

Module Title:	Building Services 2
Language of Instruction:	English
Credits:	5
NFQ Level:	6
Module Delivered In	3 programme(s)
Teaching & Learning Strategies:	Lectures projects Private study
Module Aim:	The aim of Building Services 2 is (1) to give students a basic knowledge of the technology associated with the installation and operation of heating and ventilation services, and (2) to give the student an appreciation of how the building shell and the services are interlinked.

Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Demonstrate through sketches and written work a theoretical knowledge of the relationship between the building and it's occupants and the building services contained within it
LO2	Demonstrate through sketches, written descriptions and applied calculations a knowledge of U-Values and apply this knowledge to building regulation maximum criteria.
LO3	Demonstrate through sketches, written descriptions and applied calculations a knowledge of the heating services used within a building
LO4	Demonstrate through sketches, written descriptions and applied calculations a knowledge of the natural and mechanical ventilation and air conditioning services required for a building
LO5	Demonstrate through sketches, written descriptions and applied calculations a knowledge of the effects of condensation on the effects of a building

Pre-requisite learning
Module Recommendations <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>
No recommendations listed
Incompatible Modules <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>
No requirements listed

Module Content & Assessment

Indicative Content

The Building and Building Services (2h)

(a) Climate (b) Zoning (c) Site characteristics and sustainability (d) The building envelope and design implications (e) Building shapes (f) The occupants and human comfort

U-Values (10h)

(a) Part L Building Regulation requirements and benchmarks (b) CIBSE Guides specifications (c) Elemental and fractional U-values Theory and calculations (d) Average U-values Theory and calculations

Thermal Comfort and Space heating (12h)

(a) Thermal comfort, (b) Heat Loss Theory and calculations, (c) Offsetting heat loss methods, (d) Heating systems installations, layouts and basic sizing

Ventilation and Air Conditioning (12h)

(a) Natural Ventilation, the stack effect and atria, TGD Part F compliance, (b) Mechanical ventilation systems, (c) Basic ventilation calculations

Condensation and Dampness (12h)

(a) Causes of condensation and dampness, (b) types of condensation, (c) condensation analysis using calculations

Assessment Breakdown	%
Project	40.00%
End of Module Formal Examination	60.00%

No Continuous Assessment

Project

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	Short projects applying class based knowledge in the areas of U-Values, heating, ventilation and condensation.	3,4,5	40.00	Sem 1 End

No Practical

End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	Written end of semester exam examining knowledge learnt in the areas of U-Values, heating, ventilation and condensation.	1,2,3,4,5	60.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	12 Weeks per Stage	4.00
Estimated Learner Hours	12 Weeks per Stage	2.00
Project	12 Weeks per Stage	2.00
Total Hours		96.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_CMOPB_B	Bachelor of Science (Honours) in Construction Management	3	Mandatory
CW_CMQSU_B	Bachelor of Science (Honours) in Quantity Surveying	3	Mandatory
CW_CMBSE_D	Bachelor of Science in Construction Management	3	Mandatory