MODULE SPECIFICATION

Part 1: Information			
Module Title	Data Analysis		
Module Code	UFCF7N-15-2	Level	Level 5
For implementation from	2018-19		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Contributes towards			
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Educational Aims: The purpose of this module is to provide introduction to data analysis and interpretation, sources of data, methods of data presentation and description, and how to conduct simple hypothesis tests and make inferences. On completion of the module, there should be an ability to draw on statistics appropriately to support arguments and be able to better understand and critique statistical analysis encountered in academic papers in subsequent courses.

Outline Syllabus: The syllabus includes:
Review basic probability and nature of statistical investigations
Probability distributions/Bayes and data handling
Discrete and Continuous distributions and examples Conditional, joint Probability, data and Bayes
Sampling distributions and Statistical Inference generation, interpretation, use and examples for data types
Principles of Non-parametrics less rigorous assumptions and distributional requirements
Advanced methods experimental design and Multivariate - an outline

Complex Systems Models and Analysis problem-solving: blueprint/approach for real-world data analytics Illustrative

Teaching and Learning Methods: Introductory lectures are supported by seminars, case studies, visits and practical workshops. In addition this module will be supported by interactive forums and learning tools.

150 hours study time of which 36 hours will represent scheduled learning. Scheduled learning includes lectures, seminars, tutorials, demonstration, practical classes and workshops; external visits; supervised time in studio/workshops.

Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion. Apprentice study time will be organised each week with a series of both essential and further readings and preparation for practical workshops. It is suggested that preparation for lectures, practical workshops, session delivery and seminars will take 7 hours per week.

Contact Hours:
36 hours scheduled learning
114 hours research, independent study and preparation for assessment work

Scheduled learning will typically include lectures, seminars, supervision, external visits and an interactive forum.

All apprentices are expected to attend a series of tutorials.

Part 3: Assessment

This module is assessed by a combination of techniques: an examination (3 hours) and a series of short answer questions and an individual report (1,500 words).

Component A is an end of year examination to enable apprentices to explain and apply their knowledge by solving data and statistical problems and providing analysis of findings. Questions will be based on business-type scenarios.

Component B comprises a short-answer question paper including a mix of data response and problem-solving practical questions and a report.

Opportunities for formative assessment exist for the assessment strategy used. Verbal feedback is given and all apprentices will engage with personalised tutorials setting SMART targets as part of the programme design.

Total Assessment:

Written Exam: Unseen written exam, open book written exam, In-class test
Coursework: Written assignment or essay, report, presentation, dissertation, portfolio, project

Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description:

Total assessment of the module:
Written exam assessment percentage: 50%
Coursework assessment percentage: 50%
Total: 100%

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		50 %	Short answer questions and individual report (1500 words)
Examination - Component A	✓	50 %	Examination (3 hours)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		50 %	Short answer questions and individual report (1500 words)
Examination - Component A	✓	50 %	Examination (3 hours)

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will be able to:

	Module Learning Outcomes
MO1	Demonstrate an understanding for different levels of measurement and data types
MO2	Demonstrate an understanding and apply underlying probability principles and distribution examples
MO3	Demonstrate and be able to distinguish between descriptive and inferential statistical quantities in the theory and practice of statistics and in data analytics
MO4	Demonstrate an appreciation of the scope and robustness of common analytical methods for one to many samples
MO5	Perform calculations and manipulate data via a suitable package using a range of analytical statistical techniques and interpret outcomes for a range of business scenarios
MO6	Define and calculate basic statistics used to describe distributions for given business scenarios
MO7	Present data in a meaningful way, using graphs and tables
MO8	Demonstrate an ability to use data mining applications, and provide business value metrics to the organisation

Contact Hours

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/index.html	