

Course Aim and Title	MSc Big Data Technologies
Intermediate Awards Available	PGCert, PGDip.
Teaching Institution(s)	UEL on campus
Alternative Teaching Institutions (for local arrangements see final section of this specification)	
UEL Academic School	ACE
UCAS Code	
Professional Body Accreditation	
Relevant QAA Benchmark Statements	QAA Subject benchmark statement Master's degrees in Computing 2011
Additional Versions of this Course	
Date Specification Last Updated	February 2022

Course Aims and Learning Outcomes

This course is designed to give you the opportunity to:

- Plan, manage and deliver a significant Big Data Administering and Analytics projects, resulting in a high-quality research output through dissertation;
- Investigate and develop Big Data projects with the confines of the legal, ethical, social and professional context of Big Data;
- Develop knowledge and research skills in Big Data Analytics to empower you as a professional;
- Gain advanced theoretical and specialist practical knowledge of progressive and emerging topics;
- Create innovative solutions through the integration of a range of standard and specialised Big Data technologies, Cloud Computing and Security aspects.
- Develop the professional skills necessary for a senior career in the IT industry

What you will learn:

Knowledge

- Demonstrate comprehensive and critical understanding of all the concepts and activities for large-scale data analytics;
- Demonstrate expertise in Big Data Analytics and its business and research applications;
- A depth knowledge and understanding of Big Data Analytics projects, Machine Learning techniques for extracting big insights and unique knowledge from Big Data stores;
- Have a critical understanding of complex computing application areas and apply skills in advanced topics to find resolution, such as cloud computing and security aspects.

Thinking skills

- Analyse critically and systematically a Big Data problem through identifying key requirements, alternative solutions and evaluation methods;
- Critical thinking and evidential reasoning;
- Exercise appropriate engineering judgement in decision-making process;

- Conduct a dissertation applying a rigorous and critical analysis approaches to identify project goals, propose and evaluate different research strategies, and finally generate a useful and effective output;
- Reflect on your professional and research practice.

Subject-Based Practical skills

- Design & develop large-scale systems considering security aspects;
- Use diverse Big Data resources and advanced tools and techniques to convert Big Data to Big Insights in batch and real-time format;
- Identify, critically analyse and execute a solution for a cutting-edge research/industrial computing problem;
- Produce structured and coherent written reports to document the findings, evaluations, and the proposed solution for a Big Data problem.

Skills for life and work (general skills)

- Demonstrate an ability to study independently and effectively; and to be able to present and convey complex technical information to other professionals and the public;
- Develop interpersonal skills and be able to contribute and work effectively in a team;
- Consider the ethical, social and professional issues of a Big Data problem and solution;
- Integrate research, and articulate research results into professional practice.

Learning and Teaching

Various teaching methods are employed on the course, including lectures, tutorials, seminars and laboratory work. In a lecture period, a member of the academic staff or a visiting lecturer presents ideas or information to a body of students. In a seminar, ideas are discussed by a group of students. The discussion is led by a member of the staff or a nominated student and moderated by one or more members of staff. In a tutorial, the students solve problems under the guidance of a member of staff with whom they can also discuss information presented in a previous lecture.

To enable students to derive maximum benefit from their period of attendance, lectures are designed to cover only essential subject matter, this being complemented by lecture notes. Considerable importance is attached to home assignments and a commitment to private study.

Students are recommended to plan their work in advance. Where practicable, a course of work, requirements of home assignments, together with reading references and tutorial sheets are distributed at the beginning of each section of each module. Regular formative assessments of the students' work are undertaken and feedback provided in order to monitor progress and identify problem areas.

Assessment

Modules are allocated a mark out of 100%. The pass mark for each module is based on an aggregate mark of 50%. The aggregate mark comprises marks from components whose threshold is 40%. Assessment may incorporate one, two or three components.

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

Assessment methods include formal examinations, coursework, project work and group exercises.

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.

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).

Credits are assigned to one of 5 levels:

- 3 Equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree course.
- 4 Equivalent in standard to the first year of a full-time undergraduate degree course.
- 5 Equivalent in standard to the second year of a full-time undergraduate degree course.
- 6 Equivalent in standard to the third year of a full-time undergraduate degree course.
- 7 Equivalent in standard to a Masters degree.

Courses are made up of modules that are each credit weighted.

The module structure of this course:

Level	Module Code	Module Title	Credit Weighting	Core/Option	Available by Distance Learning? Y/N
7	CN7031	Big Data Analytics	30	Core	N
7	CN7014	Security Management	30	Optional	N
7	CN7015	IT and Internet Law	30	Optional	N
7	CN7026	Cloud Computing	30	Core	N
7	CN7030	Machine Learning on Big Data	30	Core	N
7	CN7000	Mental Wealth; Professional Life (Dissertation)	60	Core	N

Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, in order to create the best learning experience.

Additional detail about the course module structure:

A core module for a course is a module which a student must have passed (i.e. been awarded credit) in order to achieve the relevant named award. An optional module for a course is a module selected from a range of modules available on the course. Students must select one optional module out of two options in Term 1.

The overall credit-rating of this course is 180 credits. If for some reason you are unable to achieve this credit you may be entitled to an intermediate award, the level of the award will depend on the amount of credit you have accumulated. You can read the University Student Policies and Regulations on the UEL website.

Typical Duration

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. Many of our students make use of this flexibility and this may impact on the overall duration of their study period.

The duration of this course is one calendar year full-time if enrolment is in September or May, and two calendar years part-time. For February enrolment, the duration becomes 18 months full time, and 28 months part-time.

The time limit for completion of a course is four years after first enrolment on the course.

Further Information

More information about this course is available from:

- The UEL web site (www.uel.ac.uk)
- The course handbook
- Module study guides
- UEL Manual of General Regulations (available on the UEL website)
- UEL Quality Manual (available on the UEL website)
- School web pages (www.uel.ac.uk/about/colleges/arts-technology-and-innovation)

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