COMPUTATIONAL ARCHAEOLOGY: GIS, DATA SCIENCE AND COMPLEXITY MSc

2019/20 ENTRY

www.ucl.ac.uk/graduate/
Top archaeological researchers and heritage professionals use a raft of computational methods including GIS, data mining, web science, ABM, point-process modelling and network analysis. To impress employers you need the flexibility to learn on the job, leverage open data and program open source software. This MSc draws on UCL’s unparalleled concentration of expertise to equip you for future research or significantly enhance your employability.

**Degree summary**

Students learn about a wide range of concepts that underpin computational approaches to archaeology and human history. Students become proficient in the archaeological application of both commercial and open source GIS software and learn other practical skills such as programming, data mining, advanced spatial analysis with R, and agent-based simulation.

- The teaching staff bring together a range and depth of expertise that enables students to develop specialisms including industry-standard and open-source GIS, advanced spatial and temporal statistics, computer simulation, geophysical prospection techniques and digital topographic survey.
- Most practical classes are held in the institute's Archaeological Computing and GIS laboratory. This laboratory contains Linux servers, ten powerful workstations running Microsoft Windows 10, a digitising table and map scanner.
- Students benefit from the collaborations we have established with other institutions and GIS specialists in Canada, Germany, Italy and Greece together with several commercial archaeological units in the UK.

The programme is delivered through lectures, tutorials and practical sessions. Careful provision is made to facilitate remote access to software, tutorials, datasets and readings through a combination of dedicated websites and virtual learning environments. Assessment is through essays, practical components, project reports and portfolio, and the research dissertation.

### Degree structure

**Mode:** Full-time: 1 year; Part-time: 2 years  
**Location:** London, Bloomsbury

Students undertake modules to the value of 180 credits. The programme consists of two core modules (30 credits), four optional modules (60 credits) and a research dissertation (90 credits). 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
- All students must take the following:
- Archaeological Data Science
- Complexity, Space and Human History

#### Optional modules
- Students choose to follow further options courses up to the value of 60 credits from an outstanding range of Masters course options available at the UCL Institute of Archaeology. Out of this longer list, some popular options for those following this degree have been:
  - Exploratory Data Analysis in Archaeology
  - GIS Approaches to Past Landscapes
  - GIS in Archaeology and History
  - Remote Sensing in Archaeology
  - Spatial Statistics, Network Analysis and Human History
  - Web and Mobile GIS (by arrangement with the UCL Department of Civil and Geomatic Engineering)
- Other options available within the UCL Institute of Archaeology

#### Dissertation/report
- All students undertake an independent research project which culminates in a dissertation of 15,000 words (90 credits). The topic may be chosen to provide a pilot study for further academic research. Examples of past projects include: agent-based simulation for visitor management of a candidate World Heritage Site in the Ukraine cost-path analysis of Inca trade networks in Peru Modeling of buried land-surfaces in the City of London
Your career

Approximately one third of graduates of the programme have gone on to do PhDs at universities such as Cambridge, Leiden, McGill, Thessaloniki and Washington State. Of these, some continue to pursue GIS and/or spatial analysis techniques as a core research interest, while others use the skills and inferential rigour they acquired during their Master’s as a platform for more wide-ranging doctoral research. Several graduates who went on to doctoral research are now lecturers in computational Archaeology: at the University of Cambridge, Queen’s University Belfast and the University of Colorado. Other graduates have gone to work in a range of archaeological and non-archaeological organisations worldwide. These include specialist careers in national governmental or heritage organisations, commercial archaeological units, planning departments, utility companies, the defence industry and consultancies.

Employability

This degree offers a considerable range of transferable practical skills as well as instilling a more general inferential rigour which is attractive to almost any potential employer. Graduates will be comfortable with a wide range of web-based, database-led, statistical and cartographic tasks. They will be able to operate both commercial and open source software, will be able to think clearly about both scientific and humanities-led issues, and will have a demonstrable track record of both individual research and group-based collaboration.
**Entry requirements**

A minimum of an upper second-class Bachelor's degree in a relevant subject from a UK university or an overseas qualification of an equivalent standard.

**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 GIS and Spatial Analysis in Archaeology at graduate level
- why you want to study GIS and Spatial Analysis in Archaeology 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
- whether you have experience of using GIS or related technologies and, if so, what knowledge and skills you have already acquired
- whether you are primarily interested in using GIS and related technologies for modelling and spatial analysis, or for visualisation

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: £10,720 (FT), £5,395 (PT)
- EU: £10,720 (FT), £5,395 (PT)
- Overseas: £22,080 (FT), £11,060 (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 Students website.

UCL Institute of Archaeology (IoA) Master’s Awards: a small number of grants up to the value of £1,000 are available for the academic year 2019/20. All UK/EU and Overseas fee-paying students with an offer to start any Master's degree offered by the IoA are eligible to apply. For an application form please email Lisa Daniel. The deadline for applications is 1 March 2019.

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**

Miss Lisa Daniel, Graduate Admissions Administrator

Email: ioa-gradadmissions@ucl.ac.uk

Telephone: +44 (0)20 7679 7499

**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