



Module Specification

Energy: Planning and Assessment

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Part 1: Information

Module title: Energy: Planning and Assessment

Module code: UBGLS1-15-2

Level: Level 5

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Geography & Environmental Mgmt

Partner institutions: Global College of Engineering and Technology (GCET)

Delivery locations: Global College of Engineering and Technology (GCET)

Field:

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: The module is focused upon the planning and assessment of future energy infrastructure. Students are introduced to the complexities and the decision making that surround major energy projects and the consenting and assessment processes that projects are expected to pass through. The module also introduces students to the steps for advancing procurement and construction.

Features: Not applicable

Educational aims: This module is focused upon the planning and assessment of major energy infrastructure with students being introduced to the key stages involved.

Outline syllabus: The module is focused upon the planning and assessment of future energy infrastructure. Students are introduced to the complexities and the decision making that surround major energy projects and the consenting and assessment processes that projects are expected to pass through. The module also introduces them to the steps for advancing procurement and construction. Student learning is mobilised around a defined energy technology and a specific project need, with the module providing insight to each of the development stages involved. Example projects could include developing a large scale solar or wind farm, a solar enhanced oil recovery plant, or an energy from waste facility. The structuring of content also allows the students to complete module assessment synchronously. To begin with, students, who will be working in groups, will be asked to take decisions over the type of energy infrastructure they wish to pursue, and take a decision over the most appropriate site and location for accommodating the development. As part of this, students will be introduced to key theories relating to decision making and will be asked to identify, and critically consider, the type of criteria that will need to be used for the purposes of their project. They will also need to think about the type of business case that the project will require, with the module providing insight on funding options and the phasing and timescales for project delivery. Once a site has been found, the module will consider, and prompt thinking, about the type of site assessment that will be necessary and the kind of professionals that will need to become involved with planning and design. Students will be introduced to the type of impacts that their project could give rise to, and to the key methodologies for assessing environmental, as well as socio-economic, effects. The module will also prompt students to think about the mitigation that can be applied for either maximising project benefits, or minimising and eliminating concerns.

The module will introduce the consenting process and will identify the type of information that a developer will need to present in order for the project to be understood and considered. As part of this, students will be introduced to the

importance of stakeholder engagement, marketing and public relations. The module will also focus on the steps for procuring and constructing large scale infrastructure, with students being asked to contextualise this around their selected project.

Part 3: Teaching and learning methods

Teaching and learning methods: Lectures will develop a systematic understanding of the module's topics, while seminars and studio sessions will provide an opportunity for both discussion and reflection. Sessions will have practical emphasis, with time being made available for certain parts of the assessment to be undertaken in class. The use of carefully selected case studies will form an important spine to the module, while relevant stakeholders will be involved, where possible, to offer practical insight concerning the development of large-scale energy infrastructure. Alongside this scheduled learning, students will be expected to engage with directing reading (accessible via the online list), prepare for seminar activities, and complete formative and summative assessment.

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

MO1 Critically evaluate the relevance and application of decision making with respect to the planning, design and delivery of energy infrastructure.

MO2 Prepare a robust and compelling business case for energy-related infrastructure by reflecting upon need and policy, and by considering stakeholder opinion and technical and financial feasibility.

MO3 Articulate the steps for assessing different project locations and make recommendations for site selection, as informed by site analysis.

MO4 Explain the form and function of a proposed development project, including how its design meets operational requirements, responds to site characteristics and how it incorporates relevant site or project mitigation.

MO5 Critically advise on the approaches for procuring and implementing construction (including choice of materials), and articulate a timeline for securing project completion.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link

<https://rl.talis.com/3/uwe/lists/C386B6CE-A7C1-1484-66E8-399C2F53D3DC.html>

Part 4: Assessment

Assessment strategy: Presentation - requires students to present for 5 minutes (plus an additional 5 minutes of questioning) as part of a larger case study presentation by a group group . Students will be expected to collaborate with their peers although individual marks will be awarded. Although each student will be given a specific topic to focus on within their group, each group will collectively need to confirm their choice of technology, present a business case to support the development, and present a summary of the locations they have considered for delivering their project. The group should show common themes in relation to site analysis across their presentations. Support will be given in class to reinforce previous guidance about delivering effective presentations and communicating complex data and ideas (both verbally and visually).

Report - requires students to contribute to a case study in the form of individual reports. Students will be expected to collaborate with their peers although individual marks will be awarded. Although each student will be given a specific topic to focus on within their group, each group will collectively need to show common themes across their work, in terms of designs for the project, offer advice concerning construction and materials, refer to the application of appropriate site and project mitigation, and present a timeline for delivery. The students will be able to use feedback received from the earlier assessment to enhance their performance through their

report. The report will develop students' verbal and written communication skills and prepare them for the final year individual project.

Resit Presentation - Students are required to re-present the topic they were assigned in the first attempt, with reflections on what was gained from group activities.

Resit Report - a similar brief to that described above, which may include some topic changes and reflections on what was gained from group activities.

Assessment components:

Presentation (First Sit)

Description: Individual part of group presentation (5 mins presentation and 5 mins questions)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Report (First Sit)

Description: Individual contribution to group report (2000 words per student)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO4, MO5

Presentation (Resit)

Description: Individual presentation (5 mins presentation and 5 mins questions)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Report (Resit)

Description: Individual report contributing to a group case study (2000 words per student)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO4, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Energy Technology and Management {Foundation} [Oct][FT][GCET][4yrs] BSc (Hons) 2021-22

Energy Technology and Management {Foundation} [Feb][FT][GCET][4yrs] BSc (Hons) 2021-22