GIS (GEOGRAPHIC INFORMATION SCIENCE) MSc / 2017/18 ENTRY

www.ucl.ac.uk/graduate/cege
The GIS (Geographical Information Science) MSc provides an education in the theoretical, scientific and practical aspects of GIS. It prepares students for technical and analytical GIS roles and is in high demand; we have very close links with industry and the majority of our students find employment prior to contemplating their degree.

**Degree summary**

Students gain a solid grounding in the scientific principles underpinning the computational and analytical foundations of GISc. Our staff are world-leading experts in the areas of programming location-enabled Apps, spatial and 3D databases, big spatio-temporal analytics, citizen science and human computer interaction, and the MSc therefore is able to offer a wide range of options and specialisations.

This highly regarded MSc has been running for nearly 30 years and is taught by internationally recognised academics. Our specialist GIS laboratory offers the latest open source and proprietary software and our unique dual focus on the computer science and analytical aspects of GIS means that you will be able to develop your skills in multiple directions.

Our close links with industry (a strong alumni group and weekly industrial seminars) mean that you will be able to directly link your classroom learning with your future career as a GIS professional; you can also undertake your dissertation with an industrial partner.

As well as weekly industrial seminars, you will have the option to do an industry-linked project, and you will be able to attend our annual GIS careers event, which is co-organized with the UK Association of Geographic Information.

The programme is delivered through lectures, practical classes, demonstrations and tutorials, and is supported by a series of external speakers from industry and visits to industrial who give weekly seminars describing how GIS is used in their field as well as what they are looking for when recruiting graduate GIS students. Assessment is through unseen examinations, group and individual coursework, formal and oral presentations, and the 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 research project (60 credits).

A Postgraduate Diploma, four core modules (60 credits), four optional modules (60 credits), full-time nine months is offered.

**CORE MODULES**

- Core modules introduce the theory underpinning GIS, along with programming skills (python) and the basics of spatial analysis and statistics. You’ll learn to critically engage with GIS rather than just pushing buttons - how does the way data is captured and modelled influence the results of your analysis? Do you get the same results from two different GIS packages? Knowing what is inside the ‘black box’ means you understand analytical results and their limitations.

- GIS Principles and Technology
- Principles of Spatial Analysis
- Mapping Science
- Representations, Structures and Algorithms

**OPTIONAL MODULES**

Term two is where you start to specialise, choosing modules that fit your interests, intended career choice and/or prepare you for your dissertation. At this point you can choose a heavily technical route (e.g. databases, programming, human computer interaction) a more analytical route (spatio-temporal data mining, network and locational analysis, databases) or a mixture of the two routes. You will need to choose four modules in total.

- At least 30 credits of optional modules selected from:
  - Geographical Information System Design
  - Spatio-Temporal Analysis and Data Mining
  - Web and Mobile GIS – Apps and Programming
  - Spatial Databases and Data Management
  - Plus no more than 30 credits of optional modules (all term two) selected from:
    - Airborne Data Acquisition
    - Applied Building Information Modelling
    - Network and Locational Analysis
    - Image Understanding
    - Ocean and Coastal Zone Management
    - Positioning
    - Research Methods
    - Terrestrial Data Acquisition

**DISSERTATION/REPORT**

- All students undertake an independent research project which culminates in a dissertation of 10,000–15,000 words. Where appropriate, this may be undertaken in conjunction with one of our many industrial partners, including Arup, Joint Research Centre, British Red Cross, Transport for London.
There are excellent employment prospects for our graduates, with starting salaries of around £25,000. Recent GIS graduates have found openings with large engineering design firms (such as Arup or WSP), specialist consultancy firms such as Deloitte or Informed Solutions, in leading professional software companies (such as ESRI or Google), with local authorities, for organisations such as Shell, Tesco, the Environment Agency, Transport for London, NHS and the Ordnance Survey.

Employability
Students will develop specific skills including a fundamental understanding of GIS and its application to real-world problems, through theoretical lectures covering the foundations of the science – how data is captured, map creation, generalisation, spatial data management, spatial analysis, data quality and error, and spatial algorithms. Students will develop strong technical (python, R, Java, HTML, Javascript, SQL) and analytical skills (data mining, human computer interaction and usability), and in order to fully understand the principles behind GIS will make use of multiple GIS packages, both proprietary and free/open source (ArcGIS, QGIS).
Entry requirements

A minimum of an upper second-class UK Bachelor’s degree in a relevant discipline or an overseas qualification of an equivalent standard. Extensive work experience covering related areas will be 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 Geographic Information Science at graduate level
// why you want to study Geographic Information Science at UCL
// what particularly attracts you to this programme
// how your personal, academic and professional background meets the demands of a 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.

FEES AND FUNDING 2017/18 ENTRY

// UK: £10,110 (FT)
// EU: £10,110 (FT)
// Overseas: £20,540 (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.

International students may wish to approach their country’s Ministry of Education to see if there are any grants for international study.

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

APPLICATION DEADLINE

All applicants: 28 July 2017

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