Module Specification

Data Science Contexts

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Contents

Module Specification 1

Part 1: Information 2

Part 2: Description 2

Part 3: Teaching and learning methods 3

Part 4: Assessment 4

Part 5: Contributes towards 5

Part 1: Information

Module title: Data Science Contexts

Module code: UFCEJK-15-1

Level: Level 4

For implementation from: 2025-26

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: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: In this module we will develop the essential knowledge and skills for a successful career in data science. Through a combination of theory and practical applications, we will explore the scope of data science, historical context, and the roles within the field. We will gain insights into data visualisation, communication, and ethical considerations. By the end of the module, students will be well-prepared to navigate the dynamic landscape of data science.

Features: Not applicable

Educational aims: A key aim of the module is to expose students to the range of areas where data science is being usefully applied, in order to provide a sound understanding of its potential benefits to organisations. It also aims to broaden career aspirations. Students will also be encouraged to develop their knowledge synthesis and communication skills, alongside a foundation in ethical practice.

Outline syllabus: An indicative content is as follows:

Introduction to data science

Data science in application areas such as business and industry, social sciences, natural sciences, government and public policy

Emerging Trends in Data Science

Conducting Research

Data Communication

Data Ethics and Privacy

Personal Development

Part 3: Teaching and learning methods

Teaching and learning methods: This module delivery consists of a series of lectures, guest speakers and seminar sessions.

The lectures will provide the context for the week's topic. Guest speakers will be invited, where possible, to discuss the application of data science in their industry. The seminar sessions will provide an opportunity for students to discuss the week's reading around the topic with the lecturer and their peers.

Reading and research outside of scheduled hours is an essential component to the successful completion of the assigned work. Students will be ask to dedicate at least 3 hours a week to reading. Reading may include journal and conference papers, books and wider digital media and systems such as films, programs and services. Students will be expected to come prepared for the module sessions with assigned pre-lecture reading/research completed for active participation in subject specific discussions.

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

MO1 Explain the various applications, benefits, emerging trends and ethical issues in data science in a range of contexts

MO2 Describe the processes by which organisations turn challenges into testable hypotheses and formulate research questions

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

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/232A8485-E5BB-BDBA-31D3-30D27326E611.html?lang=en-GB&login=1

Part 4: Assessment

Assessment strategy: The assessment for this module will consist of an individual presentation on a selected data science technique and its application.

The resit strategy will be the same as for the first sit.

Assessment tasks:

Presentation (First Sit)

Description: A 15-minute presentation on a data science technique and its application
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Presentation (Resit)
Description: A 15-minute presentation on a data science technique and its application
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Data Science [Frenchay] BSc (Hons) 2025-26