



MODULE SPECIFICATION

Part 1: Information			
Module Title	Automotive Manufacturing		
Module Code	UFMFNC-30-3	Level	Level 6
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			
Module type:	Standard		
Pre-requisites	Automotive Technology 2018-19, Design and Electromechanical Systems 2018-19, Dynamics 2018-19, Engineering Mathematics 2 2018-19, Stress Analysis 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: The syllabus includes:</p> <p>Automotive Manufacturing: Structure of metallic materials, structure of composite materials, joining technology; manufacturing processes and assembly techniques; design for manufacture; design for assembly; material technology selection; manufacturing process technology selection; sustainability in materials and manufacturing.</p> <p>Advanced Manufacturing Technologies: Process management, measurement and control, Six sigma, Planning and control of production, scheduling techniques, managing manufacturing systems, MRP MRPII and ERP, batch v flow manufacture, flexible manufacturing systems, lean and agile manufacture, continuous improvement, introduction to supply chain management.</p>

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Automotive Legislation Regulations and Industry:

“Automotive safety; crash avoidance, driver assistance, crashworthiness, post crash survivability, pedestrian safety, NCAP ratings, Sustainable car industry; energy options, technologies, products, issues and policies. Automotive Emission standards, constituents and sources of emissions, measurement and instrumentation of emissions. Automotive manufacturing structure, OEM, suppliers, tier system, manufacturers, Globalisation and global trends”.

Teaching and Learning Methods: Scheduled learning lectures will introduce the general theoretical concepts and present examples in the use of these techniques. Laboratory sessions will be used to underpin and integrate the key theoretical concepts. Some simulation software may be used to complement and help understand the application concepts.

Independent learning In addition to the scheduled learning, students are expected to spend time engaged with essential reading, report preparation and studying the concepts and underlying principles.

Contact Hours:

Scheduled teaching hours will take the form of
Lectures for the whole group
Laboratory demonstration/ tutorials classes for small groups
A project on a given topic

Activity:

Contact time (lectures, tutorials and laboratory): 72 hours
Assimilation and development of knowledge: 150 hours
Coursework/report preparation: 56 hours
Presentation preparation: 22 hours
Total: 300 hours

Part 3: Assessment

Assessed at the end of the module on the basis of an industrially based group project report and files, presentation, oral examination and evidence of individual effort (personal log books) 100%.

The assessment will take into account both the professional practise demonstrated in the management of the projects and outcomes of the projects themselves.

The resit will comprise an individual assignment, report, presentation and oral examination.

First Sit Components	Final Assessment	Element weighting	Description
Final Project - Component A	✓	100 %	Project Report, presentation and oral examination
Resit Components	Final Assessment	Element weighting	Description
Final Project - Component A	✓	100 %	Report, presentation and oral examination

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Part 4: Teaching and Learning Methods		
Learning Outcomes	On successful completion of this module students will be able to:	
	Module Learning Outcomes	
	MO1	Subject specific skills in with respect to the principles of process measurement, management and control
	MO2	A detailed knowledge and understanding of the principles of manufacturing systems management in the context of automotive engineering
	MO3	The principles of metallic and composite materials, manufacturing process technologies and assembly techniques
	MO4	The principles of design for manufacturing and design for assembly
	MO5	Modelling and simplifying real problems, applying fundamental principles of mechanical engineering to the analysis of realistic problems and making recommendations based on analysis
	MO6	Modelling situations and providing solutions to problems using engineering principles. Interpreting experimental data
	MO7	Problem formulation and decision making
	MO8	Progression to independent learning
MO9	A thorough understanding of the trends, legislation and regulations governing the automotive industry	
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	<p>The reading list for this module can be accessed via the following link:</p> <p>https://uwe.rl.talis.com/modules/ufmfnc-30-3.html</p>	