STUDENT AND ACADEMIC SERVICES

UWE Bristol | University of the West of England

MODULE SPECIFICATION

Part 1: Information			
Module Title	Business Intelligence and Data Mining		
Module Code	UFCFMM-30-3	Level	Level 6
For implementation from	2018-19		
UWE Credit Rating	30	ECTS Credit Rating	15
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: This module provides students with practical and applied knowledge of how to conduct data mining activities for business purposes. This includes key concepts in data mining as well as the statistical and modelling techniques necessary to analyse large data sets to generate meaningful business intelligence. The aims of the module are as follows:

Appreciating the value of data mining and business intelligence in solving real-world problems.

Understanding the foundation concepts of data mining and business intelligence.

Exploring algorithms commonly used in data mining tools.

Ability to apply data mining and business intelligence tools to real-world problems.

Understanding the foundation concepts of big data and NoSQL databases.

Understanding of ethics, privacy considerations and security of data.

This module involves 3 hours contact time per week for two semesters with one hour for lecture and two hours for tutorial sessions.

Scheduled Learning and Teaching Study Hours: 72
Independent Study Hours: 228
Allocated Hours: 300

Outline Syllabus:
Concepts of Data Mining and Business Intelligence.

Introduction to Machine Learning.

Data Mining Techniques.

Applications of Data Mining.

Knowledge-based Information Retrieval.

Ethical use of data and analytics.

Security aspects of data.

Introduction to Big Data.

SQL Databases vs NoSQL Databases.

Teaching and Learning Methods: The module is delivered through weekly combined lecture and tutorial sessions. Each session will direct the course and introduce the new ideas and skills required. Then tutorial sessions will enable each student to carry out the study and research exercises described in the associated worksheet under the guidance of a Tutor.

The teaching material will be made available from Blackboard. A course text is also recommended. Scheduled learning includes lectures and tutorials.

Independent learning includes time engaged with essential reading and assignment preparation and completion.

Part 3: Assessment

Module assessment will be divided into:-

Component A – a 2 hour exam that is summative and assesses students' understanding of concepts and techniques together with their ability to apply them (25 %).

Component B1 – An individual poster presentation of a business intelligence/analytics case study. Students will investigate an example of where business intelligence/analytics was applied successfully and present a visualisation of the context, problem, solution and methodology used (30%).

Component B2 – Group Project involving the investigation of a problem area and the development of a potential solution. Groups (3 or 4 students) will be presented with contextual evidence and/or sample datasets as guidance. Groups will present and defend their proposed solution during schedule class time. Part of the assessment will be made on written work provided by each individual and part for his or her contribution to the group outcome. The ratio will be 70 to group work and 30 to individual work (45%).

The referral coursework will be undertaken on an individual basis and will require the student to build upon the group work undertaken during the module through the production of a well-integrated and complementary set of deliverables.

First Sit Components	Final Assessment	Element weighting	Description
Poster - Component B		30 %	Individual Poster Presentation 15 mins
Group work - Component B		45 %	Group coursework (max 3000 words)
Examination - Component A	✓	25 %	Examination
Resit Components	Final Assessment	Element weighting	Description
Written Assignment - Component B		75 %	Individual Coursework (max 2000 words)
Examination - Component A	✓	25 %	Examination 2 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 of the concepts of machine learning, data mining and business intelligence and its relevant theory and techniques.
MO2	Present the leading data mining methods and their applications to real-world problems.
MO3	Develop both the theoretical and practical skills needed to reveal patterns and valuable information hidden in large data sets.
MO4	Evaluate critically the outputs from data mining research and speak meaningfully to the usefulness of such data outputs in business context.
MO5	Demonstrate an understanding of ethics, privacy consideration and security of data.
MO6	Define what Big Data is in general outline and explain those aspects that are important in any Big Data Solution.
MO7	Demonstrate knowledge and understanding of the challenges in storage and retrieval of small and large amounts of data, and the difference between SQL and NoSQL Databases.

Contact Hours	**Contact Hours**	
	Independent Study Hours:	
	Independent study/self-guided study	225
	Total Independent Study Hours:	225
	Scheduled Learning and Teaching Hours:	

	Face-to-face learning	75
	Total Scheduled Learning and Teaching Hours:	75
	Hours to be allocated	300
	Allocated Hours	300
Reading List	*The reading list for this module can be accessed via the following link:* https://uwe.rl.talis.com/modules/ufcfmm-30-3.html	