MODULE SPECIFICATION

Part 1: Information			
Module Title	Managing Advanced Manufacture		
Module Code	UFMFWF-15-3	Level	Level 6
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:	Project		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Educational Aims: The course aims to provide a rounded understanding of manufacturing technology and systems through applied industrial case studies so that the students are competent to manage advanced manufacturing systems when they work in industry.

Outline Syllabus: Manufacturing Technology:

Traditional and new innovative manufacturing technology and assembly techniques used in the aerospace industry and other developing industrial sectors

The influence of composite materials and other advanced materials on manufacturing technology and manufacturing processes.

Design for manufacture, assembly and maintenance at minimum cost whilst meeting customer

requirements.

Manufacturing Systems:

Comparison and analysis of manufacturing systems philosophies.

Application of discrete event (DE) models to analyse manufacturing systems: evaluation of experiments and experimental results.

Investment justification and costing of engineering components.

Teaching and Learning Methods: Overview: The course will be delivered through a combination of scheduled learning activities, such as lectures and tutorials. These sessions will be used to introduce the principles of the topics and the tutorials will be used to further develop these topics and student competence. Study time outside of contact hours will be spent working on the group project exercise.

Scheduled learning:

Lectures will introduce the general theoretical concepts and present examples in the use of these techniques. Tutorials 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 and studying the concepts and underlying principles. Students will be required to work in teams for the Case Study and Presentation.

Activity Approximate time (hours)
Contact (36)
Assimilation and skill development (36)
Project work (78)
Total (150)

NB Where students are engaged in this module through distance and work based learning contact will be replaced by engagement with electronic learning materials and suitable mentoring and e-learning support.

Part 3: Assessment
The assessment model for this module is structured to verify students' competence and demonstrate understanding of a range of manufacturing technologies and systems. It also requires the students to demonstrate an ability to apply this in a realistic and representative scenario. The nature of the course work and the requirements for the students to demonstrate competence means that a group based task with a presentation session will be used. For the group based work the default position is equal mark allocation per group and guidelines are provided for the students outlining protocol for dealing with situations where a different allocation should be made. Each Group will submit a written report together with a short individual evaluation of the project from each member of the group. This will be followed by a final presentation / viva scheduled during the examination period. A plant visit will be organised to enable the students to link what they learn in the lectures to what they observe during the visit. Applications and reflections from the visit are to be included in the report.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component A		55 %	Report (5000 words)
Presentation - Component A	✓	45 %	Presentation (10 mins)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component A	✓	100 %	Individual report (4000 words)

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will be able to:

	Module Learning Outcomes
MO1	Evaluate traditional and new innovative manufacturing technology and assembly techniques in the aerospace industry and other developing industrial sectors.
MO2	Propose manufacturing technology and techniques for the production of specified products and appraise each technique in terms of manufacturing efficiency, quality and cost
MO3	Identify the need for coordinated product / process development and be able to manage the merging of these two aspects and explain their importance with advanced materials
MO4	Evaluate manufacturing system dynamics and the sequencing and control of the flow of parts.
MO5	Apply structured analysis techniques to model, synthesise and evaluate manufacturing organisations and production systems
MO6	Design and construction of simulation models, statistical analysis of simulation output and experimentation and sensitivity analysis

Contact Hours

Contact Hours	
Independent Study Hours:	
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	*The reading list for this module can be accessed via the following link:* https://uwe.rl.talis.com/modules/ufmfwf-15-3.html	