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. This MSc will equip students with the analytical tools to design sophisticated technical solutions using modern computational methods and with an emphasis on rigorous statistical thinking.

**Degree summary**

The programme combines training in core statistical and machine learning methodology, beginning at an introductory level, with a range of optional modules covering more specialised knowledge in statistical computing and modelling. Students choosing the statistics specialisation will take one compulsory module and up to two additional modules in computer science, with the remaining modules (including the research project) taken mainly from within UCL Statistical Science.

- UCL Statistical Science has a broad range of research interests, but has particular strengths in the area of computational statistics and in the interface between statistics and computer science.
- UCL’s Centre for Computational Statistics and Machine Learning, in which many members of the department are active, has a programme of seminars, masterclasses and other events. UCL’s Centre for Data Science and Big Data Institute are newer developments, again with strong involvement of the department, where emphasis is on research into big data problems.
- UCL is one of the founding members of the Alan Turing Institute, and both UCL Statistical Science and UCL Computer Science will be playing major roles in this exciting new development which will make London a major focus for big data research.

The programme is delivered through a combination of lectures, tutorials and classes, some of which are dedicated to practical work. Assessment is through written examination and coursework. The research project is assessed through the dissertation and a 15-minute presentation.

**Degree structure**

Mode: Full-time: 1 year; Part-time: 2 years
Location: London, Bloomsbury

Studying on a part-time basis involves spreading the taught modules over two years, but with the same teaching times as for full-time students (i.e. Mon-Fri during the daytime).

Students undertake modules to the value of 180 credits. The programme consists of four core modules (60 credits), four optional modules (60 credits) and a research dissertation/report (60 credits).

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 Statistical Data Science
- Introduction to Machine Learning
- Statistical Design of Investigations
- Statistical Computing

**OPTIONAL MODULES**

- At least two from a choice of Statistical Science modules including:
  - Applied Bayesian Methods
  - Decision & Risk
  - Factorial Experimentation
  - Forecasting
  - Quantitative Modelling of Operational Risk and Insurance Analytics
  - Selected Topics in Statistics
  - Stochastic Methods in Finance I
  - Stochastic Methods in Finance II
  - Stochastic Systems
  - Up to two from a choice of Computer Science modules including:
    - Affective Computing and Human-Robot Interaction
    - Graphical Models
  - Statistical Natural Language Processing

**DISSERTATION/REPORT**

- All students undertake an independent research project, culminating in a dissertation usually of 10,000-12,000 words. Workshops running during the teaching terms provide preparation for this project and cover the communication of statistics.
Your career

Graduates from UCL Statistical Science typically enter professional employment across a broad range of industry sectors or pursue further academic study.

Employability

Data science professionals are likely to be increasingly sought after as the integration of statistical and computational analytical tools becomes essential in all kinds of organisations and enterprises. A thorough understanding of the fundamentals is to be expected from the best practitioners. For instance, in applications in marketing, the healthcare industry and banking, computational skills should be accompanied by statistical expertise at graduate level. Data scientists need a broad background knowledge so that they will be able to adapt to rapidly evolving challenges. Recent graduates from the related Statistics MSc have been offered positions as research analysts or consultants, and job opportunities in these areas are increasing.
**Entry requirements**

A minimum of an upper second-class Bachelor's degree in a quantitative discipline from a UK university or an overseas qualification of an equivalent standard. Knowledge of mathematical methods and linear algebra at university level and familiarity with introductory probability, statistics and computer programming is required. Relevant professional experience will also be taken into consideration.

**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: Standard.

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

**Your application**

Students are advised to apply as early as possible due to competition for places. Those applying for scholarship funding (particularly overseas applicants) should take note of application deadlines.

When we access your application we would like to learn:

// why you want to study Data Science at graduate level
// why you want to study Data Science at UCL
// what particularly attracts you to the chosen programme
// how your academic and professional background meets the demands of this challenging 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.

There is an application processing fee for this programme of £75 for online applications and £100 for paper applications. Further information can be found at: www.ucl.ac.uk/prospective-students/graduate/taught/application.

**FEES AND FUNDING 2019/20 ENTRY**

// UK: £13,820 (FT), £6,930 (PT)
// EU: £13,820 (FT), £6,930 (PT)
// Overseas: £28,410 (FT), £14,610 (PT)

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.

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

**APPLICATION DEADLINE**

All applicants: 15 March 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