



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Challenges, Data and Solutions		
Module Code	UBGMNR-15-0	Level	Level 3
For implementation from	2018-19		
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		
Contributes towards	Building Surveying {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2018-19 Urban Planning {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2018-19 Urban Planning {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19 Property Development and Planning {Foundation} [Sep][FT][Frenchay][4yrs] BA (Hons) 2018-19 Property Development and Planning {Foundation} [Sep][SW][Frenchay][5yrs] BA (Hons) 2018-19 Geography and Planning {Foundation} [Sep][SW][Frenchay][5yrs] BA (Hons) 2018-19 Geography {Foundation} [Sep][SW][Frenchay][5yrs] BA (Hons) 2018-19 Geography and Planning {Foundation} [Sep][FT][Frenchay][4yrs] BA (Hons) 2018-19 Geography {Foundation} [Sep][FT][Frenchay][4yrs] BA (Hons) 2018-19 Building Surveying {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19 Real Estate {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2018-19 Real Estate {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19 Geography {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2018-19 Geography {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19 Quantity Surveying and Commercial Management {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19 Quantity Surveying and Commercial Management {Foundation}[Sep][SW][Frenchay][5yrs] BSc (Hons) 2018-19		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		

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Co- requisites	None
Module Entry requirements	None

### Part 2: Description

**Overview:** Students will develop an understanding of the value of data and data analysis, and how they can be used in response to issues and problems in social and physical environmental contexts. The skills developed provide a foundation for further study in the environmental, social, technology and construction fields.

**Educational Aims:** Developing skills and competence in numeracy and problem-solving is key to the successful study of human and physical environments. This module will introduce students to practical and applied aspects of data gathering, analysis and communication. Students will gain a basic appreciation of the methods used to gain insights from a range of data. Students will be familiarised with a range of data gathering methods and gain an understanding of the importance of data protection and good governance. The module will help students to appreciate limitations and challenges in gathering and deciphering data. Students will engage with a range of data related methods, including:

- Data collection
- Data analysis
- Data limitations
- Data protection and good governance
- Data visualisation and presentation

**Outline Syllabus:** Indicative subject Content:

- Mathematical and numerical literacy
- Basic aspects of algebra and geometry
- Using data to describe and model problems
- Basic statistical analysis (e.g. descriptive statistics, correlation and regression analysis)
- Data quality considerations applicable to both inputs and analytical products (e.g. accuracy, error, precision, validity, currency)

Skills:

- Data Collection methods (e.g. laboratory, online, and field based collection)
- Creation and manipulation of large datasets in computer spreadsheets
- Data Presentation techniques
- Effective communication & teamwork
- Problem identification and solution planning
- Defend decisions using datasets and analytical techniques
- Data interpretation and evidence led reasoning
- Problem identification and solution planning
- Data visualisation and presentation techniques
- Teamwork

**Teaching and Learning Methods:** To sustain student engagement, a mixed method approach will be utilised to teaching sessions.

### Part 3: Assessment

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This assessment will involve students working in small groups to respond to a specific problem using data and data analysis. Students will engage with the full investigative cycle, from problem formulation to problem solving and communication of results. Investigations will be formulated around real-world issues, such as carbon reduction, food security or energy management. Students' numeric skills development will also be assessed across the module, and, summatively at the end.

Multiple Choice Test – Students will complete a series of in-class multiple-choice tests focussed on the development of numeric skills. Such regular assessment will allow students to benefit from feedback, as the assessments progress, and will foster confidence in their numeric skills. The final mark for this assessment will be based on a subset of the tests submitted. The resit of this element will be a one-hour multiple-choice exam will assess both practical and theoretical elements of the module content.

Portfolio of Evidence – Students will work in small groups to carry out a data analysis project. They will be required to submit a portfolio of evidence where they will contextualize the problem they are addressing, outline and discuss the analyses they have performed, consider how their results could inform decisions that are made in response to the stated problem, and reflect on their approach to working in a team. The portfolio of evidence will contain two outputs produced as means of communicating technical information. The first output will be a short concise report. The second will be a poster which will allow students to present the findings of the report in a visual format. The pedagogic strategy of this assessment mainly responds to the importance of ensuring a student's ability to turn a practical investigation into a structured piece of work and develop their written and communication skills.

Formative feedback opportunities will be provided both formally and informally within the module tutorials. Standard faculty processes for managing student engagement and contributions to group work will be implemented. The resit for this element will be an individual portfolio of evidence,

Plagiarism shall be discouraged by the requirement to select different data sets for the basis of their assessment and by using individual presentations as the assessment for component A. Opportunity to obtain formative feedback will be offered through tutorials over the course of the module.

First Sit Components	Final Assessment	Element weighting	Description
Portfolio - Component B	✓	75 %	Portfolio of evidence (1500 words)
In-class test - Component A		25 %	Portfolio of multiple choice tests
Resit Components	Final Assessment	Element weighting	Description
Portfolio - Component B	✓	75 %	Portfolio of evidence (1500 words)
Examination - Component A		25 %	Multiple choice test (one hour)

### Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will be able to:	
		<b>Module Learning Outcomes</b>
	MO1	Apply a range of mathematical and statistical techniques to practical situations and interpret the results of investigation
	MO2	Perform numerical calculations to an appropriate level of accuracy
	MO3	Demonstrate understanding of a range of data collection techniques

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	MO4	Apply and rationalise the choice of data for analysis in response to a set problem
	MO5	Communicate technical information using a variety of methods
	MO6	Appreciate ethical challenges associated with data collection, storage and analysis
Contact Hours	<b>Contact Hours</b>	
	<b>Independent Study Hours:</b>	
	Independent study/self-guided study	114
	<b>Total Independent Study Hours:</b>	114
	<b>Scheduled Learning and Teaching Hours:</b>	
	Face-to-face learning	36
	<b>Total Scheduled Learning and Teaching Hours:</b>	36
	<b>Hours to be allocated</b>	150
	<b>Allocated Hours</b>	150
Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p><a href="https://uwe.rl.talis.com/modules/ubgmnr-15-0.html">https://uwe.rl.talis.com/modules/ubgmnr-15-0.html</a></p>	