



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Lifecycle Engineering for Manufacturing Systems		
Module Code	UFMFVH-15-2	Level	Level 5
For implementation from	2022-23		
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	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Overview:</b> The module provides a holistic approach to observation and analysis of a production system. The key outcome will be the development of the understanding and knowledge requirements that underpin common improvement paradigms for production systems. To provide direction for the targeting of tools and methods for manufacturing improvement in order to deliver targets and sustainable improvements and maximise benefits.</p> <p><b>Educational Aims:</b> The aim of this module is to provide the conceptual framework and tools for conducting a manufacturing system analysis.</p> <p><b>Outline Syllabus:</b> Syllabus to include: Investigating the barriers to realising sustainable improvement, and in particular the inability to communicate understanding Analysing the changes and issues associated with the different life phases of a manufacturing system To provide a structured representation (standardised diagram) of the system, its internal relations, inputs and external influences, which can be used to communicate and ensure all stakeholders have a common, shared understanding. Simulate and predict systems maintainability, reliability and end-of-life Simulate and predict system's Life Cycle Cost (LCC)Optimisation of the whole life cycle of a typical manufacturing systems</p> <p><b>Teaching and Learning Methods:</b> Scheduled learning: material will be delivered in whole cohort sessions and via on-line resources. The majority of the learning activities will take place as a combination of lectures, discussion groups, case studies and 'hands on' use of tools and techniques that provide the practical knowledge to undertake a manufacturing setup evaluation and present improvement solutions. Independent learning: includes hours engaged with essential reading, assignment preparation and completion etc.</p>

## STUDENT AND ACADEMIC SERVICES

Part 3: Assessment			
<p>The assessment is designed to follow a lifecycle analysis of a manufacturing system and to replicate a consultancy style activity. There will be two case study investigations. The first case study (Component A) will involve a short INDIVIDUAL report (1100 words) and group presentation of an initial manufacturing system review. The aim of this review is to investigate the barriers to realising sustainable improvement of a specified manufacturing system and to provide an initial plan of improvement to the client. In Component B, students present a more detailed assessment of the manufacturing system identified in part A as a 3500 word INDIVIDUAL report that includes a 500 word individual summary and reflection of the application and analysis. The group report will cover justification of approaches, life cycle tools and techniques applied, application process and method, findings and analysis, recommendations to client. The resit assessment will consist of Component A. INDIVIDUAL presentation of initial analysis of manufacturing system. Component B. 2000 word INDIVIDUAL report providing a more detailed analysis of the system and recommendations for improvement.</p>			
First Sit Components	Final Assessment	Element weighting	Description
Presentation - Component A		25 %	Presentation of an initial plan of improvement to the client (10 minutes).
Case Study - Component B	✓	75 %	Technical report, modelling and analysis (3000 words) plus individual summary and reflection (500 words).
Resit Components	Final Assessment	Element weighting	Description
Presentation - Component A	✓	25 %	12 minute presentation + questions
Case Study - Component B		75 %	2000 word report detailing evaluation and proposal for improvement

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>Investigate the barriers to realising sustainable improvement of a specified manufacturing system</td> <td>MO1</td> </tr> <tr> <td>Analyse potential changes and issues associated with the different life phases of a manufacturing system</td> <td>MO2</td> </tr> <tr> <td>Simulate and predict manufacturing system's Life Cycle Cost</td> <td>MO3</td> </tr> <tr> <td>Identify the factors and characteristics that affect process efficacy and to elicit the important relationships for improvement</td> <td>MO4</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Investigate the barriers to realising sustainable improvement of a specified manufacturing system	MO1	Analyse potential changes and issues associated with the different life phases of a manufacturing system	MO2	Simulate and predict manufacturing system's Life Cycle Cost	MO3	Identify the factors and characteristics that affect process efficacy and to elicit the important relationships for improvement	MO4
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	Face-to-face learning	24
	<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://rl.talis.com/3/uwe/lists/9ECFA958-65AD-905D-D8D5-551018CB86C8.html?lang=en-GB&amp;login=1">https://rl.talis.com/3/uwe/lists/9ECFA958-65AD-905D-D8D5-551018CB86C8.html?lang=en-GB&amp;login=1</a></p>	

### Part 5: Contributes Towards

This module contributes towards the following programmes of study: