



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Advanced Powertrain Technologies		
Module Code	UFMF8E-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			
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Educational Aims:</b> In this module you will examine powertrain technologies in more depth.</p> <p><b>Outline Syllabus:</b> You will learn about established engine technologies, such as forced induction systems, emissions control systems and modern fuel injection systems. As well as established engine technologies you will study emerging and future engine technologies.</p> <p><b>Teaching and Learning Methods:</b> See Assessment and Hours</p>

**Part 3: Assessment**

The module is examined through individual assessment. The students will demonstrate that they have met the learning outcomes through analysis of conventional technology and research and investigation into future engine technologies.

Component A. The students will conduct a practical lab based experiment on a real engine. They are required to demonstrate their knowledge and understanding of advanced powertrain technology by gathering live data, analysing the data and drawing conclusions. This will be presented as a lab report conducted under controlled conditions.

Component B. The students will identify a significant research project related to advanced powertrain technology and conduct a feasibility study to assess its suitability. The written assignment is designed to assess the students' ability to critically evaluate and analyse data based on a brief study that the student has conceived. It also includes evaluation of their competency to identify an issue/research need and design a test plan to investigate that issue/need.

Resit strategy: The resit strategy will be as follows:

Component A: Resit the lab based exam.

Component B: Will provide the individual student with the opportunity to rework the written assignment, or where this is the first attempt a research scenario shall be provided.

First Sit Components	Final Assessment	Element weighting	Description
Report - Component B	✓	50 %	Written report (5000 words)
Examination - Component A		50 %	Lab based exam (2 hours)
Resit Components	Final Assessment	Element weighting	Description
Report - Component B	✓	50 %	Written report (5000 words)
Examination - Component A		50 %	Lab based Exam (2 hours)

Part 4: Teaching and Learning Methods		
Learning Outcomes	On successful completion of this module students will be able to:	
		<b>Module Learning Outcomes</b>
	MO1	Design and undertake investigations to address an issue/research need in the field of powertrain technology
	MO2	Apply both analytical and practical methods to the analysis of powertrain engineering problems
	MO3	Demonstration and critically evaluate current theoretical and experimental technologies through use of professional literature.
	MO4	Act with initiative in decision making within professional and given guidelines
	MO5	Communicate effectively using professional engineering terms.
Contact Hours	<b>Contact Hours</b>	
	<b>Independent Study Hours:</b>	
	Independent study/self-guided study	114
	<b>Total Independent Study Hours:</b>	114
	<b>Scheduled Learning and Teaching Hours:</b>	
	Face-to-face learning	36
	<b>Total Scheduled Learning and Teaching Hours:</b>	36
	<b>Hours to be allocated</b>	150
	<b>Allocated Hours</b>	150
Reading List	The reading list for this module can be accessed via the following link:	
	<a href="https://uwe.rl.talis.com/modules/ufmf8e-15-m.html">https://uwe.rl.talis.com/modules/ufmf8e-15-m.html</a>	