



MODULE SPECIFICATION

Part 1: Information			
Module Title	Vibrational Dynamics		
Module Code	UFMFXJ-15-3	Level	Level 6
For implementation from	2018-19		
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		
Contributes towards			
Module type:	Standard		
Pre-requisites	Dynamics 2018-19, Engineering Mathematics 2 2018-19		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: See Learning Outcomes</p> <p>Outline Syllabus: Review of single free, forced, damped and undamped Single DOF systems</p> <p>Response to certain non-periodic forcing functions Response to periodic forcing functions Review of unforced multi-degree-of-freedom systems Analysis of forced multi-degree-of-freedom using modal analysis Analysis of non-linear systems using energy methods Introduction to random vibration</p> <p>Teaching and Learning Methods: Large group teaching session supported by small group tutorial sessions. Study time outside of contact hours will be spent on going through new material (via notes and videos), exercises and example problems. The learning on the module is strongly supported by the use of technology and students are encouraged to engage in this material both prior to and after class contact sessions.</p>

STUDENT AND ACADEMIC SERVICES

Scheduled learning includes teaching sessions and tutorials.

Independent learning includes hours engaged with essential reading and assessment preparation. These sessions constitute an average time per level as indicated in the table below. Scheduled sessions may vary slightly depending on the module choices you make.

Student contact time: 36 hours
 Directed learning: 48 hours
 Self-directed learning: 42 hours
 Exam preparation: 67 hours
 TOTAL: 150 Hours

Part 3: Assessment

Component A

The interactive style of delivery leads to students receiving frequent formative feedback on their progress and hence students should be well prepared for the end of module assessment which takes the form of a 3 hour examination. E-quizzes taken in each week are an additional means of ensuring engagement in delivery.

First Sit Components	Final Assessment	Element weighting	Description
In-class test - Component B		20 %	E-quizzes
Examination - Component A	✓	80 %	End of semester examination - 3 hours
Resit Components	Final Assessment	Element weighting	Description
In-class test - Component B		20 %	E-quizzes
Examination - Component A	✓	80 %	Examination 3 hours

STUDENT AND ACADEMIC SERVICES

Part 4: Teaching and Learning Methods		
Learning Outcomes	On successful completion of this module students will be able to:	
	Module Learning Outcomes	
	MO1	Demonstrate knowledge of scientific principles and methods necessary to underpin their education in mechanical and related engineering disciplines, to enable appreciation of its scientific and engineering context and to support their understanding of future developments and technologies.
	MO2	Demonstrate knowledge of mathematical principles necessary to underpin their education in mechanical and related engineering disciplines and to enable them to apply mathematical methods, tools and notations proficiently in the analysis and solution of engineering problems.
	MO3	Apply and integrate knowledge of other engineering disciplines to support the study of mechanical and related engineering disciplines
	MO4	Use engineering principles and apply them to analyse key engineering processes.
	MO5	Identify, classify and describe the performance of systems and components through the use of analytical methods and modelling techniques
	MO6	Apply quantitative methods to mechanical and related engineering disciplines, to solve engineering problems
	MO7	Demonstrate an ability to apply a systems approach to engineering problems
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	<p>The reading list for this module can be accessed via the following link:</p> <p>https://uwe.rl.talis.com/modules/ufmfxj-15-3.html</p>