Data Science for Research in Health and Biomedicine MSc

Students will become expert in linking and analysing large complex datasets, using techniques which are transforming medical research and creating exciting new commercial opportunities. Graduates will be equipped for roles in the pharmaceutical industry, the NHS and technology start-ups, as well as academia.

Degree summary

Students learn how to design and carry out complex and innovative clinical research studies that take advantage of the increasing amount of available data about the health, behaviour and genetic make-up of small and large populations. The content is drawn from epidemiology, computer science, statistics and other fields, including genetics.

The staff delivering the teaching are international experts in health data science and students will learn about cutting-edge research projects.

The collaboration is part of the Farr Institute, a network of centres of excellence created to enhance the UK’s strength in data-intensive research. This MSc will draw on that collaboration, giving students access to the most advanced research in the field.

The programme is delivered by clinicians, statisticians and computer scientists from UCL, including leading figures in data science. We use a combination of lectures, practical classes and seminars. A mixture of assessment methods is used including examinations and coursework.

Degree structure

Mode: Full-time: 1 year; Part-time: 2 years; Flexible: 2-5 years
Location: London, Bloomsbury

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

A Postgraduate Diploma (120 credits) is offered.
A Postgraduate Certificate (60 credits) is offered.

<table>
<thead>
<tr>
<th>CORE MODULES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Epidemiology Applied to Electronic Health Records Research</td>
</tr>
<tr>
<td>Data Management for Health Research</td>
</tr>
<tr>
<td>Statistics for Epidemiology and Public Health</td>
</tr>
<tr>
<td>Statistical Methods in Epidemiology</td>
</tr>
<tr>
<td>Topics in Health Data Science</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPTIONAL MODULES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Statistics for Records Research</td>
</tr>
<tr>
<td>Database Systems</td>
</tr>
<tr>
<td>Information Retrieval and Data Mining</td>
</tr>
<tr>
<td>Principles of Health Informatics</td>
</tr>
<tr>
<td>Machine Learning in Healthcare and Biomedicine</td>
</tr>
<tr>
<td>Statistics for Interpreting Genetic Data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DISSERTATION/REPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>All students undertake an independent research project which culminates in a dissertation.</td>
</tr>
</tbody>
</table>
Your career

Students on this programme will be passionate about research and know that, in the 21st century, some of the most exciting, stimulating and productive research is carried out using large collections of data acquired in big collaborative endeavours or major public or private initiatives. Graduates will build on that passion and the experience gained on the programme and develop careers as entrepreneurs, scientists and managers, working in industry, academia and healthcare.

Employability

The programme is designed to meet a need, identified by the funders of health research and by a number of industrial organisations and healthcare agencies, for training in the creation, management and analysis of large datasets. This programme is practical, cross-disciplinary and closely linked to cutting-edge research and practice at UCL and UCL’s partner organisations. Data science is arguably the most rapidly growing field of employment at the moment and employers recruiting in health data science include government agencies, technology companies, consulting and research firms as well as scientific organisations. A number of employers are supporting the programme in different ways, including providing paid internships to selected students.
Entry requirements

A minimum of an upper second-class Bachelor’s degree, or equivalent, in a clinical or a scientific discipline with a significant computational or mathematical element.

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 Data Science for Research in Health and Biomedicine at graduate level
- why you want to study Data Science for Research in Health and Biomedicine 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: £9,560 (FT)
- EU: £9,560 (FT)
- Overseas: £24,140 (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.

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

APPLICATION DEADLINE

All applicants: 1 September 2017

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

CONTACT

Ms Espy Rodrigues
Email: e.rodrigues@ucl.ac.uk
Telephone: +44 (0)20 3549 5300

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