



MODULE SPECIFICATION

Part 1: Information			
Module Title	Construction Technology and Building Services		
Module Code	UBLMYB-30-2	Level	Level 5
For implementation from	2018-19		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Environment & Technology	Field	Architecture and the Built Environment
Department	FET Dept of Architecture & Built Environ		
Contributes towards	Quantity Surveying [Sep][FT][Frenchay][2yrs] GradDip 2018-19 Quantity Surveying [Sep][PT][Frenchay][3yrs] GradDip 2018-19		
Module type:	Standard		
Pre-requisites	Construction Technology and Services 2018-19, Introduction to Building Construction 2018-19		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Overview: The module extends a basic appreciation of environmental science developed at level 1 to examine how principles are applied to create successful engineering systems in buildings. Emphasis will be placed on means employed by building designers and developers to accommodate the needs of building users and managers.</p> <p>Pre-requisites: students must take one out of UBLMYS-30-1 Construction Technology and Services or UBLMAB-30-1 An Introduction to Building Construction.</p> <p>Educational Aims: This module seeks to highlight links between related aspects of the design, site practice, and operation of buildings and services installations including building performance at the point of occupation.</p> <p>It consolidate the ideas of performance and construction and to extend the range of building use</p>

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and technology to include commercial and industrial buildings, with their related production processes and technologies, including method, sequence and resource requirements.

Outline Syllabus: Multi story load bearing structures and associated options for floors, roofs and internal finishes.

External works including roads, paths and associated drainage.

Structural frames for multi-story medium rise and single storey medium / long span buildings including related flooring systems, foundations and basements, cladding and external walls, finishes including partitions, ceilings and floors, fire strategies and construction.

Characteristic accuracy and allowable deviations, movement and overall fit. Verification of performance through site testing.

Analysis of collapse mechanisms within the ground. Simple models of stress distribution due to building loads.

Predictions of deformation at working loads. Health and safety, temporary works below ground, falsework and formwork, temporary support and access structures.

Organisation of construction sites, mechanisation, method and resource analysis.

Environmental services –
thermal comfort,
building heat transfer,
natural and artificial lighting,
ventilation, psychrometrics.

HVAC systems, refrigeration.

Building acoustics - room acoustics, sound transmission, noise control.

Utility services –
hot and cold water services,
public health engineering,
electrical installations.

Energy - consumption, life-cycle analysis, benchmarking, controls and Building Energy Management Systems (BEMS).

Teaching and Learning Methods: Scheduled learning

The core of the taught element of this module will be centred on lectures, tutorials and lab work where the construction methods for the main building elements and building services installations will be introduced and analysed in both performance and production terms.

The lecturers will introduce and develop performance and production issues and problem solving necessary for the analysis of method. Tutorials will provide formative support for the development of the portfolio and foster an investigative approach based on sound scientific method to support the writing up of lab reports.

Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc.

Contact time: 72 hours

Assimilation and development of knowledge: 148 hours

Exam preparation: 40 hours

Coursework preparation: 40 hours

Total study time: 300 hours

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Part 3: Assessment			
<p>Examination: The 3 hours examination will be divided into a section on construction and another on services. Students will be required to address both sections.</p> <p>Coursework: Students will be required to develop a report relating to construction technology based around the tutorial programme enabling formative advice to be given as work progresses. Similarly students will be required to produce a second report that captures building services requirements including one laboratory element associated with acoustics based around the tutorial sessions.</p> <p>Resit Coursework: Students will be required to rework the failed component(s) of work within a reflective report that explains the deficiencies in the original work and an explanation, how these have been addressed and the essential differences that this has for the outcome.</p>			
First Sit Components	Final Assessment	Element weighting	Description
Report - Component B		33 %	Report 1
Report - Component B		17 %	Report 2
Examination - Component A	✓	50 %	Exam (3 Hours)
Resit Components	Final Assessment	Element weighting	Description
Report - Component B		50 %	Reflective report
Examination - Component A	✓	50 %	Exam (3 Hours)

Part 4: Teaching and Learning Methods															
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <table border="1"> <thead> <tr> <th></th> <th>Module Learning Outcomes</th> </tr> </thead> <tbody> <tr> <td>MO1</td> <td>Identify examples of contemporary solutions for commercial and industrial construction and explain how they achieve the required standards of performance</td> </tr> <tr> <td>MO2</td> <td>Analyse the determinants of appropriate technology for a given client, location, site and form of building and explain the relationship between the chosen construction and the requirements for production technologies including falsework and formwork, earthwork support and mechanical plant</td> </tr> <tr> <td>MO3</td> <td>Explain how temporary works satisfy the performance demands of the constructor including issues of risk and safety</td> </tr> <tr> <td>MO4</td> <td>Develop methods and explain the sequence of work necessary for the effective assembly of the building including the integration of services systems</td> </tr> <tr> <td>MO5</td> <td>Specify the resources involved for site activities and provide estimates of the time taken and costs for each operation</td> </tr> <tr> <td>MO6</td> <td>Assess and evaluate thermal, aural and visual parameters defining human comfort levels in internal environments</td> </tr> </tbody> </table>		Module Learning Outcomes	MO1	Identify examples of contemporary solutions for commercial and industrial construction and explain how they achieve the required standards of performance	MO2	Analyse the determinants of appropriate technology for a given client, location, site and form of building and explain the relationship between the chosen construction and the requirements for production technologies including falsework and formwork, earthwork support and mechanical plant	MO3	Explain how temporary works satisfy the performance demands of the constructor including issues of risk and safety	MO4	Develop methods and explain the sequence of work necessary for the effective assembly of the building including the integration of services systems	MO5	Specify the resources involved for site activities and provide estimates of the time taken and costs for each operation	MO6	Assess and evaluate thermal, aural and visual parameters defining human comfort levels in internal environments
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	MO7	Analyse the facade attenuation of heat, light and sound to produce accurate estimates for building thermal load, natural and artificial lighting requirements, and relevant acoustic indices. Describe building services plant and equipment, and assess the application of systems to a range of building types
	MO8	Undertake a range of analytical processes to demonstrate understanding of the relationship between the design of building services and ultimate building performance
	MO9	Carry out practical investigations relating to engineering systems performance and produce written (note laboratory deleted) reports.
	MO10	For both report elements students have to demonstrate a thorough investigation of the topic area substantiated with adequate referencing.
Contact Hours	Contact Hours	
	Independent Study Hours:	
	Independent study/self-guided study	228
	Total Independent Study Hours:	228
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	72
	Total Scheduled Learning and Teaching Hours:	72
	Hours to be allocated	300
	Allocated Hours	300
Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p>https://uwe.rl.talis.com/modules/ublmyb-30-2.html</p>	