SPATIO-TEMPORAL ANALYTICS AND BIG DATA MINING MSc / 2019/20 ENTRY

www.ucl.ac.uk/graduate/
With the rapid development of smart sensors, smartphones and social media, "big" data is ubiquitous. This MSc teaches the foundations of GIScience, databases, spatial analysis, data mining and analytics to equip professionals with the tools and techniques to analyse, represent and model large and complex spatio-temporal datasets.

**Degree summary**

Students will be equipped with computational foundations and skills needed for big data analytics including visualisation, prediction, clustering and simulation with statistical and machine learning approaches, as well as retrieving and mining big (open) data, web services and cloud computing, web and mobile applications, by practising with real case data and open software.

As one of the world’s top universities, UCL excels across the physical and engineering sciences, social sciences and humanities.

UCL Civil, Environmental & Geomatic Engineering is an energetic and exciting multidisciplinary department with a tradition of excellence in teaching and research. Students on the Spatio-Temporal Analytics and Big Data Mining MSc will be part of a vibrant, enthusiastic, and international research environment in which collaboration and free-ranging debate are strongly encouraged.

Students will benefit from the department’s excellent research and industry links, including attending our industrial and research seminar series, and carrying out a research project with one of our many industrial partners.

The programme is delivered through a combination of lectures, seminars, and laboratory practicals. Assessment is through examination, coursework, practicals, dissertation, and poster presentation.

**Degree structure**

**Mode:** Full-time: 1 year

**Location:** London, Bloomsbury

Students undertake modules to the value of 180 credits. The programme consists of three core modules (45 credits), five optional modules (75 credits) and a dissertation/report (60 credits).

A Postgraduate Diploma, three core modules (45 credits), five optional modules (75 credits), full-time nine months is offered.

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**

- Geospatial Science (T1)
- Spatial Analysis and Geocomputation (T1)
- Spatial-Temporal Data Analysis and Data Mining (T2)

Terms (T1, T2) are indicated in brackets.

**OPTIONAL MODULES**

Choose two optional modules in term 1 and three optional modules in term 2.

- Spatial Database and Data Management (T1)
- Geospatial Programming (T1)
- Web & Mobile GIS (T2)
- Sensors & Location (T2)
- Applied Machine Learning (T2)
- Mining Social and Geographic Datasets (T2)
- Urban Simulation (T2)

Students may choose one elective module in place of one optional module in term 2, subject to approval from the programme director.

**DISSERTATION/REPORT**

All students undertake an independent research project which culminates in a dissertation of 15,000 words.
Your career

Graduates from this programme are expected to find positions in consultancy, local government, public industry, and the information supply industry, as well as in continued research. Possible career paths could include: data scientist in the social media, finance, health, telecoms, retail or construction and planning industries; developer of spatial tools and specialised spatial software; researcher or entrepreneur.

Employability

Graduates will be equipped with essential principles and technical skills in managing, modelling, spatial and spatial-temporal analysis, visualising and simulating "big" spatio-temporal data, with emphasis on real development skills including: Java, JavaScript, Python and R. Business Intelligence (BI) skills will also be taught via practical case studies and close collaborations with leading industrial companies and institutions. All these skills are highly valued in big data analysis.
Entry requirements

A minimum of an upper second-class UK Bachelor’s degree in a relevant discipline (such as engineering, mathematics, computer science, environmental science, human or physical geography, geology, forestry, oceanography, or physics) or an overseas qualification of an equivalent standard. Applicants with relevant professional experience are also considered.

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 assess your application we would like to learn:

- why you want to study Spatio-temporal Analytics and Big Data Mining at graduate level
- why you want to study Spatio-temporal Analytics and Big Data Mining at UCL
- what particularly attracts you to this programme
- how your personal, academic and professional background meets the demands of a challenging academic environment
- 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: £12,750 (FT)
// EU: £12,750 (FT)
// Overseas: £26,660 (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.

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

PDF Updated: January 18, 2019

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 Graduate Prospectus at www.ucl.ac.uk/graduate