



MODULE SPECIFICATION

| Part 1: Information | | | |
|---------------------------|--|--------------------|--|
| Module Title | Introduction to Applied Geographical Information Systems (GIS) | | |
| Module Code | UBGMU4-15-M | Level | Level 7 |
| 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 & Environmental Mgmt | | |
| Module type: | Standard | | |
| Pre-requisites | None | | |
| Excluded Combinations | None | | |
| Co- requisites | None | | |
| Module Entry requirements | None | | |

| Part 2: Description |
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| <p>Educational Aims: The purpose of this module is to introduce students to fundamental concepts related to GIS and its application, and develop the fundamental practical skills that are developed and extended in the rest of the programme.</p> <p>The spatial planning learning outcomes have been mapped to the module learning outcomes in terms of where they are introduced, consolidated or assessed as follows:</p> <p>MO3 introduces SP11 (in relation to GIS) MO4 introduces and assesses SP11 (in relation to GIS) MO5 introduces and assesses SP11 (in relation to GIS) MO6 introduces and assesses SP11 (in relation to GIS) MO7 introduces and assesses SP11 (in relation to GIS)</p> <p>The programme to which this module contributes has been developed with reference to the Royal Town Planning Institute spatial planning learning outcomes as set out in the RTPI (2012) Policy Statement on Initial Planning Education (online):</p> <p>SP1. Explain and demonstrate how spatial planning operates within the context of institutional and legal frameworks.</p> |

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SP2. Generate integrated and well substantiated responses to spatial planning challenges.

SP3. Reflect on the arguments for and against spatial planning and particular theoretical approaches, and assess what can be learnt from experience of spatial planning in different contexts and spatial scales.

SP4. Demonstrate how efficient resource management helps to deliver effective spatial planning.

SP5. Explain the political and ethical nature of spatial planning and reflect on how planners work effectively within democratic decision-making structures.

SP6. Explain the contribution that planning can make to the built and natural environment and in particular recognise the implications of climate change.

SP7. Debate the concept of rights and the legal and practical implications of representing these rights in planning decision making process.

SP8. Evaluate different development strategies and the practical application of development finance; assess the implications for generating added value for the community.

SP9. Explain the principles of equality and equality of opportunity in relation to spatial planning in order to positively promote the involvement of different communities, and evaluate the importance and effectiveness of community engagement in the planning process.

SP10. Evaluate the principles and processes of design for creating high quality places and enhancing the public realm for the benefit of all in society.

SP11. Demonstrate effective research, analytical, evaluative and appraisal skills and the ability to reach appropriate, evidence based decisions.

SP12. Recognise the role of communication skills in the planning process and the importance of working in an interdisciplinary context, and be able to demonstrate negotiation, mediation, advocacy and leadership skills.

SP13. Distinguish the characteristics of a professional, including the importance of upholding the highest standards of ethical behaviour and a commitment to lifelong learning and critical reflection so as to maintain and develop professional competence.

Specialist learning outcomes:

1. Engage in theoretical, practical and ethical debate at the forefront of the area of the specialism in the context of spatial planning.

2. Evaluate the social, economic, environmental and political context for the area of specialism.

3. Evaluate the distinctive contribution of the specialism to the making of place and the mediation of space.

4. Demonstrate the relationship within a spatial planning context of the particular area of specialism to other specialist areas of expertise.

5. Demonstrate the type and quality of skills that would be expected of a graduate from this specialism undertaking the practice experience period of the APC.

6. Assess the contribution of the specialism to the mitigation of, and adaptation to, climate change.

Outline Syllabus: The history of GIS

GIS and Society

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Case studies in applied GIS

Introduction to spatial data formats

Introduction to ArcGIS

Data sources available to students

Teaching and Learning Methods: Directed learning (lectures, seminars): 12 hours

Directed independent learning: 12 hours

Supported practical sessions: 24 hours

Independent practical application: 48 hours

Collaborative research: 12 hours

Independent research: 30 hours

Assessment: 12 hours

This module is designed to provide a solid introduction to GIS principles, an opportunity to develop a set of essential practical skills as well as an awareness of the data resources available to students. Teaching and learning will combine taught sessions, independent research and practical sessions. Students will identify and investigate applications of GIS that align with their personal interests or professional ambitions – with a view to facilitating the development of a dissertation topic.

Scheduled learning includes lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops; fieldwork; external visits; work based learning; supervised time in studio/workshop.

Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion. These sessions constitute an average time per level as indicated in the section above. Scheduled sessions may vary slightly depending on the module choices you make.

Part 3: Assessment

FORMATIVE ASSESSMENT

Participative peer-led feedback during scheduled learning is a key formative assessment strategy. Presentation of summative assessment topics will be peer reviewed during scheduled learning. Students will be encouraged to submit plans for their summative assessments for comment.

SUMMATIVE ASSESSMENT

The assessment strategy for this module focusses on preparing students for professional practice, and is based on problem-based learning and authentic assessment approaches. Students work in groups using GIS in response to a studentled project which is presented to a team of assessing tutors. Technical critiques of the presented work by individual group members are included to assess the technical knowledge and understanding of individual students. It allows individual students to reveal their understanding beyond the aggregate performance of the group to which they contributed. Student reflection is included as it consolidates disciplinary knowledge and dispositional development which are key components of a successful authentic assessment strategy.

