STUDENT AND ACADEMIC SERVICES

**MODULE SPECIFICATION**

| Part 1:  Information | | | |
|---|---|---|---|
| Module Title | Sustainable Technologies | | |
| Module Code | UBGMHM-15-1 | Level | Level 4 |
| For implementation from | 2019-20 | | |
| UWE Credit Rating | 15 | ECTS Credit Rating | 7.5 |
| Faculty | Faculty of Environment & Technology | Field | Geography and Environmental Management |
| Department | FET Dept of Geography & Envrnmental Mgmt | | |
| Module type: | Standard | | |
| Pre-requisites | None | | |
| Excluded Combinations | None | | |
| Co- requisites | None | | |
| Module Entry requirements | None | | |

| Part 2: Description |
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**Educational Aims:** See Learning Outcomes

**Outline Syllabus:** There is growing recognition that technology can help to resolve some of the world's environmental challenges, from helping to identify and map the size and extent of arising issues, to helping with their potential resolution. Collectively, the innovations involve the application of scientific knowledge, policy and engineering to solve certain environmental problems or to address specific sustainability challenges. Technological advances are being developed for a range of sectors including energy, transport, waste and water, at a range of spatial scales. This module focuses on these four sectors and explores the innovations being brought forward, the drivers supporting their delivery, and the implementation challenges that are being encountered and addressed. Innovations will be showcased from around the world with reference being given to such things as wind technology, solar power, autonomous vehicles, desalination and 'smart' recycling, for example.

**Teaching and Learning Methods:** Learning will be progressed through a mixed programme of lectures and workshops, supplemented by guest lecturers and field visits where appropriate.

STUDENT AND ACADEMIC SERVICES

| Part 3: Assessment |
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The module is assessed by two components, Components A and B.

Component A comprises an individual presentation (50%) that is designed to develop practice research and presentation skills. The presentation will require a 'library' based research element engaging with sustainable environmental technology, environment, policy and legislation.

Students will be required to introduce an organisation that is actively engaged with the development of a sustainable / environmental technology. Their presentation should outline the drivers underpinning the emerging technology and provide a summary of how it is intended to operate and the benefits that it promises to deliver. The presentation should identify the innovative features of the technology, summarise the design process to date, and critique the systems in place to evaluate its performance. It should also consider the factors and / or barriers that could affect successful delivery and implementation. The chosen technology will need to relate to the transport, water or waste sectors. By requiring students to identify an organisation, the module will help them to think about their future work place, thereby supporting the employability goals of the programme.

Component B (50%) comprises an essay of 2,000 words that is designed to further develop research skills, as well as written presentation skills to include data and diagrams as appropriate, and the construction of a balanced argument, weighing up different innovations within the chosen theme.

Students will be required to reflect on how technology is being used to address a contemporary sustainable challenge connected to energy. They will be given flexibility with respect to its exact focus.

Students will be expected to read widely for both assignments, with sources being accurately referenced.

The resit to Component A will require students to re-present their individual presentation, considering the feedback provided on the first sit (where appropriate). The resit to Component B will require to students to submit a similarly focused essay. Students should take account of any feedback provided on the first sit (where appropriate).

| First Sit  Components | Final Assessment | Element weighting | Description |
|---|---|---|---|
| Written Assignment - Component B | ✓ | 50 % | Essay (2000 words) |
| Presentation - Component A | | 50 % | Individual presentation (10 mins plus questions) |
| Resit  Components | Final Assessment | Element weighting | Description |
| Written Assignment - Component B | ✓ | 50 % | Essay (2000 words) |
| Presentation - Component A | | 50 % | Individual presentation (10 mins plus questions) |

STUDENT AND ACADEMIC SERVICES

| Part 4:  Teaching and Learning Methods | |
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| Learning Outcomes | On successful completion of this module students will achieve the following learning outcomes: |

| Module Learning Outcomes | Reference |
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| Recognise the ways in which technology can help to tackle environmental problems and promote greater sustainability | MO1 |
| Outline the significance, and environmental contribution, of innovations across the transport, energy, waste and water sectors | MO2 |
| Critically consider the type of innovations that might arise in the future and to reflect on how policy, legislation and other types of incentive can stimulate technological development | MO3 |
| Demonstrate an understanding of the process through which a technological innovation is developed, and the mechanisms by which its performance can be measured in order to assess the magnitude of its environmental contribution | MO4 |
| Reflect on the factors, and potential barriers, that could affect the delivery and implementation of technological innovations | 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:* <br><br> https://uwe.rl.talis.com/index.html |
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| Part 5:  Contributes Towards |
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This module contributes towards the following programmes of study: