
UNIVERSITY OF LONDON
2024
Postgraduate programmes in
Data Science
With academic direction from:
Goldsmiths
UNIVERSITY OF LONDON
london.ac.uk/data-science
World class. Worldwide.

A University of London degree from anywhere in the world

1 **Gain the professional skills that are in demand by employers**
Learn how to apply technology to real-world data science problems and gain an in-depth understanding of emerging technologies, statistical analysis and computational techniques. Acquire transferable skills that will help advance your career.

2 **Choose from specialist pathways that fit your career aspirations**
You can choose to specialise in Artificial Intelligence or Financial Technology depending on your interests.

3 **Flexible learning options**
We offer you the flexibility to fit your studies around your working life. If you need to travel, you can take your studies with you.

4 **Student support**
All students will have access to the Virtual Learning Environment. If you register for support at one of our Recognised Teaching Centres, you will receive face-to-face classes and tutor support. If you're a web-supported learner, you will join an online tutor group.

5 **A mark of excellence**
You'll gain a prestigious qualification, respected by employers worldwide. The programme has been developed by Goldsmiths, University of London, one of the UK's top institutions for innovation and creativity.

Contents

Key dates

Applications open:
18 December 2023

Applications close:
04 March 2024

Registration closes:
18 March 2024

Programme starts:
08 April 2024

Apply your knowledge to real-world data

Managing and analysing big data has become an essential part of modern finance, retail, marketing, social science, development and research, medicine and government.

This programme addresses the skills shortage of data scientists who can use data to drive improvements to organisational performance. Students will have the opportunity to build their professional portfolios through project work.

Gain highly valued skills

The MSc Data Science suite of programmes offers students skills which will help them not only in their current job but prepare them for their future career trajectory. This programme teaches the skills needed by data scientists to drive improvements to organisational performance. By combining the statistical and computational skills to generate insights, data can be used to enhance business delivery across a range of sectors. Students will learn the mathematical foundations of statistics, data mining and machine learning, and apply these to practical, real-world data.

The MSc Data Science has been developed by the University of London with academic direction by Goldsmiths, University of London, which offers a similar programme on campus.

The innovative study method gives students the freedom, right from the start of their studies, to create their own software projects.

A trusted name in global education

Founded in 1836, the University of London is one of the oldest and most prestigious universities in the UK. In 1858, we made our degrees available to study anywhere in the world. We now have more than 40,000 students in 190 countries.

Among our former students are six Nobel Prize winners, including: Nelson Mandela; the eminent Caribbean writer, Derek Walcott; and Charles Kao, a pioneer in the development of fibre optics.

London as an academic base

London is home to some of the world's most innovative and entrepreneurial companies. Over a third of all European billion-dollar start-ups are based in the UK. Many of the creative tech giants, including Facebook and Google, have offices in London.

The MSc Data Science draws upon the city's creative environment. You'll be equipped with skills that will keep you up to date with the leading industry trends and innovations, wherever you are in the world.

Goldsmiths, University of London

The academic content for the postgraduate Data Science programmes has been developed by the Department of Computing at Goldsmiths, one of the UK's top creative universities.

Founded in 1891, Goldsmiths is world renowned for teaching and research in creative, cultural and computational disciplines. Goldsmiths encourages students to explore ideas, challenge boundaries, investigate fresh ways of thinking and stretch themselves intellectually. The Department of Computing at Goldsmiths is driven by a view of computer science that captures this spirit.

The department uses a hands-on, project-based style of teaching for a range of topics, from data and computer science all the way through to art, music, the social sciences and journalism.

This ethos has created highly interactive degrees which make use of the latest technology within education. You will learn from experts in the field, whose experiences span many regions and industries.

Besides data science, Goldsmiths' Department of Computing research and teaching also covers an array of topics, including computational art, virtual reality, computer music, digital sociology and education technology.

