SECTION 1: KEY PROGRAMME DETAILS

PART A: PROGRAMME INFORMATION	
Highest Award	MSc Data Science [SEP][FT][Frenchay][1yr]
Interim Award	PGCert Data Science [SEP][FT][Frenchay][1yr]
Interim Award	PGDip Data Science [SEP][FT][Frenchay][1yr]

Awarding Institution	UWE Bristol
Teaching Institution	UWE Bristol
Delivery Location	Frenchay Campus
Study Abroad / Exchange / Credit Recognition	Placement X Sandwich Year X Credit Recognition X Year Abroad X
Faculty Responsible For Programme	Faculty of Environment & Technology
Department Responsible For Programme	FET Dept of Computer Sci & Creative Tech
Apprenticeships	
Mode of Delivery	Part-time

ENTRY REQUIREMENTS	UCAS Tariff Points: The University's Standard Entry Requirements apply.
For Implementation From	Array
ISIS Code/s	Programme Code INB112-SEP-PT-FR-INB112 Other codes: JACS Statistics HECoS 100406: Statistics UCAS

	SLC

SECTION 2: PROGRAMME OVERVIEW, AIMS and LEARNING OUTCOMES

PART A: PROGRAMME OVERVIEW, AIMS and LEARNING OUTCOMES

1. (Programme) Overview (c. 400 words)

Data Science is a new discipline requiring data handling skills 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.

The programme includes a new set of core modules plus new options - with both Computer Science (CSCT) and Engineering, Design and Mathematics (EDM) inputs - but also integrates existing relevant M-level modules which have seen successful uptake from CPD applicants as short courses and which align well with staff research interests.

A key aspiration for the MSc Data Science is the fostering of collaboration and a learning community of students, staff, alumni and industrial / international partners.

UWE's MSc will be distinctive in leveraging departmental and inter-faculty links to align teaching (including case studies and datasets) with sustainable development goals in environment, energy, health and resource management.

2. Educational Aims (c. 4-6 aims)

To enable graduates to progress to senior and leading data science-related roles (such as Data Scientist, Data Engineer, Data Analyst) in their organisation with scope and ability to develop organisational data-related capabilities, strategies and operations;

To develop resourceful, creative and independent thinkers able to adapt and respond to changing requirements, capabilities and opportunities in the data science space;

To foster confidence in working with data and managing associated concerns across multiple dimensions of data literacy;

Through data-oriented interventions, to enable graduates to impact on organisational efficiency and productivity as well as societal challenges such as those relating to the built and natural environment, health, agriculture and energy.

3. Programme and Stage Learning Outcomes (c. 6-8 outcomes)

PART A: PROGRAMME OVERVIEW, AIMS and LEARNING OUTCOMES

Programme (Learning) Outcomes (POs)

Programme Learning Outcomes

PO1	Be able to construct questions and hypotheses relating to organisational objectives and to identify experiments or gather data bearing on these
PO2	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.
PO3	Select, employ and evaluate platforms, tools and data storage and management technologies and to build data pipelines and production-ready analytic products.
PO4	Use scripting languages and good coding practice together with relational and NoSQL data querying (including data transformation and integration of diverse sources) to design, prototype and develop data science solutions
PO5	Continually evaluate and improve models and systems to ensure they meet requirements and objectives
PO6	Communicate the outcome of analyses to multiple stakeholders through verbal and multimedia reporting
PO7	Embody legal, ethical and societal desiderata through highly informed and reflexive practice
PO8	Work cooperatively and collaboratively across functions and teams and show leadership and an outcomes-driven mindset.

PART B: Programme Structure

1. Structure

Year 1
The student must take 60 credits from the modules in Year 1.

Year 1 Compulsory modules
The student must take 30 credits from the modules in Compulsory modules.

Code	Module Title	Credit	Type

UFCFLR-15-M	Data Management Fundamentals 2020-21	15	Compulsory
UFCFVQ-15-M	Programming for Data Science 2020-21	15	Compulsory

Year 1 Optional modules
The student must take 30 credits from the modules in Optional modules.

Students will be informed of possible option combinations when making choices.

Code	Module Title	Credit	Type
UFMFJR-15-M	Advanced Statistics 2020-21	15	Optional
UFCF8H-15-M	Big Data 2020-21	15	Optional
UFCFKR-15-M	Business Intelligence and Data Visualisation 2020-21	15	Optional
UFCFKJ-15-M	Cloud Computing 2020-21	15	Optional
UFCE8J-15-M	Designing the User Experience 2020-21	15	Optional
UFCFGD-15-M	Information and Knowledge Management 2020-21	15	Optional
UFCFLJ-15-M	Linked, Open Data and the Internet of Things 2020-21	15	Optional
UFCFMJ-15-M	Machine Learning and Predictive Analytics 2020-21	15	Optional
UFCFJJ-15-M	Social Media and Web Science 2020-21	15	Optional

Year 2
The student must take 120 credits from the modules in Year 2.

Year 2 Compulsory modules
The student must take 120 credits from the modules in Compulsory modules.

Code	Module Title	Credit	Type
UFCF9Y-60-M	CSCT Masters Project 2021-22	60	Compulsory
UFCFWQ-45-M	Interdisciplinary Group Project 2021-22	45	Compulsory

UFMFHR-15-M	Statistical Inference 2021-22	15	Compulsory

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

Programme development has been part-funded under the Institute of Coding (IoC), and OfS funded project where UWE is part of a consortium of 33 universities and over 100 employers developing accessible technology education courses, training and events.

Part of the IoC project is to develop new programme certification and accreditation, and UWE's involvement will help to ensure that the MSc will be eligible for this. Although not yet fully developed, it is expected that programme accreditation will be linked to new data competencies under Level 7 of SFIA (Skills Framework for the Infomation Age).

We are also participating in a project activity on shared curriculum tools and content for data science.

Programme design and curriculum has also been influenced by the EU-Horizon 2020 EDISON Data Science Framework (Data Science Competence Framework , Data Science Body of Knowledge and Model Curriculum)

PART E: REGULATIONS

Approved to University Regulations and Procedures