



Module Specification

Data Analytics and Visualisation

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Part 1: Information

Module title: Data Analytics and Visualisation

Module code: UFCFCN-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

Delivery locations: Not in use for Modules

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: Not applicable

Features: Not applicable

Educational aims: See Learning Outcomes.

Outline syllabus: Interpret and apply the organisations data and information security standards, policies and procedures to data management activities.

How to design and develop relational databases for collecting data and influencing data input screens.

The quality issues that can arise with data and how to avoid and/or resolve these.

Perform routine statistical analyses and ad-hoc queries.

The processes involved in carrying out data analysis projects.

How to use and apply industry standard tools and methods for data analysis.

The range of data protection and legal issues.

The fundamentals of data structures, database system design, implementation and maintenance.

The organisation's data architecture.

How to use a range of appropriate data analysis techniques or processes.

The importance of clearly defining customer requirements for data analysis.

The steps involved in carrying out routine data analysis tasks.

The importance of the domain context for data analytics.

Part 3: Teaching and learning methods

Teaching and learning methods: Introductory lectures are supported by seminars, case studies, visits and practical workshops. In addition this module will be supported by interactive forums and learning tools.

300 hours study time of which 72 hours will represent scheduled learning. Scheduled learning includes lectures, seminars, tutorials, demonstration, practical classes and workshops; external visits; supervised time in studio/workshops; external visits and an interactive forum.

228 hours research, independent study and preparation for assessment work. Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion. Apprentice study time will be organised each week with a series of both essential and further readings and preparation for practical workshops. It is suggested that preparation for lectures, practical workshops, session delivery and seminars will take 7 hours per week.

All apprentices are expected to attend a series of tutorials.

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

MO1 Demonstrate the importing, cleansing, transforming, and validating data with the purpose of understanding or making conclusions from the data for business decision making purposes

MO2 Demonstrate data visualisation using charts, graphs, tables, and more sophisticated visualisation tools

MO3 Identify, justify and use the use a range of analytical techniques such as data mining, time series forecasting and modelling techniques to identify and predict trends and patterns in data

MO4 Justify the use of specific summaries and presentations of results to a range of stakeholders making recommendations. Reporting on conclusions gained from analysing data using a range of statistical software tools

MO5 To develop Data Definition Language or Data Manipulation Language software, and analyse large datasets, to derive inferences

MO6 Identify, justify and use industry standard tools and methods for data analysis

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

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

Part 4: Assessment

Assessment strategy: This module is assessed by a combination of techniques: a time controlled assessment (3 hours) and a report (3,000 words).

Time Controlled Assessment (TCA) (3 Hours):

Apprentices will be required to integrate data by utilising an industry standard Data Definition Language or Data Manipulation Language software, to analyse large datasets, to derive inferences.

Project Report:

Apprentices will be required to import, cleanse, transform, and validate data and prepare a business style report making conclusions from the data to support making business decisions, identifying patterns. Including appropriate data visualisation, summarising, and presenting the results to a range of stakeholders.

Opportunities for formative assessment exist for the assessment strategy used. Verbal feedback is given and all apprentices will engage with personalised tutorials setting SMART targets as part of the programme design.

Assessment components:**Practical Skills Assessment (First Sit)**

Description: Practical time controlled assessment (3 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO5, MO6

Report (First Sit)

Description: Project report (3000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Practical Skills Assessment (Resit)

Description: Practical time controlled assessment (3 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested:

Report (Resit)

Description: Project report (3000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested:

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Digital and Technology Solutions (Data Analyst) {Apprenticeship-UCW}

[Sep][FT][UCW][4yrs] BSc (Hons) 2020-21