



Module Specification

Renewable Energy

Version: 2023-24, v2.0, 31 Jul 2023

Contents

Module Specification	1
Part 1: Information	2
Part 2: Description	2
Part 3: Teaching and learning methods	3
Part 4: Assessment.....	4
Part 5: Contributes towards	6

Part 1: Information

Module title: Renewable Energy

Module code: UBGML5-30-3

Level: Level 6

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

College: Faculty of Environment & Technology

School: FET Dept of Geography & Environmental Mgmt

Partner institutions: None

Field: Geography and Environmental Management

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Renewable energy in the context of global sustainable development and climate change mitigation.

Features: Module Entry Requirements: 60 credits at level 2

Educational aims: See Learning Outcomes.

Outline syllabus: The syllabus includes:

Large-scale integration of renewable energy sources: generation, transmission and storage. Examples will be drawn from:

Physical principles, technologies, economic and environmental considerations

Solar thermal energy

Solar voltaics

Biofuels

Tidal power

Wave energy

Hydropower

Geothermal energy

Domestic integration of renewable energy, to be drawn from:

Domestic energy dynamics (insulation, energy efficiency, thermal efficiency, energy management)

Micro-hydro energy

Passive solar heating

Heat pumps

and other technological innovations.

Basic economic analyses of proposed or existing renewable energy projects.

Simulation of a planning inquiry. Students will present arguments either for an against a renewable energy proposal.

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled learning will comprise coursework and lectures, together with practical tasks, guest speakers and possible field visit(s).

Lectures will provide a framework for understanding the reading and the key issues covered by the module.

Independent learning will use directed reading via the online reading list and a selection of online resources, including appropriate case studies.

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

MO1 Explain the physical principles and the technologies involved in deriving energy from key renewable sources

MO2 Critically discuss the economic and environmental viability of renewable energy sources

MO3 Explain the integration of renewable energy sources at a variety of scales and critically consider the role that technology can play in energy generation and conservation

MO4 Critically evaluate the current and future potential of renewable energy sources to meet the demands from energy supply and global climate change mitigation

MO5 Demonstrate critical engagement with academic and policy-based literature

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ubgm15-30-3.html) via the following link <https://uwe.rl.talis.com/modules/ubgm15-30-3.html>

Part 4: Assessment

Assessment strategy: Summative Assessment:

Exam - is assessed by an unseen 2-hour examination that will require students to demonstrate knowledge on key ideas, concepts and practices encountered during the module. The assessment will allow them to build upon the skills developed at

levels one and two. The form of assessment is considered to be the most appropriate on the basis that it will allow students to develop clear and coherent arguments. They will need to refer to appropriate reading and demonstrate appropriate standards of literary and presentation.

Presentation - is delivered in the form of a role-play exercise that revolves around a mock planning enquiry centred on a renewable energy technology (such as a tidal barrage). Students will work collaboratively in groups to share and pool knowledge but group members will present their own specialism via a pitch of 10 minutes. The assessment creates a scenario that students may find themselves in within practice and allows them to synthesise key skills in debate, augmentation and the synthesis and communication of complex information. They will need to respond to questions and challenges arising from their presentation, thereby providing an opportunity to demonstrate personal resilience. The role-play offers the kind of interactivity that may be difficult to achieve via other assessment tools. Contributions will need to be grounded in literature and be informed by relevant data and research. Students will need to demonstrate effective visual and verbal communication.

Formative feedback will be in the form of discussion and activities based on set readings and exercises as the module progresses. Formative feedback for the examination may include the use of past papers or mock questions.

Resit:

Resit Exam - will require students to take a further unseen examination.

Resit Presentation - takes a different format as it is potentially difficult to host a role-play exercise under resit conditions. Instead, students will submit a presentation, with embedded audio, on the same theme that they were allocated in the initial role-play. Presentation length will be the same at ten minutes.

Assessment tasks:

Examination (First Sit)

Description: Examination (2 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Presentation (First Sit)

Description: Individual Presentation (10 minutes)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO5

Examination (Resit)

Description: Examination (2 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Presentation (Resit)

Description: Individual Presentation (with embedded audio) (10 minutes)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study: