MATHEMATICS AND STATISTICAL SCIENCE MSci / UCAS CODE: GGC3 2018 ENTRY

www.ucl.ac.uk/prospectus/maths
This MSci, accredited by the Royal Statistical Society, offers an additional year of study on top of the Mathematics and Statistical Science BSc. Students have the opportunity to specialise further by taking more advanced modules and completing a major project. No previous knowledge of statistics is required.

**Key information**

**Programme starts**
September 2018

**Location**
London, Bloomsbury

**Degree benefits**

// The programme is an excellent preparation for becoming a professional statistician or an actuary.

// The programme is accredited by the Royal Statistical Society. On application to the society, graduates are awarded Graduate Statistician status provided that at least second-class Honours has been obtained.

// Internationally renowned UCL Mathematics is home to world-leading researchers in a wide range of fields, especially geometry, spectral theory, number theory, fluid dynamics and mathematical modelling.

// Three of the six British winners of the Fields medal (the mathematician’s equivalent of the Nobel Prize) have associations with the department.

**Research Excellence Framework (REF) 2014**
The Research Excellence Framework, or REF, is the system for assessing the quality of research in UK higher education institutions. The 2014 REF was carried out by the UK’s higher education funding bodies, and the results used to allocate research funding from 2015/16.

// 82% rated 4* (‘world-leading’) or 3* (‘internationally excellent’)

Learn more about the scope of UCL’s research, and browse case studies, on our Research Impact website.

**Accreditation**
This programme is accredited by the Royal Statistical Society. On application to the Royal Statistical Society, graduates are awarded Graduate Statistician (GradStat) status, providing formal recognition of a member’s statistical qualifications.

**Degree structure**

In each year of your degree you will take a number of individual modules, normally valued at 0.5 or 1.0 credits, adding up to a total of 4.0 credits for the year. Modules are assessed in the academic year in which they are taken. The balance of compulsory and optional modules varies from programme to programme and year to year. A 1.0 credit is considered equivalent to 15 credits in the European Credit Transfer System (ECTS).

In the first and second years of the programme you will take a balanced selection of modules in both UCL Mathematics and UCL Statistical Science. You will take a selection of designated modules in the third year and undertake a major project in your fourth year, which will include a substantial piece of written work and a presentation.

Statistics will include much practical work while the mathematics will cover the theoretical aspects of the pure mathematics required to sustain and understand this.

This programme is offered as a three-year BSc or a four-year MSci degree. The first two years of the programme are identical, and students are advised to apply for the MSci degree in the first instance, as it is possible to transfer to the BSc during the first three years.

**YEAR ONE**

Core or compulsory module(s)

// Mathematics modules:
  Algebra 1
  Analysis 1
  Analysis 2
  Mathematical Methods 1
  Mathematical Methods 2

// Statistical science modules:
  Introduction to Practical Statistics
  Introduction to Probability and Statistics
  Further Probability and Statistics

**YEAR TWO**

Core or compulsory module(s)

// Mathematics modules:
  Algebra 2
  Analysis 3: Complex Analysis
  Analysis 4: Real Analysis

// Statistical science modules:
  Computing for Practical Statistics
  Introduction To Applied Probability
  Linear Models and the Analysis of Variance
  Probability and Inference

Optional modules

// You will select one of the following statistical science modules:
  Optimization Algorithms in Operations Research
  Social Statistics

**YEAR THREE**

Core or compulsory module(s)

// Mathematics modules:
  Algebra 3: Further Linear Algebra
  Measure Theory
  Statistical science module:

// Statistical Inference

Optional modules

// You will select:
  0.5 credits of designated mathematics options
  1.0 credits of statistics options
  1.0 credits from designated mathematics or standard statistical science options
  Up to 0.5 credits may be replaced by an outside option, subject to department approval.
Data taken from the ‘Destinations of Leavers from Higher Education’ survey undertaken by HESA looking at the destinations of UK and EU students in the 2013-2015 graduating cohorts six months after graduation.

**FINAL YEAR**

**Core or compulsory module(s)**
- All final year modules are optional. Currently available mathematics options are described on the UCL Mathematics website.

**Optional modules**
- You will select:
  - 1.0 credit of fourth-year mathematics options
  - 1.0 credit of suitable statistical science options
  - 1.0 credit from third- or fourth-year mathematics or suitable statistical science options
- Plus either:
  - Statistics Project (1.0 credit)
  - Project in Mathematics (1.0 credit)
- Up to 0.5 credits may be replaced by an outside option, subject to department approval.

