Module Specification

Business Intelligence and Data Visualisation

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Contents

Part 1: Information

Module title: Business Intelligence and Data Visualisation

Module code: UFCE9B-15-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: None

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: Yes

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module will emphasise the importance of collecting, analysing and presenting data to address management decision making and problem solving.

It is designed for students interested in roles such as : business intelligence analyst, data visualisation specialist, management information specialist.

Features: Not applicable

Educational aims: The broad aims of the module will be to foster confidence and dexterity with business intelligence tools platforms and methods, to develop evidence-based practice in data visualisation, and to connect both of these to the essential skills of understanding business problems and communicating trends and solutions

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

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, presented via our online virtual learning environment, consists of a clearly signposted, easy-to-navigate student journey through carefully chosen learning materials which are designed to engage and challenge students as they work towards achieving the module learning outcomes. Content may be in a range of formats, including clear well-written text, diagrams, animations, video and interactive video, activities, quizzes, asynchronous discussions, coding and interpretation exercises.

Students will be provided with as many opportunities as possible to 'perform their understanding' rather than just reading or watching video to passively acquire knowledge. This may be in the form of simple tasks, activities or quizzes that students can engage with in the online environment, or larger pieces of work that may require additional thought. Whatever their nature, such tasks will be authentic

(connected to the real world) and directly relevant to the programme learning outcomes.

The online environment also provides important opportunities to encourage students to work with, and learn from, their peers. The careful use of structured online discussion forums helps to foster an active learning community and enable students to share their responses to key questions, and to discuss, and even challenge, each other's ideas.

All learning materials are produced and presented in a way that ensures that they are appropriate for as diverse an audience as possible. We follow W3C accessibility standards and ensure that all content can be used with all popular screen-readers, offering alternative formats where possible. In general, we aim to avoid using language, idioms, images or other devices which root the content in any particular culture or creed that instead adequately reflect the diversity of the student audience.

In general, modules are designed with a number of key learning principles in mind that align closely with those of the university.

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 - 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, critique and improve upon 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: 150

Contact hours:

Independent study/self-guided study = 120 hours

E-learning/online learning = 30 hours

Total = 150

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/89F7CEEB-2820-E803-84DD-B92F63935DE0.html?lang=en-US&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.

Assessment tasks:

Presentation (First Sit)

Description: Presentation of work done, including graphics and conclusions to panel including tutors / invited guests, with questions. 15 minutes.

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO4

Reflective Piece (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: MO1, MO2, MO3

Presentation (Resit)

Description: Presentation of work done, including graphics and conclusions to panel including tutors / invited guests, with questions. 15 minutes.

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO4

Reflective Piece (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: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Data Science [UWE online] MSc 2023-24