DATA SCIENCE (INTERNATIONAL) MSc / 2019/20 ENTRY

www.ucl.ac.uk/graduate/
The Programme is built around a combination of Data Science programmes offered separately by both UCL and UniSA. Modules delivered by UCL for the Programme focus on theory, whilst the UniSA modules are comparatively more practical. Students benefit from the combination of theoretical and applied data science, with practical training and a final real-world project undertaken at UniSA.

**Degree summary**

The aim of this programme is to produce graduates with the analytic and technical skills to effectively use Python, Hadoop, R and SAS to analyse Big Data and extract useful information to support the management and operations of an organisation. You will undertake modules across a broad range of data science topics, which will provide you with hands-on experience in data analytic techniques for real-world challenges. Taught by leading researchers in data science, you will learn to analyse and visualise rich data sources, spot data trends and to generate data driven insights.

// Vast volumes of data are generated every day around the globe. The need to make sense of it has given rise to the concept of ‘Big Data’, and to a new career - ‘data scientist’. Data science brings together the best of data management and analytic methods, and the presentation of results - all in a closed loop cycle for continuous learning and improvement within the organisation. This rapidly expanding area has applications in search and information retrieval, e-commerce, finance, health, natural language modelling and artificial intelligence.

// UniSA and UCL – under a new agreement – are working together to advance IT excellence globally through joint education to deliver innovative outcomes for industry and graduates. The partnership brings UCL’s world-leading research to Australia and interconnects with UniSA’s interdisciplinary and real-world experience approach. UCL is one of the world’s leading multidisciplinary universities. It operates in a global context and is committed to excellence, innovation and the promotion of global understanding in all its activities: research, teaching, learning, enterprise and community engagement. UCL has been ranked as the number one UK university for research strength and is ranked 10th in the QS World University Rankings 2018.

// Data science brings together computational and statistical skills for data-driven problem solving, which is in increasing demand in fields such as marketing, pharmaceutics, finance and management. Offered in a dual-hemisphere mode this unique programme gives you the opportunity to study in both the UK and in Australia whilst providing different perspectives and expertise in data science.

**Degree structure**

Mode: Full-time: 2 years

Location: London, Bloomsbury and Adelaide, Mawson Lakes

This programme commences in London. Students will complete their studies in Adelaide.

Students undertake modules to the value of 240 UCL Credits (72 UniSa Units). First year (UCL)120 UCL credits/36 UniSA units, comprising 4 compulsory modules (60 credits), 4 optional modules (60 credits) (UCL system), Second year (UniSA) 120 UCL credits/36 UniSA units, comprising 4 compulsory modules (2 x 4.5 units, 2 x 9 units (thesis), 2 optional modules (2 x 4.5 units) (UniSA system).

Please note that the list of modules given here is indicative. This information is published a long time in advance of enrolment and module content and availability is subject to change.

**COMPULSORY MODULES**

- Introduction to Deep Learning
- Introduction to Machine Learning
- Applied Machine Learning
- Data Analytics
- Statistical Programming for Data Science
- Unsupervised Methods in Analytics
- ITMS Masters Minor Thesis 1
- ITMS Masters Minor Thesis 2

**OPTIONAL MODULES**

- Graphical Models
- Machine Vision
- Information Retrieval & Data Mining
- Statistical Natural Language Processing
- Web Economics
- Advanced Deep Learning and Reinforcement Learning
- Research Methods
- Advanced Analytic Techniques 1
- Advanced Analytic Techniques 2
- Data Visualisation

Students who have not previously studied research methods should include the course Research Methods as one of their choices.

Subject to Programme Director approval, and the availability of an appropriate project and supervisor, students may elect to undertake their project over two semesters by enrolling in COMP 5005 in their first semester in Adelaide. In this case, they should also seek advice from the Programme Director on their choice of electives.

**DISSERTATION/REPORT**

There will be two minor theses as part of this programme, each thesis comprising one 2 hour lecture and 13 weeks of directed study. Students are then expected to present a 20-minute research seminar and submit a research report as a minor thesis, of approximately 9000 words. The proportion of total assessment of these last two components is as follows: Seminar – 10%; Research report – 90%; the two courses are ITMS Masters Minor Thesis 1 and ITMS Masters Minor Thesis 2.
Your career

Enter the revolutionary area of big data where there is an acute shortage of data scientists. A McKinsey Global Institute report forecasts a 50 per cent gap between projected demand and supply by 2018.

In the UK, the big data and artificial intelligence boom is expected to generate 56,000 data science positions from 2016-2020.

While the demand for analytic skills crosses multiple industries, fields such as marketing, health care, IT, government and finance are expected to experience a particularly strong need for analytics professionals.

Employability

The field of data science field is evolving at a rapid rate. It will continue to grow as savvy business leaders integrate analytics into every facet of their organisation.

The demand for analytic skills is supported by research from IBM in a recent report - 'The Quant Crunch: How the demand for data science skills is disrupting the job market', which predicts that by 2020, the number of jobs for all US data professionals will increase by 364,000 openings to 2,720,000.
Entry requirements

A minimum of an upper second-class Bachelor's degree in a quantitative discipline from a recognised UK university or a non-UK qualification of an equivalent standard in a relevant discipline typically in the fields of mathematics or computer science. Students should be comfortable with a high level of programming in a language such as Python.

English language proficiency level

If your education has not been conducted in the English language, you will be expected to demonstrate evidence of an adequate level of English proficiency.

The level of English language proficiency for this programme is: Good.

Information about the evidence required, acceptable qualifications and test providers is provided at:
www.ucl.ac.uk/graduate/english-requirements

Your application

Applications are processed by UniSA. Please note you are not required to submit an application to UCL for this programme. Citizens of countries other than Australia and New Zealand please apply via the blue Apply now button below. Australian and New Zealand citizens please apply here.

When we assess your application we would like to learn:
- why you want to study Data Science (International) at graduate level
- why you want to study Data Science (International) at UCL
- what particularly attracts you to this programme
- how your academic, professional and personal background meets the demands of this programme
- where you would like to go professionally with your degree.

Together with essential academic requirements, the personal statement is your opportunity to illustrate whether your reasons for applying to this programme match what the programme will deliver.

FEES AND FUNDING 2019/20 ENTRY

UK: See Fees Note (FT)
EU: See Fees Note (FT)
Overseas: See Fees Note (FT)

The tuition fees shown are for the year indicated above. Fees for subsequent years may increase or otherwise vary. Further information on fee status, fee increases and the fee schedule can be viewed on the UCL Students website.

The fees for this programme are set in AUD and payable to UniSA.

Every year, over 2,500 UniSA students are supported in their studies through scholarships and grants worth millions of dollars. Check out the scholarships below. One of them may be perfect for you. Visit their scholarship search page for more.

Full details of funding opportunities can be found on the UCL Scholarships website: www.ucl.ac.uk/scholarships

APPLICATION DEADLINE

All applicants: 26 July 2019
Details on how to apply are available on the website at: www.ucl.ac.uk/graduate/apply

CONTACT

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EU referendum

For up-to-date information relating to specific key questions following the UK’s decision to leave the EU, please refer to www.ucl.ac.uk/brexit