



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Energy Technologies		
Module Code	UFMFD7-15-3	Level	Level 6
For implementation from	2020-21		
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 principles and practice of a number of conventional and renewable power generation systems including technical, economic, environmental and political considerations.</p> <p><b>Educational Aims:</b> See Learning Outcomes.</p> <p><b>Outline Syllabus:</b> The syllabus includes:</p> <p>Review of basic concepts of energy, power and efficiency; energy use in human activity.</p> <p>Renewable Energy systems: power from water, wind, biomass, solar electricity generation and solar thermal systems.</p> <p>Overview of power from nuclear energy.</p> <p>Basics of electrical machines and distribution networks; structure of the UK electricity industry.</p> <p>Energy use in Transport; future vehicle developments.</p> <p><b>Teaching and Learning Methods:</b> Lecture and tutorial sessions. Study time outside of contact hours will be spent on going through exercises and example problems.</p>

## STUDENT AND ACADEMIC SERVICES

Scheduled learning includes lectures, tutorials, demonstrations and discussions.

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

Contact Hours:

Activity:

Contact: 36 hours

Assimilation and skill development: 70 hours

Exam preparation: 44 hours

Total: 150 hours

### Part 3: Assessment

Component A: Assessed via end of semester Exam (two hours). Summative assessment.

Formative assessments (not contributing to module mark) are provided via support in tutorial sessions. End of semester exam is two hours.

First Sit Components	Final Assessment	Element weighting	Description
Examination (Online) - Component A	✓	100 %	End of semester exam (2 hours)
Resit Components	Final Assessment	Element weighting	Description
Examination (Online) - Component A	✓	100 %	Online Exam (2 hours)

### Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will achieve the following learning outcomes:		
	<b>Module Learning Outcomes</b>		<b>Reference</b>
	Describe the structure and benefits of renewable energy sources in Europe and in particular the UK		MO1
	Use appropriate mathematical expressions to compute the generated power, its cost and the saved Co2 emission		MO2
	Provide detailed design and analysis of the hybrid energy generation systems. These include power electronics, generators, control systems and network interfaces		MO3
	Assess and analyse the potential of power generation from renewable energy sources at a particular site		MO4
	Use knowledge of the relevant engineering principles for eco-friendly energy generation procedure and method		MO5
Contact Hours	<b>Independent Study Hours:</b>		
	Independent study/self-guided study	114	

## STUDENT AND ACADEMIC SERVICES

	<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	<p>The reading list for this module can be accessed via the following link:  <a href="https://uwe.rl.talis.com/modules/ufmfd7-15-3.html">https://uwe.rl.talis.com/modules/ufmfd7-15-3.html</a></p>	

### Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Electrical and Electronic Engineering {Top-Up} [May][PT][AustonSriLanka][1.3yrs] BEng (Hons) 2019-20  
 Electrical and Electronic Engineering {Top-Up} [Feb][PT][AustonSriLanka][1.3yrs] BEng (Hons) 2019-20  
 Electrical and Electronic Engineering {Top-Up} [Oct][PT][AustonSriLanka][1.3yrs] BEng (Hons) 2019-20  
 Electrical and Electronic Engineering {Top-Up} [May][PT][AustonSingapore][1.3yrs] BEng (Hons) 2019-20  
 Electrical and Electronic Engineering {Top-Up} [Feb][PT][AustonSingapore][1.3yrs] BEng (Hons) 2019-20  
 Electrical and Electronic Engineering {Top-Up} [Oct][PT][AustonSingapore][1.3yrs] BEng (Hons) 2019-20  
 Mechanical Engineering (Mechatronics) {Top-Up} [Sep][PT][AustonSingapore][2yrs] BEng (Hons) 2019-20  
 Mechanical Engineering (Mechatronics) {Top-Up} [Feb][PT][AustonSingapore][2yrs] BEng (Hons) 2019-20  
 Mechanical Engineering (Mechatronics) {Top-Up} [May][PT][AustonSingapore][2yrs] BEng (Hons) 2019-20  
 Mechanical Engineering (Mechatronics) {Top-Up} [Sep][PT][AustonSriLanka][2yrs] BEng (Hons) 2019-20  
 Mechanical Engineering (Mechatronics) {Top-Up} [Feb][PT][AustonSriLanka][2yrs] BEng (Hons) 2019-20  
 Mechanical Engineering (Mechatronics) {Top-Up} [May][PT][AustonSriLanka][2yrs] BEng (Hons) 2019-20  
 Mechanical Engineering (Nuclear) - Not Running BEng (Hons) 2017-18  
 Mechanical Engineering [Sep][FT][Frenchay][4yrs] MEng 2018-19  
 Mechanical Engineering [Sep][FT][Frenchay][3yrs] BEng 2018-19  
 Electronic Engineering [Sep][FT][Frenchay][4yrs] MEng 2018-19  
 Electronic Engineering [Sep][FT][Frenchay][3yrs] BEng (Hons) 2018-19