MODULE SPECIFICATION

Part 1: Information			
Module Title	Challenges, Data and Solutions		
Module Code	UBGMNR-15-0	Level	Level 3
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

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

This assessment will involve students working in class and independently 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-word 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.

Numeracy Test – Students will complete a series of in-class numeracy 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 numeracy exam.

Portfolio of Evidence – Students will 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, and consider how their results could inform decisions that are made in response to the stated problem. 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 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.

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 Numeracy Tests

Resit Components	Final Assessment	Element weighting	Description
Portfolio - Component B	✓	75 %	Portfolio of Evidence (1500 words)
Examination - Component A		25 %	Numeracy Test (one hour)

Part 4: Teaching and Learning Methods

Learning Outcomes

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

Module Learning Outcomes	Reference
Apply a range of mathematical and statistical techniques to practical situations and interpret the results of investigation	MO1
Perform numerical calculations to an appropriate level of accuracy	MO2
Demonstrate understanding of a range of data collection techniques	MO3
Apply and rationalise the choice of data for analysis in response to a set problem	MO4
Communicate technical information using a variety of methods	MO5
Appreciate ethical challenges associated with data collection, storage and analysis	MO6

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:

https://uwe.rl.talis.com/modules/ubgmnr-15-0.html

Part 5: Contributes Towards
This module contributes towards the following programmes of study: Real Estate {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2019-20 Real Estate {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20 Building Surveying {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2019-20 Building Surveying {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20 Property Development and Planning {Foundation} [Sep][FT][Frenchay][4yrs] BA (Hons) 2019-20 Property Development and Planning {Foundation} [Sep][SW][Frenchay][5yrs] BA (Hons) 2019-20 Quantity Surveying and Commercial Management {Foundation}[Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20 Quantity Surveying and Commercial Management {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2019-20