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MODULE DESCRIPTOR

Module Title

Environment and Services

Reference	SU2003	Version	12
Created	March 2018	SCQF Level	SCQF 8
Approved	July 2005	SCQF Points	15
Amended	July 2018	ECTS Points	7.5

Aims of Module

To provide the student with the ability to apply the principles of building science to services systems for low/medium rise buildings.

Learning Outcomes for Module

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

1	Explain relevant scientific and technical principles in respect of building science, services systems and components.
2	Recognise the influence of environmental services on the design, construction and operation of low/medium rise buildings.
3	Recognise and justify the need for low energy and carbon in buildings.

Indicative Module Content

The module provides an understanding of the principles and applications for the following systems: heating systems; cooling systems; natural and mechanical ventilation; water supply, waste and rain water drainage; daylight and electric light including electrical installation. Thermal comfort principles and the requirements for fabric efficiency (FEE). The topic of acoustics will be examined to include sound insulation; sound absorption and reverberation time. Finally, the principles of services distribution and integration in a building are outlined.

Module Delivery

This is a lecture based module supplemented with practical work, which includes laboratory experiments. A substantial part of the module is devoted to student centred learning, computer exercises and private study. Directed reading to services journals, core texts and resource material is encouraged.

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Indicative Student Workload	Full Time	Part Time
Contact Hours	45	N/A
Non-Contact Hours	105	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:	Coursework	Weighting:	50%	Outcomes Assessed:	1, 3
Description:	Coursework in the form of a report focused on the application of knowledge and understanding based on material provided in lectures, readings, labs and software applications.				

Component 2

Type:	Examination	Weighting:	50%	Outcomes Assessed:	2
Description:	One supervised assessment in the form of an end of module examination focused on knowledge and understanding.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

Architecture: In order to pass the module students must achieve 40% or greater in each component.
Architectural Technology, Surveying and Construction Management: In order to pass the module students must achieve 35% or greater in each component and 40% or greater overall.

Module Grade	Minimum Requirements to achieve Module Grade:
A	70% or better
B	60% or better
C	50% or better
D	40% or better
E	35% or better
F	Less than 35%
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None Required
Precluded Modules	None.

ADDITIONAL NOTES

Where appropriate mixed discipline team working will be encouraged. Reports may be assessed as coursework or by interview panel.

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INDICATIVE BIBLIOGRAPHY

1	Chadderton, D. K., Building Services Engineering (2012).
2	McMullan, R., Environmental Science in Building, 7th Edition. (2012)
3	Zunde, J. M. & Bougdah, J (2006), Integrated Strategies in Architecture.
4	Hall F. & Greeno R., Building Services Handbook,Routledge 2017.