



MODULE SPECIFICATION

Part 1: Information			
Module Title	Engineering Principles (Building Engineering)		
Module Code	UBLLWQ-15-1	Level	Level 4
For implementation from	2019-20		
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		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: See Learning Outcomes</p> <p>Outline Syllabus: Underpinning Physics: Force, energy, work and power.</p> <p>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</p> <p>Statics and Dynamics: Forces, moments and centre of gravity, equilibrium and reactions in statically determinate structures</p> <p>Bending moment and shear force diagrams. Truss analysis, Axial stress and strain</p> <p>Kinematics, projectiles, angular motion, Newton's laws of motion, and vibration</p>

STUDENT AND ACADEMIC SERVICES

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 %	

STUDENT AND ACADEMIC SERVICES

Part 4: Teaching and Learning Methods																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Module Learning Outcomes</th> <th style="text-align: left;">Reference</th> </tr> </thead> <tbody> <tr> <td>Manipulate units and expressions defining physical properties</td> <td>MO1</td> </tr> <tr> <td>State and apply physical laws relating to statics and dynamics to the solution of engineering problems</td> <td>MO2</td> </tr> <tr> <td>State and apply physical laws relating to thermodynamics and fluids to the solution of engineering problems</td> <td>MO3</td> </tr> <tr> <td>Communicate in written form the relationship between underlying physical laws and engineering principles</td> <td>MO4</td> </tr> <tr> <td>Apply experimental method to laboratory demonstrations of engineering principles</td> <td>MO5</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Manipulate units and expressions defining physical properties	MO1	State and apply physical laws relating to statics and dynamics to the solution of engineering problems	MO2	State and apply physical laws relating to thermodynamics and fluids to the solution of engineering problems	MO3	Communicate in written form the relationship between underlying physical laws and engineering principles	MO4	Apply experimental method to laboratory demonstrations of engineering principles	MO5				
Module Learning Outcomes	Reference																
Manipulate units and expressions defining physical properties	MO1																
State and apply physical laws relating to statics and dynamics to the solution of engineering problems	MO2																
State and apply physical laws relating to thermodynamics and fluids to the solution of engineering problems	MO3																
Communicate in written form the relationship between underlying physical laws and engineering principles	MO4																
Apply experimental method to laboratory demonstrations of engineering principles	MO5																
Contact Hours	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">Independent Study Hours:</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Independent study/self-guided study</td> <td style="text-align: center;">114</td> </tr> <tr> <td style="text-align: right;">Total Independent Study Hours:</td> <td style="text-align: center;">114</td> </tr> <tr> <th colspan="2" style="text-align: left;">Scheduled Learning and Teaching Hours:</th> </tr> <tr> <td style="text-align: center;">Face-to-face learning</td> <td style="text-align: center;">36</td> </tr> <tr> <td style="text-align: right;">Total Scheduled Learning and Teaching Hours:</td> <td style="text-align: center;">36</td> </tr> <tr> <td style="text-align: left;">Hours to be allocated</td> <td style="text-align: center;">150</td> </tr> <tr> <td style="text-align: left;">Allocated Hours</td> <td style="text-align: center;">150</td> </tr> </tbody> </table>	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
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	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/modules/ubllwq-15-1.html</p>																

Part 5: Contributes Towards	
<p>This module contributes towards the following programmes of study:</p> <p>Architecture and Environmental Engineering {Foundation} [Sep][SW][Frenchay][6yrs] BEng (Hons) 2018-19</p> <p>Architecture and Environmental Engineering {Foundation} [Sep][FT][Frenchay][5yrs] BEng (Hons) 2018-19</p>	