Computational Finance MSc /

Students develop an advanced knowledge of computational methods in finance, which is a prerequisite for a successful career in the financial industry within ‘quant’ teams. ‘Quants’ (development analysts) design and implement complex models and are sought after by banks, fund managers, insurance companies, hedge funds, and financial software and data providers.

Degree summary

This degree comprises advanced modules on quantitative and modelling skills, which are essential for ‘quant’ roles in trading research, regulation and risk. This applied MSc programme is distinctive in that it provides a solid mathematical and statistical foundation together with an education in advanced-level programming.

- UCL was ranked first in the UK for computer science and informatics in the Research Excellence Framework (REF) 2014.
- UCL Computer Science hosts the Doctoral Training Centre in Financial Computing and Analytics, which is the only one of its kind in the UK.
- UCL’s central London location ideally places it close to one of the world’s most important financial centres, with which UCL pioneers industrial/academic engagements. Students on the Computational Finance MSc will benefit from teaching input from City of London practitioners.

The programme is delivered through a combination of lectures, tutorials, seminars, and project work. It comprises two terms of teaching, followed by examinations and a dissertation. Assessment is through coursework, unseen examinations and a dissertation.

Degree structure

Mode: Full-time: 1 year
Location: London, Bloomsbury

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 dissertation (60 credits).

CORE MODULES
- Financial Data and Statistics (15 credits)
- Financial Market Modelling and Analysis (15 credits)
- Market Risk Measures and Portfolio Theory (15 credits)
- Numerical Analysis for Finance (15 credits)

OPTIONAL MODULES
- Students select 60 credits from optional modules.
- Algorithmic Trading (15 credits)
- Algorithmics (15 credits)
- Applied Computational Finance (15 credits)
- Database Systems (15 credits)
- Financial Engineering (15 credits)
- Financial Institutions and Markets (15 credits)
- Machine Learning with Applications in Finance (15 credits)
- Market Microstructure (15 credits)
- Networks and Systemic Risk (15 credits)
- Operational Risk Measurement for Financial Institutions (15 credits)
- Software Engineering (15 credits)
- Stochastic Processes for Finance (15 credits)

Please note: the availability and delivery of modules may vary, based on your selected options. With permission, a student may substitute up to two optional modules with electives. A list of acceptable elective modules is available on the Departmental page.

DISSERTATION/REPORT
- All students undertake an independent research project which culminates in a dissertation of about 10,000 words or 50 pages. Usually this will be undertaken during a summer placement in an industry environment arranged by the department.
Your career

This is a relatively new programme and therefore no information on graduate destinations is currently available. UCL Computer Science graduates typically find work in financial institutions such as Credit Suisse, JP Morgan, Morgan Stanley, and Deutsche Bank as financial analyst application developers, quant developers, and business managers. The University of Cambridge and UCL are among top further study destinations.

Employability

Our graduates are particularly valued as a result of the department's international reputation, strong links with industry, and ideal location close to the City of London. Graduates are especially sought after by leading finance companies and organisations.
Entry requirements

An upper-second class UK Bachelor's degree (or equivalent overseas qualification) in computer science, mathematics, statistics, physics, engineering or a similarly quantitative subject. Programming experience is an advantage but is not mandatory. Relevant work experience is also taken into account.

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

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 assess your application we would like to learn:

// why you want to study Computational Finance at graduate level?
// why you want to study Computational Finance at UCL?
// what particularly attracts you to the chosen programme
// how do your academic and professional background and skills meet the demands of this challenging programme?
// where would you 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.

Successful applicants to this programme will be required to pay a tuition fee deposit dependent on their mode of study and fee status as given below:

// UK/EU full-time: £2,000
// UK/EU part-time: £1,000
// Overseas full-time: £2,000
// Overseas part-time: £1,000

Further details can be found on the Fees and funding page.

FEES AND FUNDING 2017/18 ENTRY

// UK: £18,580 (FT)
// EU: £18,580 (FT)
// Overseas: £27,540 (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 Current Students website.

4 MSc Scholarships, worth £4000 each, are made available by the Department of Computer Science to UK/EU offer holders with a record of excellent academic achievement. The closing date is 30 June 2017. For more information, please see the department pages.

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

APPLICATION DEADLINE

All applicants: 17 June 2017

Details on how to apply are available on the website at: www.ucl.ac.uk/graduate/apply

CONTACT

Dr Saini Manninen, Teaching & Learning Administrator
Email: advancedmsc-admissions@cs.ucl.ac.uk
Telephone: +44 (0)20 7679 7937

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