Module Specification

Business Intelligence and Data Visualisation [TSI]

Version: 2021-22, v1.0, 26 Oct 2021

Contents

Part 1: Information

Module title: Business Intelligence and Data Visualisation [TSI]

Module code: UFCEB1-12-M

Level: Level 7

For implementation from: 2021-22

UWE credit rating: 12

ECTS credit rating: 6

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: Transport and Telecommunication Institute

Delivery locations: Transport and Telecommunication Institute Latvia

Field: Computer Science and Creative Technologies

Module type: Standard

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 Visualisation introduces students to the core concepts of data visualisation 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 aims to provide students with a broad understanding business intelligence tools, platforms and methods and introduces them to evidence-based practice in data visualisation

Outline syllabus: Overview of business decisions and challenges requiring BI input. Effective design critique and professional practice

Connecting to enterprise data sources. Verifying and annotating data according to provenance.

Use of BI tools and platforms (e.g. Tableau, Power BI, Qlik) to analyse data and to present results in tabular and graphical formats.

Principles of visual literacy and visual perception. Designing with colour, shapes and animation. Approaches for different data types. Accessibility.

Working with stakeholders on requirements gathering, resolving differences and validation of approaches. Selling your message succinctly and with impact.

Part 3: Teaching and learning methods

Teaching and learning methods: The module will rely heavily on design tasks with productive peer and tutor critique and iteration. Design principles and good practice will be immediately implemented and practiced in order to be contextualised.

As many high quality resources exist for learning skills with BI tools (e.g. LinkedIn Learning), students will be expected to use private study time to develop their knowledge of different software - with guidance and worksheets provided by tutors - then use class time to practice and share technical approaches or to get help with specific tasks.

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

MO1 Define, demarcate and explore business problems interactively in communication with key stakeholders

MO2 Select, evaluate and employ appropriate tools, platforms and methods to generate BI and visualisation solutions.

MO3 Reflect upon and critique own and others informational and visual artefacts

MO4 Deliver a data-driven narrative appropriately and effectively to stakeholders, based on a theoretical underpinning of communicating for impact

Hours to be allocated: 120

Contact hours:

Independent study/self-guided study = 112 hours

Face-to-face learning = 48 hours

Total = 160

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link
https://rl.talis.com/3/uwe/lists/80ACCFDD-6399-BB6D-056D-35336997FE61.html?lang=en-gb&login=1

Part 4: Assessment

Assessment strategy: The overall assessment context will be chosen from a selection of realistic or real-world case studies with accompanying data to be provided by tutors and / or external partners.

The written component will be a reflective portfolio updated periodically during the term and covering:

Problem definition and scoping;
Identification and selection of data;
Exploration of comparable approaches in the literature and on the web;
Data analysis;

Prototyping of visualisations / artifacts;

Peer, tutor, or external client feedback from critique

Students will be expected to draw on relevant research in reflecting on the above and to utilise appropriate tools to undertake analysis and design.

The final, presentation component will be a presentation by the student of findings and conclusions of the module-long analysis, with QA from tutors or external clients.

Assessment components:

Presentation - Component A (First Sit)

Description: Presentation of work done, including graphics and conclusions to panel including tutors / invited guests, with questions.

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Reflective Piece - Component B (First Sit)

Description: Annotated history of learning connected to the module task, including research, design prototypes, feedback from critiques and reflective commentary (approx. 4000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO4

Presentation - Component A (Resit)

Description: Presentation of work done, including graphics and conclusions to panel including tutors / invited guests, with questions.

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Reflective Piece - Component A (Resit)

Description: Annotated history of learning connected to the module task, including research, design prototypes, feedback from critiques and reflective commentary (approx. 4000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Computer Science (Data Analytics and Artificial Intelligence) {Double Degree} [Feb][FT][TSI][2yrs] MSc 2021-22