

Module Title:	Building Services II	
Language of Instruction:	English	
Credits:	5	
NFQ Level:	6	
Module Delivered In	No Programmes	
Teaching & Learning Strategies:	Integrated projects in line with studio projects to develop student's ability to recognize and illustrate application of various energy efficient services at site and building level. • Group/team work utilized to carryout case studies as appropriate. • Internal tests to assess student's ability in understanding fundamental concepts and calculations through the module. • Lecture format utilized to provide theoretical instructions.	
Module Aim:	The aims of this module are : • To develop understanding of the processes used to integrate building services design inputs to medium scale buildings. • To explain more comprehensively how the building regulations relate to building services. • To further develop understanding of sustainable development and role of building services to achieve the same.	
Learning Outcomes		
<i>On successful completion of this module the learner should be able to:</i>		
LO1	To identify and describe appropriate M&E services suitable for medium scale and multistorey buildings.	
LO2	To carry out basic sizing calculations to establish space enclosures for M&E services	
LO3	To illustrate and describe M&E services for multistorey buildings and sites.	
LO4	To illustrate and describe site specific services for housing developments.	
LO5	To understand the heat transfer mechanisms in buildings and its implications on sizing heating systems.	
LO6	Evaluate circulation services in buildings for Design and planning considerations.	
LO7	Understand Waste management services.	
LO8	Identify building services which are energy efficient and support sustainable development.	
Pre-requisite learning		
Module Recommendations <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>		
6672	SERV H1501	Building Services I
6673	SERV H2503	Building Services II
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
Sustainable water conservation • Introduction to Sustainable urban drainage systems • Services layout plans for housing development • Basic sizing calculations for SUDS systems
Gas Supply • Service connections • Flues for multi-storey buildings • Gas supply for mains connected buildings • Bottled gas and bulk storage provisions
Heat transfer mechanisms • Heat gain and loss calculations • Thermal comfort in buildings
Thermal systems and distribution • Space heating fundamentals • Introduction to boiler sizing, basic fuel considerations • Introduction to Low, medium and high pressure hot water heating systems • Heat emitters and heating controls • CHP • District heating
Building services for high rise buildings • Electrical supply and distribution; this includes horizontal and vertical distribution and spatial allowances to accommodate the same. • Drainage: Foul water and surface water drainage systems for multi-storey structures (eg.apartments). • Water supply: Cold and hot water supply for multi-storey structures; Pump and pressure boosting systems; Design and planning considerations for pumps, tanks and toilet area.
Mechanical Transportation • Design and planning considerations for Passenger lifts, speeds and capacities, • lift shaft construction; escalators and travelators;
Refuse disposal and waste water management • Refuse management in multi-storey buildings • Sustainable waste water management systems

Assessment Breakdown	%
Continuous Assessment	10.00%
Project	30.00%
End of Module Formal Examination	60.00%

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Examination	n/a	2,5	10.00	n/a

Project				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	No Description	1,3,4,6,8	30.00	Sem 1 End

No Practical

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	No Description	1,2,3,4,5,6,7,8	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	30 Weeks per Stage	2.00
Estimated Learner Hours	30 Weeks per Stage	3.00
Total Hours		150.00

