

SERV H2504: Building Services II

Chiversity				
Module Title:		Building Services II		
Language of Instruction:		English		
Credits:	10			
NFQ Level:	6			
Module Delivered In 1 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 building services and (2) to give the student an appreciation of how the building shell and the services are interlinked.		
Learning O	utcomes			
On success	ful completion of th	his module the learner should be able to:		
LO1	to describe the services used to modify and protect the built environment			
LO2	to describe the systems and installations used to provide these services			
LO3	to apply design criteria to the systems and installations used to provide these services			
LO4	to describe how these services and systems are accommodated in buildings			
LO5	To assess the fire safety of a building and its occupants in relation to protection and evacuation			
Pre-requisi	te learning			
	commendations learning (or a prac	ctical skill) that is recommended before enrolment in this module.		
No recomme	endations listed			
Incompatib These are n		e learning outcomes that are too similar to the learning outcomes of this module.		
No incompatible modules listed				
Co-requisite Modules				
No Co-requisite modules listed				
Requireme This is prior		ctical skill) that is mandatory before enrolment in this module is allowed.		
No requirem	ents listed			



SERV H2504: Building Services II

Module Content & Assessment

Indicative Content

U-Values (12 hours)

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

Thermal Comfort and Space heating (12 hours)

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

Basic Ventilation Theory (12 hours)

(a) Natural Ventilation, the stack effect and atria (b) Types of mechanical ventilation systems (c) Basic ventilation calculations

Electrical Services (12 hours)

(a) Electrical circuits - ring, radial and lighting (b) Electrical distribution –switchboards, switch rooms, distribution boards, busbars, metering, switches, sockets, cables types and sizes, cable trays, conduits and trunking. (c) Electrical protection – MCBs, RCDs, RCBOs, fuses (d) Electrical equipment in hazardous areas (e) Alarms – fire and security (f) Electrical fuse sizing calculations

Water Supply (12 hours)

(a) Cold water storage tank sizing (b) Mains, cold, hot and fire water service pipe sizing (c) Hot water storage tank or calorifier sizing (d) Rain and grey water harvesting

Water Drainage (12 hours)

(a) Soils and Waste water pipe sizing (b) Roof drainage (c) downpipe sizing (d) Underground drainage pipe sizing (e) SUDS - sustainable urban drainage systems

Fire Services (24 hours)

(a) Fire: principles: propagation of fire, methods of fire spread, fire loads, the fire triangle (c) Fire fighting equipment and installations: extinguishers, water based equipment, alarms and detection, emergency lighting and signposting (d) Evacuations: staff training, evacuation routes design, travel distances and protection, stair widths and design (e) Site fire safety: evacuations, arson, hot work permits

Security (12 hours)

(a) Barriers systems (b) Detection systems (c) Alarms and CCTV (d) Security personnel: internal and external security personnel recruitment, access control methods, security personnel legislation

Mobility and Access for All (12 hours)

(a) TGD Part M (b) services for disabled

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	No Description	1,2,3,4,5	40.00	Sem 1 End	

No Practical

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	No Description	1,2,3,4,5	60.00	End-of-Semester

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



SERV H2504: Building Services II

Module Workload

Workload: Full Time		
Workload Type	Frequency	Average Weekly Learner Workload
Lecture	30 Weeks per Stage	4.00
Estimated Learner Hours	30 Weeks per Stage	4.67
	Total Hours	260.00

Module Delivered In					
Programme Code	Programme	Semester	Delivery		
CW_CMBSE_D	Bachelor of Science in Construction Management with Buildings Services	3	Mandatory		