



MODULE SPECIFICATION

Part 1: Information			
Module Title	Advanced Chassis		
Module Code	UFMEVE-15-M	Level	Level 7
For implementation from	2020-21		
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:	Project		
Pre-requisites	Automotive Technology 2020-21		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description	
1	<p>Educational Aims: See Learning Outcomes.</p> <p>Outline Syllabus: The syllabus includes:</p> <p>Revision of steady-state cornering, understeer, oversteer and yaw. Roll, weight transfer, load transfer. Ride, pitch and bounce (quarter car model, half car model). Transient behaviour. Applying dynamics modelling techniques to vehicle chassis performance. Race car design and setup.</p> <p>Teaching and Learning Methods: This module is delivered through a series of lecture/tutorial sessions (lecturials) and is supported by sessions in the vehicle simulation lab to allow students</p>

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to apply the knowledge gained in this module.

Scheduled learning includes lectures, tutorials and sessions in the vehicle simulation lab.

Independent learning includes hours engaged with essential reading, project work.

Contact: 36 hours

Assimilation and Skill development: 47 hours

Project work work: 67 hours

Total: 150 hours

Part 3: Assessment

The project work is assessed using a written report (including the development of a vehicle model) and is designed to assess the students' abilities in understanding the various aspects of vehicle dynamics and how the parameters affect the vehicle's handling performance. This includes evaluation of their competencies in critically evaluation and analysing results within the context of vehicle dynamics.

First Sit Components	Final Assessment	Element weighting	Description
Report - Component A	✓	100 %	A written piece of work focussed on optimising vehicle parameters and modelling vehicle dynamics (5000 words).
Resit Components	Final Assessment	Element weighting	Description
Report - Component A	✓	100 %	A written piece of work focussed on optimising vehicle parameters and modelling vehicle dynamics (5000 words).

Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will be able to:	
		Module Learning Outcomes
	MO1	Design and undertake substantial investigations to address significant areas of theory and practice in chassis design, performance and analysis
	MO2	Select and critically evaluate advanced methodological approaches in analysis of vehicle dynamics
	MO3	Apply both analytical and practical methods to the analysis of vehicle chassis engineering problems
	MO4	Demonstration and critically evaluate current theoretical and methodological approaches through use of professional literature
	MO5	Act with initiative in decision making within professional and given guidelines
	MO6	Communicate effectively using professional engineering terms
Contact Hours	Contact Hours	

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	Independent Study Hours:	
	Independent study/self-guided study	114
	Total Independent Study Hours:	114
	Scheduled Learning and Teaching Hours:	
	Project work (individual or group)	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/ufmeve-15-m.html</p>	