MODULE SPECIFICATION

Part 1: Information			
Module Title	Building Services Applications		
Module Code	UBLMTB-30-2	Level	Level 5
For implementation from	2019-20		
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		
Module type:	Standard		
Pre-requisites	Building Physics and Services 2019-20		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Educational Aims: See Learning Outcomes

Outline Syllabus: This is an indicative list of what the syllabus will contain. Subjects will not necessarily be taught in this order nor be of equal weighting:

Passive Thermal: weather, climate and design conditions. Heat gains and losses, heating and cooling loads.

HVAC: ventilation strategies, pipework systems, ductwork systems, psychometrics, jets and plumes, emitters, pump and fan laws, refrigeration and heat rejection.

Lighting Services: user requirement, design calculations, lamp technologies, luminaire technologies, energy efficiency, health and comfort performance.

Electrical Power Distribution: maximum load estimation, cable distribution strategies, cable calculation, earthing, motors, motor control, real and apparent power.

Architectural Acoustics and Noise Control: reverberation times, absorption materials, room modes, ray tracing, auditorium design, façade design, attenuation.

Teaching and Learning Methods: Scheduled learning includes lectures, seminars, tutorials, demonstration, practical classes and workshops and external visits.

Lectures are used to introduce scientific and cultural concepts and to demonstrate analytic methods.

Tutorials are used to practise the analysis of elements of complex engineering services.

Laboratory work and site visits illustrate and give context to the engineering services which are the subject of the module.

Independent learning includes hours engaged with suggested reading, example design and analysis exercises, and the preparation and completion of assignments.

Activity (hrs)
Contact time (72)
Assimilation and development of knowledge (148)
Exam preparation (40)
Coursework preparation (40)
Total study time (300)

Part 3: Assessment

Being a technical module where students are required to demonstrate key analytical and problem solving skills under time constraints, an unseen exam is deemed to be an appropriate assessment tool for the controlled element.

The Analysis and Calculation reports require the students to demonstrate, throughout the academic year, that they can perform the analytic procedures introduced in the lectures. Tutorials and examples classes support the necessary learning.

The Assessment:
Component A: Examination – The examination is used to concentrate students' attention on assimilating the knowledge and mastering the calculation techniques contained within the module.

Component B: Analysis and Calculation Report: The essay is used integrate strands of knowledge presented as separate topics and to develop students' academic writing with particular emphasis being placed on the managing and referencing of evidence.

Formative Feedback will be given to drafts of the Reports and Essay prior to submission.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		25 %	Analysis and calculation report (1000 words)
Report - Component B		25 %	Analysis and calculation report (1000 words)
Examination - Component A	✓	50 %	Examination (3 hours)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		50 %	Analysis and calculation report (2000 words)
Examination - Component A	✓	50 %	Examination (3 hours)

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will achieve the following learning outcomes:

Module Learning Outcomes	Reference
Explain the behaviour of building service systems in terms of underlying physical properties and principles	MO1
Select design criteria appropriate to a range of building services systems	MO2
Select items of equipment to meet qualitative and quantitative performance criteria	MO3
Analyse building services systems mathematically to determine their performance and to test design assumptions.	MO4
Produce written justifications of decisions supported by referenced evidence.	MO5

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

The reading list for this module can be accessed via the following link:

https://uwe.rl.talis.com/modules/ublmtb-30-2.html

Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Architecture and Environmental Engineering [Sep][FT][Frenchay][4yrs] BEng (Hons) 2018-19

Building Services Engineering [Sep][FT][Frenchay][3yrs] BEng (Hons) 2018-19

Architecture and Environmental Engineering [Sep][SW][Frenchay][5yrs] BEng (Hons) 2018-19

Architecture and Environmental Engineering [Sep][SW][Frenchay][8yrs] MDes 2017-18

Building Services Engineering {Apprenticeship} [Sep][PT][Frenchay][5yrs] BEng (Hons) 2018-19

Building Services Engineering {Top-Up} [Sep][PT][SHAPE][1.5yrs] BEng (Hons) 2018-19

Building Services Engineering {Top-Up} [Sep][FT][SHAPE][1yr] BEng (Hons) 2018-19