



MODULE SPECIFICATION

Part 1: Information			
Module Title	Mechanics of Materials		
Module Code	UFMFP9-15-3	Level	Level 6
For implementation from	2019-20		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Engineering, Design and Mathematics
Department	FET Dept of Engin Design & Mathematics		
Module type:	Standard		
Pre-requisites	Stress Analysis 2019-20		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: See Learning Outcomes.</p> <p>Outline Syllabus: The syllabus includes:</p> <p>Introduction to Design Codes and Standards Energy Methods in Structural Analysis Impact Fatigue Analysis Fracture Mechanics Introduction to Creep and Plastic Stress Analysis</p> <p>Teaching and Learning Methods: Lectures and tutorials. Study time outside of contact hours will be spent on completing exercises and example problems. Scheduled learning includes lectures and tutorial sessions. Independent learning includes hours engaged with essential reading, assignment preparation and completion etc...</p> <p>Contact Hours:</p>

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Activity:
 Contact: 36 hours
 Assimilation and development of knowledge: 36 hours
 Problem solving and coursework: 39 hours
 Examination preparation: 39 hours
 Total: 150 hours

Part 3: Assessment

The module is assessed through two components with an end of module examination used to assess understanding of relevant scientific and engineering principles.

In this module, students are expected to demonstrate understanding and skill in performing calculations that can be time consuming. For this reason the examination length is chosen to be three hours to reduce the time pressure on students in the controlled assessment.

The coursework will involve a structural element design task and students will be expected to demonstrate understanding and ability to apply basic principles and taught processes in solving both hypothetical and practical problems. The output from the assignment will be a 10 page technical individual report.

First Sit Components	Final Assessment	Element weighting	Description
Report - Component B		50 %	Individual report
Examination - Component A	✓	50 %	Examination
Resit Components	Final Assessment	Element weighting	Description
Report - Component B		50 %	Individual report
Examination - Component A	✓	50 %	Examination

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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>Demonstrate a detailed knowledge and understanding of key theoretical principles and results that underpin the design of structural elements</td> <td>MO1</td> </tr> <tr> <td>Apply research skills to investigate and solve complex problems in the area of mechanics of materials</td> <td>MO2</td> </tr> <tr> <td>Model and apply simplifying assumptions to real engineering problems</td> <td>MO3</td> </tr> <tr> <td>Select and apply appropriate methods of solution to the design and analysis of structural elements</td> <td>MO4</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Demonstrate a detailed knowledge and understanding of key theoretical principles and results that underpin the design of structural elements	MO1	Apply research skills to investigate and solve complex problems in the area of mechanics of materials	MO2	Model and apply simplifying assumptions to real engineering problems	MO3	Select and apply appropriate methods of solution to the design and analysis of structural elements	MO4						
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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/ufmfp9-15-3.html</p>																

Part 5: Contributes Towards
<p>This module contributes towards the following programmes of study:</p> <p>Mechanical Engineering (Mechatronics) {Top-Up} [Sep][FT][AustonSingapore][1yr] BEng (Hons) 2019-20</p> <p>Mechanical Engineering (Mechatronics) {Top-Up} [Feb][FT][AustonSingapore][1yr] BEng (Hons) 2019-20</p> <p>Mechanical Engineering (Mechatronics) {Top-Up} [May][FT][AustonSingapore][1yr] BEng (Hons) 2019-20</p> <p>Mechanical Engineering (Mechatronics) {Top-Up} [Sep][FT][AustonSriLanka][1yr] BEng (Hons) 2019-20</p> <p>Mechanical Engineering (Mechatronics) {Top-Up} [Feb][FT][AustonSriLanka][1yr] BEng (Hons) 2019-20</p> <p>Mechanical Engineering (Mechatronics) {Top-Up} [May][FT][AustonSriLanka][1yr] BEng (Hons) 2019-20</p>