net zero energy buildings: international projects of carbon neutrality in buildings. [new ed.]. Munich, Institut fur internationale