MODULE SPECIFICATION

Part 1: Information			
Module Title	Engineering Principles (Building Engineering)		
Module Code	UBLLWQ-15-1	Level	Level 4
For implementation from	2018-19		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Architecture and the Built Environment
Department	FET Dept of Architecture & Built Environ		
Contributes towards	Architecture and Environmental Engineering [Sep][FT][Frenchay][4yrs] BEng (Hons) 2018-19 Building Services Engineering {Apprenticeship} [Sep][PT][Frenchay][5yrs] 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 {Top-Up} [Sep][PT][SHAPE][1.5yrs] BEng (Hons) 2018-19 Building Services Engineering {Top-Up} [Sep][FT][SHAPE][1yr] BEng (Hons) 2018-19		
Module type:	Standard		

Pre-requisites	None
Excluded Combinations	None
Co- requisites	None
Module Entry requirements	None

Part 2: Description

Educational Aims: See Learning Outcomes

Outline Syllabus: Underpinning Physics:
Force, energy, work and power.

Thermodynamics and Fluids:
Thermodynamic laws, reversible processes, steady flow energy equation, gas laws, pressure in static fluids, atmospheric pressure, Bernoulli's equation, flow measurement device

Statics and Dynamics:
Forces, moments and centre of gravity, equilibrium and reactions in statically determinate structures

Bending moment and shear force diagrams. Truss analysis, Axial stress and strain

Kinematics, projectiles, angular motion, Newton's laws of motion, and vibration

Teaching and Learning Methods: Typically the scheduled teaching hours take the form of whole group lectures, workshops, laboratories and tutorials

Contact time: 36 hours
Assimilation and development of knowledge: 74 hours
Examination and assessment preparation: 40 hours
TOTAL: 150 HOURS

Scheduled learning: Lectures, seminars, tutorials, and laboratory demonstrations.

Independent learning: Directed reading, and laboratory work.

Part 3: Assessment

Component A: 1.5 hour end of module examination

Component B: The Component B mark is calculated by averaging the marks of four e-tests. The four e-tests are taken outside the class throughout the year after each of the main topics are completed (times may vary). Students have three attempts at each test with the highest scoring attempt recorded as their test score.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Online Assignment - Component B		25 %	Average mark of four e-tests taken throughout module
Examination - Component A	✓	75 %	Written Examination (90 mins)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Online Assignment - Component B		25 %	Average mark of four e-tests taken throughout module
Examination - Component A	✓	75 %	

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will be able to:

	Module Learning Outcomes
MO1	Manipulate units and expressions defining physical properties
MO2	State and apply physical laws relating to statics and dynamics to the solution of engineering problems
MO3	State and apply physical laws relating to thermodynamics and fluids to the solution of engineering problems
MO4	Communicate in written form the relationship between underlying physical laws and engineering principles
MO5	Apply experimental method to laboratory demonstrations of engineering principles

Contact Hours

Contact Hours	
Independent Study Hours:	
Independent study/self-guided study	114
Total Independent Study Hours:	114
Scheduled Learning and Teaching Hours:	
Face-to-face learning	36
Total Scheduled Learning and Teaching Hours:	36
Hours to be allocated	150
Allocated Hours	150

Reading List

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

https://uwe.rl.talis.com/modules/ubllwq-15-1.html