Dr Tim Blackwell

Programme Director

Dr Tim Blackwell is a senior lecturer in Computer Science at Goldsmiths, University of London. Prior to his post at Goldsmiths, Tim was with the Open University, Edinburgh and Glasgow Universities and Imperial College, London. He trained as a theoretical physicist and computer scientist and researches a wide portfolio of subjects. Tim is best known for the creation of Swarm Music, an autonomous computer improviser. Much of his current work focuses on swarm intelligence algorithms and their use in problem solving. For example, he is currently researching swarm intelligent reconstructions of medical imaging acquisitions.

Online and flexible learning explained

You can choose to start the degree in either April or October.

The MSc Data Science degree can be completed in up to five years or as soon as one year.* Each module is studied over 22 weeks and requires an average of five to seven study hours per week. You can study up to six new modules at a time (or four, plus your Final Project).

1. Decide when you want to enrol, either in April or October.
2. Then choose whether you want to enrol:

   – as a web-supported learner: this means you'll join an online group, where your tutor will provide support via discussion groups

   or

   with a Recognised Teaching Centre (where available). You'll be able to attend face-to-face classes and meet up with other students on your course.

*Subject to module availability.

A choice of pathways

You can register for the general Data Science pathway or choose from one of two specialist pathways in:

- Artificial Intelligence
- Financial Technology.

Dr Larisa Soldatova

MSc Data Science Module Leader

'We are excited to be offering a unique Data Science degree that is specifically designed to address the challenges of the present and future workplace.

Data analytic techniques are evolving fast, new data is being produced at an unprecedented rate across the world and the tools we use to process it are becoming more intelligent. This programme will equip you with the necessary skills to become a leading data science specialist in our modern society. You will gain the theoretical and computational skills needed to extract insights from data and to conduct data analysis in a wide range of applications.'

Guaranteed tutor support

All students receive tutor support and feedback while studying this programme. Tutors introduce the modules, respond to queries and provide guidance on the assessments. If you register as a web-supported learner, you will become a member of an online group, which is facilitated by a tutor who provides support via discussion groups and regular messages to keep you on track.

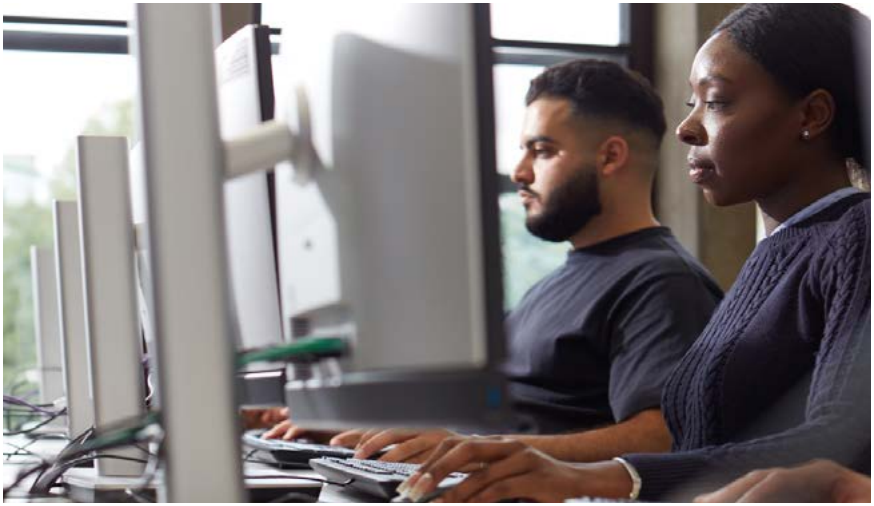
If you register for support at one of our Recognised Teaching Centres, you will be able to attend classes and benefit from tutor support.

For details about Recognised Teaching Centres, please visit: **bit.ly/teaching-centres**

Build up your qualifications

The flexible nature of the programme means that you can choose to study for an MSc, Postgraduate Diploma or Postgraduate Certificate (for the general pathway only).

If you choose to register on the Postgraduate Certificate or one of the Postgraduate Diploma programmes, upon completion you may decide to progress to a higher award, a related Postgraduate Diploma or an MSc respectively.



