



Module Specification

Water and Energy Futures

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Part 1: Information

Module title: Water and Energy Futures

Module code: UBGMMME-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: Not applicable

Features: Not applicable

Educational aims: See syllabus and module learning outcomes.

Outline syllabus: The module progressively develops three integrated themes, namely:

Theme 1: Introduction to water and energy services in the 21st century: UK and global scales.

– Key debates – The water-energy-food nexus

Theme 2: Managing water sustainably: national and international perspectives.

– History and evolution – From natural water to hydro-social water – Water, economics and policy Integrating water resource management – Water management and land management – Key technical, economic and policy challenges – Technological solutions: opportunities and challenge

STUDENT & ACADEMIC SERVICES 2018-19

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– The ecosystems services approach – Payment for ecosystems services – Water-related ecosystems services

Theme 2: National and international sustainable energy futures: options, opportunities and challenges.

– Large-scale generation of energy, through nuclear, solar thermal energy, solar voltaic, biofuels, tidal power, wave energy, hydropower and geothermal energy – Domestic integration of renewable energy, including domestic energy dynamics (insulation, energy efficiency, thermal efficiency, energy management), micro-hydro energy, passive solar heating, heat pumps and other technological innovations. – Transmission and storage of energy – Promotion and implementation of smart energy systems

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled learning will comprise lectures and workshops that will comprise 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 Discuss the historical background of utility provision in UK, European and world contexts (both assessments)

MO2 Articulate the challenges of and constraints on improving efficiency in consumption of water and energy services in domestic, commercial and agricultural sectors (both assessments)

MO3 Critically appreciate the economic, policy and regulatory frameworks, nationally and internationally, within which decisions on energy and water management are made (both assessments)

MO4 Demonstrate a general knowledge of the real-time problems of water and energy networks and the constraints on present distribution systems (both assessments)

MO5 Evaluate options for sustainable energy and water supply, distribution, utilisation, including demand side management, smart systems and efficiency modelling (both assessments)

MO6 Critically consider the form that future energy and water infrastructure will take and appraise the potential social, economic and environmental implications that selected interventions or technologies could give rise to (both assessments)

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 via the following link

<https://uwe.rl.talis.com/modules/ubgmme-30-3.html>

Part 4: Assessment

Assessment strategy: Presentation - Individual seminar contributions (equivalent to two 10 minute presentations) on subjects relating to water and energy nexus. The contribution may be individually or as part of a group, but an individual mark will be awarded.

Portfolio - Individual Portfolio (3,500 words equivalent). This will include aspects such as a water action plan, presentation material relating to water energy nexus and briefs relating to energy policy.

Resit Portfolio - a similar brief to that described above, which may include some topic changes.

Resit Presentation - presented as one 20 minute presentation, with similar supporting documentation to the first sit.

Assessment tasks:

Portfolio (First Sit)

Description: Individual Portfolio (3,500 words equivalent)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Presentation (First Sit)

Description: Individual Presentation (equivalent to two 10 minute presentations)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Portfolio (Resit)

Description: Individual Portfolio (3,500 words equivalent)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Presentation (Resit)

Description: Individual Presentation (20 minutes)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Environmental Management and Practice {Foundation} [Feb][FT][GCET][4yrs] BSc (Hons) 2020-21

Environmental Management and Practice {Foundation} [Oct][FT][GCET][4yrs] BSc (Hons) 2020-21

Urban Planning [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Environmental Management [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Geography [Sep][FT][Frenchay][3yrs] BA (Hons) 2021-22

Geography [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Urban Planning {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Environmental Management [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Environmental Management {Foundation} [Sep][FT][Frenchay][4yrs] - Not Running
BSc (Hons) 2020-21

Geography and Planning {Foundation} [Sep][FT][Frenchay][4yrs] - Withdrawn BA (Hons) 2020-21

Geography and Planning [Sep][SW][Frenchay][4yrs] - Withdrawn BA (Hons) 2020-21

Geography [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Geography {Foundation} [Sep][FT][Frenchay][4yrs] - Not Running BSc (Hons) 2020-21

Geography {Foundation} [Sep][FT][Frenchay][4yrs] - Withdrawn BA (Hons) 2020-21

Geography [Sep][SW][Frenchay][4yrs] BA (Hons) 2020-21

Geography {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20

Geography {Foundation} [Sep][SW][Frenchay][5yrs] BA (Hons) 2019-20

Geography and Planning {Foundation} [Sep][SW][Frenchay][5yrs] BA (Hons) 2019-20