MODULE SPECIFICATION

Part 1: Information			
Module Title	Energy Technologies		
Module Code	UFMFD7-15-3	Level	Level 6
For implementation from	2019-20		
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

Overview: The principles and practice of a number of conventional and renewable power generation systems including technical, economic, environmental and political considerations.

Educational Aims: See Learning Outcomes.

Outline Syllabus: The syllabus includes:

Review of basic concepts of energy, power and efficiency; energy use in human activity.

Renewable Energy systems: power from water, wind, biomass, solar electricity generation and solar thermal systems.

Overview of power from nuclear energy.

Basics of electrical machines and distribution networks; structure of the UK electricity industry.

Energy use in Transport; future vehicle developments.

Teaching and Learning Methods: Lecture and tutorial sessions. Study time outside of contact hours will be spent on going through exercises and example problems.

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 - Component A	✓	100 %	End of semester exam (2 hours) (controlled condition)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Examination - Component A	✓	100 %	Exam (2 hours)

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will achieve the following learning outcomes:

Module Learning Outcomes	**Reference**
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

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/ufmfd7-15-3.html	

Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Electrical and Electronic Engineering {Top-Up} [May][FT][AustonSingapore][1yr] BEng (Hons) 2019-20
Electrical and Electronic Engineering {Top-Up} [Feb][FT][AustonSingapore][1yr] BEng (Hons) 2019-20
Electrical and Electronic Engineering {Top-Up} [Oct][FT][[AustonSingapore][1yr] BEng (Hons) 2019-20
Electrical and Electronic Engineering {Top-Up} [Oct][FT][AustonSriLanka][1yr] BEng (Hons) 2019-20
Electrical and Electronic Engineering {Top-Up} [Feb][FT][AustonSriLanka][1yr] BEng (Hons) 2019-20
Electrical and Electronic Engineering {Top-Up} [May][FT][AustonSriLanka][1yr] BEng (Hons) 2019-20
Mechanical Engineering (Mechatronics) {Top-Up} [Sep][FT][AustonSingapore][1yr] BEng (Hons) 2019-20
Mechanical Engineering (Mechatronics) {Top-Up} [Feb][FT][AustonSingapore][1yr] BEng (Hons) 2019-20
Mechanical Engineering (Mechatronics) {Top-Up} [May][FT][AustonSingapore][1yr] BEng (Hons) 2019-20
Mechanical Engineering (Mechatronics) {Top-Up} [Sep][FT][AustonSriLanka][1yr] BEng (Hons) 2019-20
Mechanical Engineering (Mechatronics) {Top-Up} [Feb][FT][AustonSriLanka][1yr] BEng (Hons) 2019-20
Mechanical Engineering (Mechatronics) {Top-Up} [May][FT][AustonSriLanka][1yr] BEng (Hons) 2019-20