**Your learning**

Teaching is mainly carried out through lectures and small-group tutorials. Problem classes allow you to exercise the skills you have learned. In addition, an ‘office hours’ system for each programme allows you to meet with tutors on a one-to-one basis to review parts of the degree that you find interesting or need clarifying. A Student Mentor scheme runs in the department offering support and advice to first-years.

**Assessment**

Most modules are assessed by two-hour written examinations in the third term, with a small element (10%) of coursework assessment.

**Your career**

We aim to develop your skills in mathematical reasoning, problem-solving and accurate mathematical manipulation. You will also learn to handle abstract concepts and to think critically, argue logically and express yourself clearly.

A mathematics degree is highly valued by employers due to the skills in logical thinking, analysis, problem-solving and, of course, numeracy, that it develops.

First career destinations of recent graduates (2013-2015) of Mathematics and Statistical Science programmes at UCL include:
- Actuarial Graduate, RSA Insurance Group
- Associate Account Manager, EY
- Full-time student, MSc in Statistics and Applied Probability, at the University of Nottingham
- Full-time student, MSc in Risk and Stochastics at UCL

**Your application**

Application for admission should be made through UCAS (the Universities and Colleges Admissions Service). Applicants currently at school or college will be provided with advice on the process; however, applicants who have left school or who are based outside the United Kingdom may obtain information directly from UCAS.

In addition to academic requirements, we expect you to demonstrate an understanding and enjoyment of the subject beyond the examined syllabus, through your reading and involvement in problem-solving activities. Evidence of your curiosity and perseverance in tackling puzzles, and your enjoyment of logical and abstract thinking, should be shown in your application.

If your application is sufficiently strong you will be invited to visit the department for an applicant afternoon. Alternatively, some invitations are for an academic interview. You will also be able to talk to current students and staff and will be given a tour.
Entry requirements

A LEVELS

Grades
A\(^\ast\)A\(^\ast\), or A\(^\ast\)AA and a 1 in any STEP paper or distinction in Mathematics AEA

Subjects
Mathematics and Further Mathematics required at A\(^\ast\), or Mathematics at A\(^\ast\) and Further Mathematics at A if STEP or AEA offered.

GCSE
English Language and Mathematics at grade C or 5. For UK-based students, a grade C or 5 or equivalent in a foreign language (other than Ancient Greek, Biblical Hebrew or Latin) is required. UCL provides opportunities to meet the foreign language requirement following enrolment, further details at: www.ucl.ac.uk/ug-reqs

IB DIPLOMA

Points
39-40 overall.

Subjects
A score of 20 points in three higher level subjects including 7 in Mathematics, or 19 points in three higher level subjects including 7 in Mathematics and a 1 in any STEP paper or a distinction in Mathematics AEA, with no score below 5.

OTHER QUALIFICATIONS
UCL considers a wide range of UK and international qualifications for entry into its undergraduate programmes. Full details are given at: www.ucl.ac.uk/otherquals

UNDERGRADUATE PREPARATORY CERTIFICATES (International foundation courses)
The Undergraduate Preparatory Certificates (UPCs) are intensive one-year foundation courses for international students of high academic potential who are aiming to gain access to undergraduate degree programmes at UCL and other top UK universities.

Typical UPC students will be high achievers in a 12-year school system which does not meet the standard required for direct entry to UCL.

For more information see: www.ucl.ac.uk/upc.

TUITION FEES
The fees indicated are for undergraduate entry in the 2018/19 academic year. The UK/EU fees shown are for the first year of the programme at UCL only. The Overseas fees shown are the fees that will be charged to 2018/19 entrants for each year of study on the programme, unless otherwise indicated below.

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\text{UK & EU: } & \text{£9,250 (2018/19)} \\
\text{Overseas: } & \text{£22,790 (2018/19)}
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Full details of UCL’s tuition fees, tuition fee policy and potential increases to fees can be found on the UCL Students website.

FUNDING
Various funding options are available, including student loans, scholarships and bursaries. UK students whose household income falls below a certain level may also be eligible for a non-repayable bursary or for certain scholarships. Please see the Fees and funding pages for more details.

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/eu-referendum

Disclaimer
This information is for guidance only. It should not be construed as advice nor relied upon and does not form part of any contract. For more information on UCL’s degree programmes please see the UCL Undergraduate Prospectus at www.ucl.ac.uk/prospectus