MODULE SPECIFICATION

Part 1: Information			
Module Title	Solid Mechanics		
Module Code	UFMFSP-30-1	Level	Level 4
For implementation from	2018-19		
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		
Contributes towards	Mechanical Engineering with Nuclear {Apprenticeship} [Sep][PT][BTC][4yrs] BEng (Hons) 2018-19 Electrical, Electronic and Control Engineering with Nuclear {Apprenticeship} [Sep][PT][BTC][5yrs] BEng (Hons) 2018-19 Mechanical Engineering with Nuclear {Apprenticeship}[Sep][PT][BTC][5yrs] BEng (Hons) 2018-19 Electromechanical Engineering (Nuclear){Apprenticeship}(Sep][PT][BTC][3yrs] FdSc 2018-19 Electrical, Electronic and Control Engineering with Nuclear {Apprenticeship} [Sep][FT][BTC][4yrs] 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: This module covers fundamental physical concepts and mathematical models of static and dynamic systems. It will cover modelling of such systems in software packages.

Outline Syllabus: Statics:

Static Equilibrium
Supports
Loads and Joint
Materials Stress and Strain
Beams
Torsion and Shafts
Pressure Vessels

Dynamics:

Fundamentals of Dynamics
Newton's Law of Motion
Diagrams
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 be able to:

	Module Learning Outcomes
MO1	Conduct stress and dynamics analysis calculations.
MO2	Explain the theoretical principles of stress and dynamics.
MO3	Conduct computer-based stress and dynamics modelling.
MO4	Interpret and critically evaluate experimental data.

Contact Hours

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/index.html