



MODULE SPECIFICATION

Part 1: Information			
Module Title	Design for Manufacturing, Assembly and Environment		
Module Code	UFMFN8-15-2	Level	Level 5
For implementation from	2019-20		
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		
Module type:	Standard		
Pre-requisites	Design, Materials and Manufacturing 2019-20		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: In this module you will examine the principles, tools and techniques for developing artefacts that are easy to manufacture and assemble, and with economic and environmental material utilisation through design methodologies and process selection.</p> <p>Outline Syllabus: The syllabus includes:</p> <ul style="list-style-type: none"> Introduction to principles of design for 'x' techniques. Schemes for integration of design with wider manufacturing activities. Design for manufacturing processes. Design for machining, forming, sheet metal forming, welding, ALM. Design for manual, automatic and robot assembly. Design for Environment. DFM/A/E guidelines for implementation. Virtual manufacturing support. Quantitative evaluation methodologies for artefact and process. Economic materials selection and environmental evaluation. <p>Teaching and Learning Methods: See Assessment Strategy.</p>

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Part 3: Assessment			
<p>The main sit strategy will be as follows:</p> <p>Component A: The student is required to present their findings from the assignment (component B). The student will be examined orally to ascertain what the student knows and the depth of understanding of the justifications and implementation of Design for 'x', based upon the findings of the assignment (component B).</p> <p>Component B: A written assignment submitted at the end of the module. The assignment is designed to assess the students' understanding and application of the various aspects of design for 'x' and material selection applied in an industrial scenario.</p> <p>The resit strategy will be as follows:</p> <p>Component A: Will provide the student with the opportunity present and orally defend the reworked material. Component B: Will provide the student with the opportunity to rework the written assignment, or where this is the first attempt a different scenario shall be provided.</p> <p>Risk of plagiarism will be mitigated by the individualised variables and data being issues to students with the assignment brief.</p>			
First Sit Components	Final Assessment	Element weighting	Description
Report - Component B		60 %	3000 word industrial-based report
Presentation - Component A	✓	40 %	30 minute individual presentation and oral examination (20 minute presentation and 10 minutes of questioning)
Resit Components	Final Assessment	Element weighting	Description
Report - Component B		60 %	Coursework assignment in the form of fresh 3000 word industrial-based report.
Presentation - Component A	✓	40 %	30 minute individual Presentation and oral examination (20 minute presentation and 10 minutes of questioning)

Part 4: Teaching and Learning Methods													
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th>Module Learning Outcomes</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>Justify the implementation of Design for 'x' strategies</td> <td>MO1</td> </tr> <tr> <td>Demonstrate the application of machine-material interaction evaluations</td> <td>MO2</td> </tr> <tr> <td>Implement design principles for efficient manufacture and assembly processes</td> <td>MO3</td> </tr> <tr> <td>Critically evaluate the existing company/corporate environment to support implementation of Design for 'x' strategies</td> <td>MO4</td> </tr> <tr> <td>Appraise material selection to minimise manufacturing costs and environmental impact</td> <td>MO5</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Justify the implementation of Design for 'x' strategies	MO1	Demonstrate the application of machine-material interaction evaluations	MO2	Implement design principles for efficient manufacture and assembly processes	MO3	Critically evaluate the existing company/corporate environment to support implementation of Design for 'x' strategies	MO4	Appraise material selection to minimise manufacturing costs and environmental impact	MO5
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Critically evaluate the existing company/corporate environment to support implementation of Design for 'x' strategies	MO4												
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Contact Hours	Independent Study Hours:												

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	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><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/index.html</p>	

Part 5: Contributes Towards

This module contributes towards the following programmes of study: