



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Control Engineering		
Module Code	UFMFYJ-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	Engineering Mathematics 2 2018-19		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Educational Aims:</b> See Learning Outcomes</p> <p><b>Outline Syllabus:</b> System modelling (Laplace operator, transfer functions etc)            Time response of first and second order systems            Block diagram representation            Frequency response of first and second order systems            System identification            The s-plane and root loci            Controllers (PID, IP-D etc)            State Space modelling techniques            Approaches to dealing with non-linearity</p>

## STUDENT AND ACADEMIC SERVICES

**Teaching and Learning Methods:** Large group lecture supported by small group tutorial sessions. Study time outside of contact hours will be spent on going through exercises and example problems. Lab sessions and demonstrations will provide experience of modelling and simulation. Scheduled learning includes lectures, tutorials/lab sessions. Independent learning includes hours engaged with essential reading, assignment preparation and completion etc.

Activity Approximate time, h  
 Contact (36)  
 Directed Learning (24)  
 Self-directed learning (45)  
 Exam preparation (45)  
 Total (150)

### Part 3: Assessment

Component A  
 Assessed via end of semester Exam.

Formative assessments (not contributing to module mark) is provided via support in tutorial sessions. End of semester exam is three hours.

First Sit Components	Final Assessment	Element weighting	Description
Examination - Component A	✓	100 %	End of semester exam - 3 hours (controlled conditions)
Resit Components	Final Assessment	Element weighting	Description
Examination - Component A	✓	100 %	Examination 3 hours

### 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

## STUDENT AND ACADEMIC SERVICES

Contact Hours	<b>Contact Hours</b>	
	<b>Independent Study Hours:</b>	
	Independent study/self-guided study	114
	<b>Total Independent Study Hours:</b>	114
	<b>Scheduled Learning and Teaching Hours:</b>	
	Face-to-face learning	36
	<b>Total Scheduled Learning and Teaching Hours:</b>	36
	<b>Hours to be allocated</b>	150
	<b>Allocated Hours</b>	150
Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p><a href="https://uwe.rl.talis.com/modules/ufmfyj-15-3.html">https://uwe.rl.talis.com/modules/ufmfyj-15-3.html</a></p>	