MODULE SPECIFICATION

Part 1: Information			
Module Title	Concurrent Engineering and Design for Manufacture		
Module Code	UFMEEC-15-M	Level	Level 7
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	Mechanical Engineering [Sep][FT][Frenchay][1yr] MSc 2018-19 Mechanical Engineering [Sep][PT][Frenchay][2yrs] MSc 2018-19		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
Educational Aims: See Learning Outcomes. **Outline Syllabus:** The syllabus includes: Rationale of Concurrent Engineering and Design for Manufacture. Issues related to the corporate culture and the organisational structures in the context of successful implementation of concurrent engineering. Technologies for communication and collaboration. Product design and development methodologies including capturing customer needs for defining conceptual specifications.

Issues related to cost factors in a Concurrent Engineering environment.
Design for Manufacturability, Maintainability etc.
Rapid prototyping techniques for fast product development.
Life-Cycle Management vis-à-vis concurrent engineering.

Teaching and Learning Methods: Scheduled learning: These will be based on a combination of lectures, discussion groups, case studies and 'hands on' use of tools and techniques that provide exposure to the advanced manufacturing context covered by this module. Students will be expected to learn independently by carrying out reading and directed study outside formal sessions.

Independent learning includes hours engaged with essential reading, assignment preparation and completion etc.

Student contact time: 36 hours
Directed learning: 36 hours
Self-directed learning: 84 hours
Exam preparation: 30 hours
Total: 150 hours

Part 3: Assessment

The assessment strategy has been designed to ensure that students are able to relate the concepts that lie behind the use of concurrent engineering methodologies in the design and rapid prototyping of products and are able to apply and evaluate the impact of these techniques on business improvement.

To achieve this students are required to demonstrate understanding of key concepts under controlled conditions and so a two hour written examination (component A).

To demonstrate knowledge and skill in applying the design methodology within a real engineering manufacturing context, students undertake a case study of an in-depth appraisal at a company of their choice (component B). The output of this case study will be a 6000 word individual report.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		75 %	Individual report
Examination - Component A	✓	25 %	Written examination
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		75 %	Individual report
Examination - Component A	✓	25 %	Written examination

Part 4: Teaching and Learning Methods

Learning Outcomes

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

	Module Learning Outcomes
MO1	Select and apply an optimum rapid prototyping technique for a given application
MO2	Critically appraise the existing product design and development environment of a company and recommend changes to support concurrent engineering methodology
MO3	Apply appropriate methodologies for capturing customer requirements
MO4	Demonstrate knowledge and understanding of the benefits of adopting concurrent engineering methodology for efficient produce design and development and its contribution to the competiveness of a company
MO5	Analyse and critically evaluate the strategy and operational environment of a company and recommend changes to improve the effectiveness of integrated product design and development
MO6	Evaluate and identify relevant factors that influence product lifecycle at the design stage

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/ufmeec-15-m.html