Module Specification

An Introduction to Geographic Information Systems and Remote Sensing

Version: 2022-23, v2.0, 17 Jan 2022

Contents

Part 1: Information

Module title: An Introduction to Geographic Information Systems and Remote Sensing

Module code: UBGMA1-15-1

Level: Level 4

For implementation from: 2022-23

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Geography & Environmental Mgmt

Partner institutions: None

Delivery locations: Frenchay Campus

Field: Geography and Environmental Management

Module type: Standard

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module provides foundational GIS and remote sensing theoretical and technical skills, that are further developed across the programme in several modules.

Features: Not applicable

Educational aims: The module aims to provide a solid theoretical and practical foundation for the application of GIS and RS approaches over the rest of the degree, in both modules with formal related content, and in modules where use is appropriate and expected but not formally taught. It forms the first step in a longitudinal development process that progresses for the rest of the programme.

Outline syllabus: Defining Geographic Information Systems & Remote Sensing

Introduction to cartography

Vector data

Raster data

Introduction to remote sensing

Introduction to analysing remotely sensed data

Sources of GIS / RS data   for environmental management

GNSS for in-field data collection

Part 3: Teaching and learning methods

Teaching and learning methods: This module is the inception of a scaffolded GIS learning progression across the programme, with increasing levels of student autonomy both within and across years.

Module outcomes are informed through application of Bloom's Taxonomy, with an emphasis on knowledge acquisition, and technical application (with increasing learner autonomy as the module progresses). They aim to develop solid disciplinary foundations, and technical confidence in the application of GIS/RS for in geography and environmental management, forming the basis of later learning within the

programme.

Delivery will be through a blend of lectures, aligned guided computer practicals, and independent research - all contributing to the completion of an assessed portfolio.

Teaching, learning and assessment activities are designed in alignment with Laurillard's (2002) learning types - acquisition (lectures, readings), investigation (online activities, research), practice (online training, supported practicals), discussion (technical and analytical discursive elements in assessment), collaboration (peer supported learning in computer practicals), and production (development and submission of portfolio elements) .

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

> **MO1** apply fundamental concepts in geographic information systems in response to a range of geography and environmental management scenarios

> **MO2** apply fundamental concepts in remote sensing to assess and evaluate societal and environmental change

> **MO3** apply fundamental concepts in cartography to communicate GIS/RS analytical results to a range of stakeholders

> **MO4** review historic and current applications of GIS/RS in geography and environmental management

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://uwe.rl.talis.com/modules/ubgma1-15-1.html

Part 4: Assessment

Assessment strategy: The assessment strategy is focussed on allowing students to develop GIS and RS expertise and confidence, along with important professional and academic skills, through a series of geography and environmental management focussed practical exercises - the outputs of which form the assessed portfolio.

The exercises focus on the production of professionally relevant outputs integrating data collection, data analysis, presentation, and discursive engagement with the underlying theory and the presented results - ensuring students are equipped with work-place, and academically relevant skills that are rehearsed and refined as they progress with their studies.

Each supported practical exercise is explicitly aligned with module outcomes and syllabus elements, facilitating integration of both theoretical and practical realms, and contributes directly to the assessed portfolio elements.

Ongoing formative feedback will be provided to all students (individual and cohort level) at the computer practicals, with additional opportunities through booked appointments with module staff.

The resit assessment opportunity will require the submission of the same portfolio, with the benefit of feedback from their first attempt. This will ensure that students progressing (after a successful resit) will have the necessary knowledge and skills to engage with the related longitudinal curriculum elements.

Assessment components:

Portfolio - Component A (First Sit)
Description: Portfolio
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4

Portfolio - Component A (Resit)

Description: Portfolio. The resit assessment opportunity will require the submission of the same portfolio, with the benefit of feedback from students" first attempt.

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Geography [Sep][FT][Frenchay][3yrs] BSc (Hons) 2022-23

Geography [Sep][FT][Frenchay][3yrs] BA (Hons) 2022-23

Geography [Sep][SW][Frenchay][4yrs] BA (Hons) 2022-23

Geography [Sep][SW][Frenchay][4yrs] BSc (Hons) 2022-23

Environmental Management [Sep][SW][Frenchay][4yrs] BSc (Hons) 2022-23

Environmental Management [Sep][FT][Frenchay][3yrs] BSc (Hons) 2022-23

Environmental Management {Apprenticeship-UWE} [Sep][FT][Frenchay][5yrs] BSc (Hons) 2022-23

Geography [Frenchay] BSc (Hons) 2022-23

Environmental Management [Frenchay] BSc (Hons) 2022-23

Geography [Sep][SW][Frenchay][4yrs] BA (Hons) 2022-23

Environmental Management {Apprenticeship-UWE} [Sep][FT][Frenchay][5yrs] BSc (Hons) 2021-22