Component A (Learning outcomes 1 to 4)

Group presentation:

The discipline related and technical elements of the presentation are assessed by a team of tutors, during the final timetabled session of the module. Presentations skills are peer assessed. Groups will present for 20 minutes and respond to questions.

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Component B (Learning outcomes 2 to 7)
Individual technical critique and reflective report
A report in two sections:

Technical critique of the GIS project that was presented for Component A (1000 words).

Reflective report focussing of professional and dispositional development over the course of the module (1000 words).

| First Sit Components | Final Assessment | Element weighting | Description |
|----------------------------|------------------|-------------------|---|
| Report - Component B | | 50 % | Individual technical critique (1000 words) and reflective report (1000 words) |
| Presentation - Component A | ✓ | 50 % | GIS group project presentation (1500 word equivalent) |
| Resit Components | Final Assessment | Element weighting | Description |
| Report - Component B | | 50 % | Individual technical critique (1000 words) and reflective report (1000 words) |
| Presentation - Component A | ✓ | 50 % | Individual Presentation (1500 word equivalent) |

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| Part 4: Teaching and Learning Methods | | | | | | | | | | | | | | | | | |
|---|--|---------------------------------|------------------|--|-----|---|-----|--|-----|---|-----|---|-----|---|-----|---|-----|
| Learning Outcomes | <p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th style="text-align: left;">Module Learning Outcomes</th> <th style="text-align: left;">Reference</th> </tr> </thead> <tbody> <tr> <td>Evaluate and critique the impact GIS technology has had on society</td> <td>MO1</td> </tr> <tr> <td>Articulate the history of the development of GIS, and relate it to a chosen field of interest</td> <td>MO2</td> </tr> <tr> <td>Assess the impact of GIS technology on professional practice in a chosen field of interest</td> <td>MO3</td> </tr> <tr> <td>Identify and evaluate the GIS analytical approach for a GIS project</td> <td>MO4</td> </tr> <tr> <td>Define a process for implementing a GIS project in a chosen field of interest</td> <td>MO5</td> </tr> <tr> <td>Identify and evaluate the utility of data from a variety of sources for a GIS project</td> <td>MO6</td> </tr> <tr> <td>Integrate data and analytical methods in the completion of a GIS project, and critically evaluate its outcome</td> <td>MO7</td> </tr> </tbody> </table> | Module Learning Outcomes | Reference | Evaluate and critique the impact GIS technology has had on society | MO1 | Articulate the history of the development of GIS, and relate it to a chosen field of interest | MO2 | Assess the impact of GIS technology on professional practice in a chosen field of interest | MO3 | Identify and evaluate the GIS analytical approach for a GIS project | MO4 | Define a process for implementing a GIS project in a chosen field of interest | MO5 | Identify and evaluate the utility of data from a variety of sources for a GIS project | MO6 | Integrate data and analytical methods in the completion of a GIS project, and critically evaluate its outcome | MO7 |
| Module Learning Outcomes | Reference | | | | | | | | | | | | | | | | |
| Evaluate and critique the impact GIS technology has had on society | MO1 | | | | | | | | | | | | | | | | |
| Articulate the history of the development of GIS, and relate it to a chosen field of interest | MO2 | | | | | | | | | | | | | | | | |
| Assess the impact of GIS technology on professional practice in a chosen field of interest | MO3 | | | | | | | | | | | | | | | | |
| Identify and evaluate the GIS analytical approach for a GIS project | MO4 | | | | | | | | | | | | | | | | |
| Define a process for implementing a GIS project in a chosen field of interest | MO5 | | | | | | | | | | | | | | | | |
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| Contact Hours | <table border="1"> <thead> <tr> <th colspan="2" style="text-align: left;">Independent Study Hours:</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Independent study/self-guided study</td> <td style="text-align: center;">138</td> </tr> <tr> <td style="text-align: right;">Total Independent Study Hours:</td> <td style="text-align: center;">138</td> </tr> <tr> <th colspan="2" style="text-align: left;">Scheduled Learning and Teaching Hours:</th> </tr> <tr> <td style="text-align: center;">Face-to-face learning</td> <td style="text-align: center;">12</td> </tr> <tr> <td style="text-align: right;">Total Scheduled Learning and Teaching Hours:</td> <td style="text-align: center;">12</td> </tr> <tr> <td style="text-align: left;">Hours to be allocated</td> <td style="text-align: center;">150</td> </tr> <tr> <td style="text-align: left;">Allocated Hours</td> <td style="text-align: center;">150</td> </tr> </tbody> </table> | Independent Study Hours: | | Independent study/self-guided study | 138 | Total Independent Study Hours: | 138 | Scheduled Learning and Teaching Hours: | | Face-to-face learning | 12 | Total Scheduled Learning and Teaching Hours: | 12 | Hours to be allocated | 150 | Allocated Hours | 150 |
| Independent Study Hours: | | | | | | | | | | | | | | | | | |
| Independent study/self-guided study | 138 | | | | | | | | | | | | | | | | |
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| Reading List | <p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/modules/ubgmu4-15-m.html</p> | | | | | | | | | | | | | | | | |

| Part 5: Contributes Towards | |
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| <p>This module contributes towards the following programmes of study:</p> <p>Transport Engineering and Planning [Sep][PT][Frenchay][2yrs] MSc 2018-19</p> <p>Transport Planning [Sep][PT][Frenchay][2yrs] MSc 2018-19</p> | |