Financial Systems Engineering MSc /

This MSc provides an ideal foundation for graduates who wish to pursue a career as software engineers. The programme provides the opportunity to undertake a significant group software engineering project sponsored by a financial services company, allowing students to specialise in software systems engineering from a financial computing perspective.

Degree summary

Students gain instruction in all aspects of software engineering needed for the development of large, complex, highly dynamic, distributed software-intensive systems. The programme covers requirements engineering, software design, validation and verification, tools for the development of software intensive systems, and provides instruction in financial information systems.

- UCL Computer Science is recognised as a world leader in teaching and research. UCL received the highest percentage (96%) for quality of research in Computer Science and Informatics in the UK’s most recent Research Excellence Framework (REF2014).
- Our Master’s programmes have some of the highest employment rates and starting salaries, with graduates entering a wide variety of industries from entertainment to finance.
- We take an experimental approach to our subject and place a high value on our extensive range of industrial collaborations. In the recent past, students have worked on projects and coursework in collaboration with Microsoft, IBM, and financial institutions such as JP Morgan, Citigroup and BNP Paribas.

The programme is delivered through a combination of lectures, written and laboratory exercises, and project work. Student performance is assessed through written exercises with modelling notations, laboratory exercises with tools and environments, unseen examination papers, and a significant, comprehensive group project.

Accreditation

- IET - Partial CEng (Further Learning), CITPFL - Accredited by BCS.
- CEng (partial fulfilment) - Accreditation by the BCS.

Degree structure

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

Students undertake modules to the value of 180 credits. The programme consists of six core modules (90 credits), one optional module (15 credits), one elective module (15 credits) and a group project (60 credits).

**CORE MODULES**
- Financial Institutions and Markets (15 credits)
- Professional Practice (15 credits)
- Requirements Engineering and Software Architecture (15 credits)
- Software Abstractions and Systems Integration (15 credits)
- Tools and Environments (15 credits)
- Validation and Verification (15 credits)

**OPTIONAL MODULES**
- Students are required to select 15 credits from the Option group and 15 credits from the Elective group.

**Option Group**
- Compliance, Risk and Regulation (15 credits)
- Financial Market Modeling and Analysis (15 credits)

**Elective Group**
- Complex Networks and Web (15 credits)
- Computer Security I (15 credits)
- Computer Security II (15 credits)
- Distributed Systems and Security (15 credits)
- Introduction to Logic, Semantics and Verification (15 credits)
- Language Based Security (15 credits)
- Malware (15 credits)
- Modal Logic and Transition Systems (15 credits)
- Multimedia Systems (15 credits)
- Networked Systems (15 credits)

Please note: the availability and delivery of modules may vary, based on your selected options.

**Dissertation/Report**

All students participate in a group project, encompassing the full software development lifecycle and applying techniques learned, such as the technical skills of analysis, design and implementation.
Your career

This professionally oriented programme provides an ideal foundation for graduates who wish to pursue a career as a software architect or leader of software development organisations. It also provides an excellent introduction for those who want to pursue research in software systems engineering.

Graduates from UCL are keenly sought by the world’s leading organisations, and many progress in their careers to secure senior and influential positions. UCL Computer Science 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 have found positions at global companies such as RBS and UBS.

Employability

There is, throughout the world, a strong demand for software engineers with solid foundations covering not only the programming aspects of software development, but also aspects related to requirements engineering, software architectures, system integration, and testing. Many surveys rank software engineering positions as among the best jobs in the world.

Following graduation, our students are generally hired as software engineers or software architects by large financial institutions, sometimes by institutions they have engaged with in the context of their MSc project.
Entry requirements

A minimum of an upper second-class UK Bachelor’s degree in computer science, computing, computer engineering or software engineering, or an overseas qualification of an equivalent standard. Relevant work experience may also be 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 Financial Systems Engineering at graduate level
- why you want to study Financial Systems Engineering at UCL
- what particularly attracts you to this programme
- how your academic and professional background meets the demands of this programme
- what programming experience you have
- 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.

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

FEES AND FUNDING 2018/19 ENTRY

- UK: £12,150 (FT), ENA (PT)
- EU: £12,150 (FT), ENA (PT)
- Overseas: £26,670 (FT), ENA (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 Current Students website.

All full time students are required to pay a fee deposit of £2,000 for this programme. All part-time students are required to pay a fee deposit of £1,000.

The department typically does not hire postgraduate students on research or teaching assistantships because the students need to work full-time on their studies for the programme.

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 30th June 2018. 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: 15 June 2018

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/eu-referendum