



Module Specification

Business Intelligence and Data Mining

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Part 1: Information

Module title: Business Intelligence and Data Mining

Module code: UFCFMM-30-3

Level: Level 6

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: None

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Business Intelligence and Data Mining introduces students to the core concepts of data mining and machine learning in the context of business intelligence and leads them through an independent exploration of a typical machine learning project.

Features: Not applicable

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 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.

Part 3: Teaching and learning methods

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.

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

MO1 Investigate how data mining / machine learning is applied in a real-world business intelligence scenario.

MO2 Apply the concepts of machine learning and data mining in business intelligence applications and evaluate their effectiveness.

MO3 Critically evaluate ethical, security and privacy-related considerations in business intelligence applications.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 225 hours

Face-to-face learning = 75 hours

Total = 300

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ufcfmm-30-3.html) via the following link <https://uwe.rl.talis.com/modules/ufcfmm-30-3.html>

Part 4: Assessment

Assessment strategy: At both first sit and resit, the assessment strategy for this module consists of two parts.

The first part focuses on researching a business intelligence case study. It consists of an individual poster presentation describing the 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 (40%).

In the second part, students will apply the learning from the research done in part 1 to apply business intelligence techniques to a sample data set. This will be a 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. Groups will maintain a log book (3000 words) chronicling their journey from data exploration to evaluation and final conclusion. Peer assessment will be considered when deciding individual marks. The final mark will be based on the quality of the log book, presentation and the peer-assessed individual contribution and will constitute 60% of the overall module mark.

For referral the first part will be the same as the main sit. For the second part, the approach will be similar to the main sit, if necessary the volume of the work will be appropriately scaled down to accommodate smaller groups.

Assessment tasks:

Portfolio (First Sit)

Description: The students submit their group log book submission. They are also expected to be able to discuss their log books orally

Weighting: 60 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO1, MO2, MO3

Poster (First Sit)

Description: Individual Poster Presentation 15 mins

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3

Portfolio (Resit)

Description: The students submit their group log book submission. They are also expected to be able to discuss their log books orally

Weighting: 60 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO1, MO2, MO3

Poster (Resit)

Description: Individual poster presentation 15 mins

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Business Computing [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Business Computing [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Business Computing {Foundation} [Feb][FT][GCET][4yrs] BSc (Hons) 2020-21

Business Computing {Foundation} [Oct][FT][GCET][4yrs] BSc (Hons) 2020-21

Business Computing {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Business Computing {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20

Information Technology {Top-Up} [Frenchay] BSc (Hons) 2023-24

Information Technology {Top-Up} [Frenchay] BSc (Hons) 2022-23