



MODULE SPECIFICATION

Part 1: Information			
Module Title	Solid Mechanics		
Module Code	UFMFSP-30-1	Level	Level 4
For implementation from	2019-20		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Environment & Technology	Field	Engineering, Design and Mathematics
Department	FET Dept of Engin Design & Mathematics		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: This module covers fundamental physical concepts and mathematical models of static and dynamic systems. It will cover modelling of such systems in software packages.</p> <p>Outline Syllabus: Statics:</p> <ul style="list-style-type: none"> Static Equilibrium Supports Loads and Joint Materials Stress and Strain Beams Torsion and Shafts Pressure Vessels <p>Dynamics:</p> <ul style="list-style-type: none"> Fundamentals of Dynamics Newton's Law of Motion Diagrams

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Energy, Momentum and Impulse
Rotational Energy, moments and torque
Springs

In this module students will be introduced to the following mathematical concepts:

Engineering Functions
Matrices and Algebra
Integration
Differential Equations
Laplace Transforms
Solving Differential Equations using computer software

Teaching and Learning Methods: Learners will carry out a series of experimental tasks involving the interpretation and critical evaluation of data.

Part 3: Assessment

Component A – Oral Examination – This oral examination will assess the learners' ability to conduct and communicate technical principles and calculations in an effective way when confronted with a new problem.

Component B – Technical Report Portfolio – Learners will perform workshop based practicals and submit a portfolio of reports based on the mechanics principles involved.

The resit assessment tasks for this module will involve a rework and reflective evaluation of the work carried out in the original task.

First Sit Components	Final Assessment	Element weighting	Description
Portfolio - Component B		75 %	Technical report portfolio
Examination - Component A	✓	25 %	Oral Examination (1 Hour)
Resit Components	Final Assessment	Element weighting	Description
Portfolio - Component B		75 %	Technical report portfolio
Examination - Component A	✓	25 %	Oral Examination (1 Hour)

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
	Conduct stress and dynamics analysis calculations.	MO1
	Explain the theoretical principles of stress and dynamics.	MO2
	Conduct computer-based stress and dynamics modelling.	MO3
	Interpret and critically evaluate experimental data.	MO4
Contact Hours	Independent Study Hours:	

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	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><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/index.html</p>	

Part 5: Contributes Towards

This module contributes towards the following programmes of study: