

## MODULE DESCRIPTOR

### Module Title

Building Performance and Technology

Reference	SU2500	Version	2
Created	March 2024	SCQF Level	SCQF 8
Approved	January 2024	SCQF Points	30
Amended	July 2024	ECTS Points	15

### Aims of Module

To provide the student with the ability to apply and understand the principles of building science to services systems for domestic and non-domestic buildings using desk based analysis tools as well as utilising digital simulation as a means to test conceptual designs and building performance in projects.

### Learning Outcomes for Module

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

- 1 Show the adoption of environmental considerations of comfort in domestic and non-domestic buildings from regulatory minimum to best sustainable practice.
- 2 Translate knowledge developed in building services for moderately complex buildings while considering forward thinking strategies for low energy practice.
- 3 Use decision making tools to inform decisions for a given building on the impact of building performance, sustainability, environment and services.
- 4 Distinguish the need for low energy/carbon practice through a holistic approach that meets the sustainable and safety requirements of domestic or non-domestic and high rise buildings.

### Indicative Module Content

The module provides an understanding of the principles and applications for the building systems for domestic and non-domestic buildings. The student will have a broad understanding of the current practice to meet regulatory current practice in environmental performance in domestic and non-domestic buildings. The module will use digital methods of analysis where practicable to evaluate and simulate the performance of buildings to industry standard and forward thinking practice to achieve sustainability goals. The adoption of a low energy/carbon future/carbon neutrality will be understood and applied. The understanding that decisions on environment, services and materials has an impact on building safety and health will be covered.

### Module Delivery

This is a workshop based module supplemented with practical and interactive lectures, which includes computer based simulation and experiments where necessary. A substantial part of the module is devoted to student centred learning, computer exercises where necessary and private study. Directed reading to environmental services journals, core texts and resource material is expected.

### Indicative Student Workload

	Full Time	Part Time
Contact Hours	77	N/A
Non-Contact Hours	223	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	300	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
Description:	Project based coursework based on individual activities focused on the application of knowledge and understanding of building performance and emissions which will be submitted as a portfolio of work that may involve calculations, testing, diagrammatic, drawn and written work and analysis.				

### MODULE PERFORMANCE DESCRIPTOR

#### Explanatory Text

The overall module grade is based on 100% weighting (Coursework). 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:
<b>A</b>	A
<b>B</b>	B
<b>C</b>	C
<b>D</b>	D
<b>E</b>	E
<b>F</b>	F
<b>NS</b>	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.

**INDICATIVE BIBLIOGRAPHY**

- 1 Chadderton, D. (2013) Building Services Engineering Taylor and Francis, 6th Ed
- 2 McMullan, R., (2018) Environmental Science in Building, 8th Edition.
- 3 Hall, F. AND Greeno, R. (2024), Building Services Handbook. 10th ed. Routledge.
- 4 Zeumer, M et al. (2008) Energy Manual (Construction Manuals)