

MODULE DESCRIPTOR

Module Title

Environment and Services Technology 2

Reference	SU3201	Version	2
Created	July 2021	SCQF Level	SCQF 9
Approved	September 2020	SCQF Points	15
Amended	September 2021	ECTS Points	7.5

Aims of Module

To develop advanced knowledge and skills relating to environmental services principles for medium/complex buildings 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 Demonstrate an advanced understanding of the environmental considerations of comfort in medium/complex buildings from regulatory minimum to best sustainable practice using digital modelling and performance analysis and to develop an understanding of forward thinking technologies.
- 2 Develop the critical knowledge of the impact on environment and services in the decision making process in design through building performance analysis and evidence the understanding through the practical application of the principles in medium/complex buildings.
- 3 Recognise and evidence the need for low energy/carbon practice and where/when to apply holistic sustainable technologies through the demonstration of the impact of material specification in design that meets the sustainable and safety requirements of medium/complex and/or high rise buildings

Indicative Module Content

The module provides understanding and the practical application of environmental services design in medium/complex sized buildings. The module will use digital methods of analysis where practicable to evaluate and simulate the performance of buildings to industry standard. The adoption of a low energy/carbon future will be understood and applied. The understanding that decision on environment, services and materials has an impact on building safety will be covered. The content will focus on aspects such as daylighting, acoustics, carbon neutrality and fire safety.

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	40	N/A
Non-Contact Hours	110	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
Description:	Coursework in the form of a report focused on the application of knowledge and understanding based on the environment within buildings and how they influence the lighting, acoustics and safety of medium/complex sized buildings and how they impact on a zero carbon environment.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The overall module grade is based on 100% weighting of Component 1 (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:
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

Reports may be assessed as coursework or by interview panel.

INDICATIVE BIBLIOGRAPHY

- 1 Chadderton, D. K., Building Services Engineering (2013).
- 2 McMullan, R., Environmental Science in Building, 8th Edition. (2017)
- 3 Greeno, Roger (2014), Building Services, Technology and Design
- 4 Hall, F & Greeno, R (2017) 9th Ed, Building Services Handbook
- 5 Zeumer, M etal (2008) Energy Manual (Construction Manuals)
- 6 Sassi, P. (2006) Strategies for Sustainable Architecture
- 7 Watts, A (2013) Modern Construction Handbook