



Programme Specification

Computer Science (Data Analytics and Artificial Intelligence)

{Double Degree} [Feb][FT][TSI][2yrs]

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Section 1: Key Programme Details

Part A: Programme Information

Programme title: Computer Science (Data Analytics and Artificial Intelligence)
{Double Degree} [Feb][FT][TSI][2yrs]

Highest award: MSc Computer Science (Data Analytics and Artificial Intelligence)

Interim award: PGCert Computer Science

Interim award: PGDip Computer Science

Awarding institution: Transport and Telecommunication Institute, UWE Bristol

Affiliated institutions: Transport and Telecommunication Institute

Teaching institutions: Transport and Telecommunication Institute

Study abroad: No

Year abroad: No

Sandwich year: No

Credit recognition: No

Department responsible for the programme: FET Dept of Computer Sci &
Creative Tech, Faculty of Environment & Technology

Contributing departments: Not applicable

Professional, statutory or regulatory bodies: Not applicable

Apprenticeship: Not applicable

Mode of delivery: Full-time

Entry requirements: For the current entry requirements see the UWE public website

For implementation from: 03 January 2022

Programme code: I2I412-FEB-FT-TS-I2I412

Section 2: Programme Overview, Aims and Learning Outcomes

Part A: Programme Overview, Aims and Learning Outcomes

Overview: This programme is designed to build students skills in data handling and manipulation through the use of AI combined with statistics and programming. In addition, it is vital to have knowledge of the kind of domain-specific issues where data-informed decision making and process improvements are needed. This is encouraged through interdisciplinary and collaborative working, fostering a learning community of students, staff, alumni and industrial / international partners.

Educational Aims: The aims of the MSc Computer Science (Data Analytics and Artificial Intelligence) are as follows:

To prepare highly skilled specialists in computer science with an understanding of Data collection, modelling and analysis which will allow graduates to adapt independently to professional work in changing labour market conditions.

Furthermore, the programme aims at:

Support students to develop the necessary theoretical and practical knowledge in computer science, Data Analytics and AI to be effective computer science professionals.

Develop students' ability to work independently and creatively to evaluate and apply new developments and innovations in technology within the Computer Science industry.

Develop students' scientific and analytical skills to enable them to solve practical and hypothetical problems.

Develop key professional and transferable skills such as leadership and the ability to work effectively in teams.

Expose students to modern educational practice; to create motivation and to facilitate the satisfaction of students' continuing education needs, including motivation to continue their studies in both professional and doctoral study programmes.

Programme Learning Outcomes:

On successful completion of this programme graduates will achieve the following learning outcomes.

Programme Learning Outcomes

- PO1. Use modern research methods to solve complex problems within the specialist field of Computer Science.
- PO2. Justify the selection of data sets in experimental design to support the validation of a hypothesis.
- PO3. Select, employ and evaluate platforms, tools and data storage and management technologies and to build data pipelines and production-ready analytic products.
- PO4. Using techniques such as statistical inference, machine learning, text and data analytics, to develop descriptive, predictive and prescriptive models and analyses adhering to good statistical practice.
- PO5. Apply data analytics and artificial intelligence concepts and methods to evaluate and solve problems in real-world contexts and communicate these solutions effectively
- PO6. Communicate the outcome of analyses to multiple stakeholders through verbal and multimedia reporting
- PO7. Analyse and evaluate the technical and economical effectiveness of computer generated solutions.
- PO8. Embody legal, ethical and societal requirements through highly informed and reflexive practice
- PO9. Work cooperatively and collaboratively across functions and teams and show leadership and an outcomes-driven mindset.
- PO10. Evaluate and apply knowledge of current teaching practice and pedagogic approaches

Part B: Programme Structure**Year 1**

The student must take a minimum of 120 credits from the modules in Year 1.

Year 1 Compulsory Modules

The student must take 108 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UFCE71-18-M	Approaches to Research [TSI] 2021-22	18
UFCEB1-12-M	Business Intelligence and Data Visualisation [TSI] 2021-22	12
UFCE81-12-M	Critical Thinking and Pedagogy [TSI] 2021- 22	12
UFCE91-12-M	Cyber Security and Data Protection [TSI] 2021-22	12
UFCEA1-12-M	Data Mining [TSI] 2021-22	12
UFCEC1-12-M	Interdisciplinary Group Project [TSI] 2021- 22	12
UFCE61-18-M	IT Project and Requirements Management [TSI] 2021-22	18
UFCED1-12-M	Machine Learning and Predictive Analytics [TSI] 2021-22	12

Year 1 Optional Modules

Must select a minimum 12 credits

Module Code	Module Title	Credit
UFCEE1-12-M	Big Data [TSI] 2021-22	12
UFCEF1-12-M	Cloud Computing [TSI] 2021-22	12
UFCEG1-12-M	Designing the User Experience [TSI] 2021- 22	12

UFCEH1-12-M	Enterprise Information Systems [TSI] 2021-22	12
UFCEJ1-12-M	Quality Models of Software and Information Systems [TSI] 2021-22	12

Year 2

Year 2 Compulsory Modules

The student must take 60 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UFCEK1-60-M	Master Thesis [TSI] 2022-23	60

Part C: Higher Education Achievement Record (HEAR) Synopsis

Graduates will exhibit analytical skills in problem framing and project design, data manipulation and retrieval, statistics and coding for data analysis. They will be able to develop and evaluate models, use established tools and methods, and effectively communicate their results to stakeholders. They will be able to work in a multifunctional team and manage a full development lifecycle.

Part D: External Reference Points and Benchmarks

UK:

QAA FHEQ level descriptors

Computing Benchmark (2019)

UWE 2030 strategy

Latvia:

EHEA

LQF

Part E: Regulations

Approved variant to University Academic Regulations and Procedures

<https://www.uwe.ac.uk/study/academic-information/regulations-and-procedures>

