



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Design for Manufacturing, Assembly and Environment		
Module Code	UFMFN8-15-2	Level	Level 5
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	Design, Materials and Manufacturing 2018-19		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Educational Aims:</b> 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><b>Outline Syllabus:</b> The syllabus includes:</p> <p>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.</p>

## STUDENT AND ACADEMIC SERVICES

Virtual manufacturing support.  
Quantitative evaluation methodologies for artefact and process.  
Economic materials selection and environmental evaluation.

**Teaching and Learning Methods:** See Assessment Strategy.

### Part 3: Assessment

The main sit strategy will be as follows:

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).

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.

The resit strategy will be as follows:

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.

Risk of plagiarism will be mitigated by the individualised variables and data being issues to students with the assignment brief.

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)

STUDENT AND ACADEMIC SERVICES

<b>Part 4: Teaching and Learning Methods</b>																					
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;"><b>Module Learning Outcomes</b></th> </tr> </thead> <tbody> <tr> <td style="width: 15%;">MO1</td> <td>Justify the implementation of Design for 'x' strategies</td> </tr> <tr> <td>MO2</td> <td>Demonstrate the application of machine-material interaction evaluations</td> </tr> <tr> <td>MO3</td> <td>Implement design principles for efficient manufacture and assembly processes</td> </tr> <tr> <td>MO4</td> <td>Critically evaluate the existing company/corporate environment to support implementation of Design for 'x' strategies</td> </tr> <tr> <td>MO5</td> <td>Appraise material selection to minimise manufacturing costs and environmental impact</td> </tr> </tbody> </table>	<b>Module Learning Outcomes</b>		MO1	Justify the implementation of Design for 'x' strategies	MO2	Demonstrate the application of machine-material interaction evaluations	MO3	Implement design principles for efficient manufacture and assembly processes	MO4	Critically evaluate the existing company/corporate environment to support implementation of Design for 'x' strategies	MO5	Appraise material selection to minimise manufacturing costs and environmental impact								
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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/index.html">https://uwe.rl.talis.com/index.html</a></p>																				