Course Aim and Title	MSc Data Science
Additional Versions of this Course	
Intermediate Awards Available	PGCert, PGDip.
Teaching Institution(s)	UEL on campus
Alternative Teaching Institutions (for local arrangements see final section of this specification)	N/A
UEL Academic School	Architecture, Computing and Engineering
UCAS Code	
Professional Body Accreditation	
Relevant QAA Benchmark Statements	
Date Specification Last Updated	12th September 2023

Course Aims and Learning Outcomes

This course is designed to give you the opportunity to:

- Develop knowledge and research skills in Data Science to empower you as a higher professional.
- Understand the ecology within which a Data Scientist operates and the professional skills required to do so.
- Be skilled in Data Science techniques using a suite of industry standard, open-source platforms to extract value from data.
- Understand how to apply Data Science techniques in your chosen domain and/or background discipline.
- Foster reflective and analytic approaches in work-based practice and research.
- Produce high-quality research output through the dissertation

What you will learn:

Knowledge

- Analyse and critically evaluate projects and research outputs in Data Science
- Engage in knowledge production through dissertation research
- Have a critical understanding of and be able to engage with the data value chain in professional settings

Thinking skills

- Critical thinking and evidential reasoning
- Reflect on your professional and research practice
- Ability to make cross-disciplinary connections with other professionals and scientists

Subject-Based Practical skills

- Using diverse data resources and sophisticated software tools in extracting information and value from data
- Plan, execute and evaluate Data Science projects
- Produce scholarly research

Skills for life and work (general skills)

- Develop sophisticated data-centric skills
- Integrate research, and articulate research results into professional practice
- Respond positively and constructively to critical feedback
- Communicate complex ideas with other professionals and the public

In addition, mixing with Professional Doctorate in some of the modules will provide you with an opportunity to mix with them and gain industry insight.

The face-to-face teaching components are delivered in boot-camp style blocks in which theory and practice are fused and is then reinforced through worksheets and project work. Formative feedback is provided at successive stages of the project work so that students have ample opportunity to learn from what they are doing and improve their overall understanding and skill sets.

Knowledge is developed through

- Reading the research literature
- Critical presentation and discussion of key concepts and techniques in lectures
- Undertaking lab-based practical exercises
- Undertaking problem-solving project work

Thinking skills are developed through

- Reading and critically evaluating the literature
- Engaging in classroom discussions and in preparing coursework
- Undertaking research

Practical skills are developed through

- Undertaking lab-based practical exercises
- Undertaking research
- Preparing coursework

Skills for life and work (general skills) are developed through

- Managing the learning process on the course
- Planning for doctoral research
- Communicating complex ideas and techniques

Learning and Teaching

Assessment

Modules are allocated a mark out of 100%. The pass mark for each module is based on an aggregate mark of 50%. Where there is more than one component to the assessment, the aggregate mark comprises marks from components whose threshold is 40%. Assessment may incorporate one, or two components.

The module specifications specify the mode of assessment for each module.

All the learning outcomes of the course are assessed through:

- Laboratory session portfolios
- Coursework
- Research dissertation

Students with disabilities and/or particular learning needs should discuss assessments with the Course Leader to ensure they are able to fully engage with all assessment within the course.

Work Experience & Internships

Many of our students are already in employment as the block mode of delivery is conducive to gaining a qualification whilst retaining employment. Other students seek internships. In recognizance of this the dissertation module allows for the option to include a critically evaluative report on their Data Science work experience giving up to 50% of the mark.

Course Structure

All courses are credit-rated to help you to understand the amount and level of study that is needed. One credit is equal to 10 hours of directed study time (this includes everything you do e.g. lecture, seminar and private study).

All modules in this course are level 7 (Masters). The course is made up of modules that are credit weighted. Taught modules carry 30 credits each, the dissertation module is 60 credits.

Credit rating

The overall credit-rating of this course is **180 for Masters, 60 for PGCert, 120 for PGDip**.

Typical duration

The typical duration of this course for students starting in September is one year full-time or two to three years part-time. The typical duration of this course for students starting in January is 17 months full-time. It is possible to move from full-time to part-time study and vice-versa to accommodate any external factors such as financial constraints or domestic commitments. Students do make use of this flexibility but this may impact on the overall duration of their study period.

How the teaching year is divided

Full-Time MSc Degree course in Data Science

Year	Level	Term	Credits	Core/ Option	Module Code	Module Title
1	7	1	30	Core	DS7006	Quantitative Data Analysis
			30	Core	DS7001	Mental Wealth; Professional Life (Data Ecology)
		2	30	Core	DS7003	Advanced Decision Making: Predictive Analytics & Machine Learning
			30	Core	DS7002	Spatial Data Analysis
		3 (Summer)	60	Core	DS7010	Data Science Dissertation

Part-Time and Block Mode MSc Degree course in Data Science

Year	Level	Term	Credits	Core/ Option	Module Code	Module Title
1	7	1	30	Core	DS7006	Quantitative Data Analysis
		2	30	Core	DS7002	Spatial Data Analysis
2	7	1	30	Core	DS7001	Mental Wealth; Professional Life (Data Ecology)
		2	30	Core	DS7003	Advanced Decision Making: Predictive Analytics & Machine Learning
2/3	7	3 & 1 or 1 & 2	60	Core	DS7010	Data Science Dissertation

Block mode delivery of taught modules will normally be based on a one week intensive attendance at UEL Docklands according to an advertised calendar, usually at the beginning of each term. During the remainder of the term, students can work on their reading, practical components (from worksheets, scripts and datasets) and project assignment work with on-line help, supervision and group tutorials. Extensive use is made of the on-line learning platform (Moodle).

All assignments and coursework will be submitted on-line through Moodle and students are not required to deliver hardcopies in person to the UEL Docklands Campus. The MSc in Data Science is entirely paperless.

Masters Award Classification

Where a student is eligible for an Masters award then the award classification is determined by calculating the arithmetic mean of all marks and applying the mark obtained as a percentage, with all decimals points rounded up to the nearest whole number, to the following classification

70% - 100%	Distinction
60%- 69%	Merit
50% - 59%	Pass
0% - 49%	Not passed

Further Information

More information about this course is available from:

- The UEL web site https://www.uel.ac.uk
- MSc Data Science web page: https://www.uel.ac.uk/postgraduate/courses/msc-data-science
- The Centre for Geo-Information Studies website https://www.uel.ac.uk/research/centre-for-geoinformation-studies
- UEL Manual of General Regulations and Policies (available on the UEL website)
- UEL Quality Manual http(available on the UEL website)
- The College and School website https://www.uel.ac.uk/about/colleges/arts-technology-and-innovation

Entry Requirements:

MSc Data Science is a conversion course. Applicants should have a Bachelor Degree with minimum 2.2 Honours in Physical and Biological Sciences, Engineering, Social or Behavioural Sciences and Humanities related subjects.

Short course/CPD:

The four taught modules (DS7001, DS7002, DS7003 and DS7006) will also be available to suitably qualified applicants as short courses/CPD either as credit bearing or non-credit bearing depending on applicants' individual needs.

All UEL courses are subject to thorough course approval procedures before we allow them to commence. We also constantly monitor, review and enhance our courses by listening to student and employer views and the views of external examiners and advisors.

Additional costs: None

Alternative locations: N/A