Alternatively, if you register on an MSc, you can apply for a Postgraduate Certificate in Data Science or a related Postgraduate Diploma as you progress through your MSc studies and complete the required modules. Please visit: **bit.ly/DataSci-modules**

Assessment

The format and mode of assessment for this programme may change due to events or circumstances beyond our control. A mixture of coursework and examinations is usually used; see our module web page for more information: **bit.ly/DataSci-modules**. Students will be informed of their assessment arrangements via the Virtual Learning Environment (VLE), once confirmed. For the latest information on examinations, please visit: **london.ac.uk/exams**

Celebrate your graduation

After successfully completing your degree, you will receive a University of London award and an invitation to the annual graduation ceremony in London. The event is usually headed by the University of London's Vice-Chancellor or the Chancellor, HRH the Princess Royal.

Take your career to the next level

We know it's important to consider your future career before you embark on a degree. So, how will the MSc Data Science and its offer of focused specialisms help you to achieve your goals?

MSc Data Science

The MSc Data Science programme develops analytical and critical skills, providing you with the tools and competencies needed to intelligently interrogate numerical, textual and qualitative data. This includes extracting meaning from raw information and communicating the results of their investigations and their implications to stakeholders or other interested parties.

These skills can lead to a variety of careers with small and large technology firms, the biomedical research sector, the charitable and voluntary sector and the public research sector.

Throughout the programme, you will learn the skills required to explain and critically assess machine learning and statistical data mining techniques, critically evaluate emerging data analysis technologies and analyse in depth how data analysis techniques can be applied to a range of interdisciplinary research areas, among other skills.

MSc Data Science and Artificial Intelligence

The MSc Data Science and Artificial Intelligence programme develops analytical and practical skills, providing you with the tools and competencies of intelligent data analysis for decision-making and problem solving. This includes reporting the results of your investigations and their implications to stakeholders or other interested parties. These skills can lead to a variety of careers with leading technology firms, in robotics, the military, academia and the public research sector.

MSc Data Science and Financial Technology

The MSc Data Science and Financial Technology programme develops analytical and practical skills, providing you with the tools and competencies needed to intelligently analyse financial data and modern financial markets; to evaluate and predict investment behaviour and investment decisions; and to communicate the results of your investigations and their implications to stakeholders or other interested parties. These skills lead to a variety of careers with employers from the financial sector, including financial planning, insurance, marketing and investment banking.

For further details on programme specifications and module outlines, please visit: **bit.ly/DataSci-modules**

Degree structures

Data Science

MSc

Four core modules:
Statistics and Statistical Data Mining
Machine Learning
Data Programming in Python
Big Data Analysis
Plus two compulsory modules:
Data Visualisation
Data Science Research Topics
Plus four optional modules from:
Natural Language Processing
Social Networks and Graph Analysis
Artificial Intelligence
R for Data Science
Neural Networks
Blockchain Programming
Financial Data Modelling
Financial Markets
Mathematics for Data Science
Plus:
Final Project in Data Science

Postgraduate Diploma

Four core modules:
Statistics and Statistical Data Mining
Machine Learning
Data Programming in Python
Big Data Analysis
Plus two compulsory modules:
Data Visualisation
Data Science Research Topics
Plus two optional modules from:
Natural Language Processing
Social Networks and Graph Analysis
Artificial Intelligence
R for Data Science
Neural Networks
Blockchain Programming
Financial Data Modelling
Financial Markets
Mathematics for Data Science

Postgraduate Certificate

Two core modules:
Statistics and Statistical Data Mining
Machine Learning
Data Programming in Python
Big Data Analysis
Plus two optional modules from:
Natural Language Processing
Social Networks and Graph Analysis
Artificial Intelligence
R for Data Science
Neural Networks
Blockchain Programming
Financial Data Modelling
Financial Markets
Data Visualisation
Data Science Research Topics
Mathematics for Data Science
Any core modules not already taken from the list above.

Data Science and Artificial Intelligence

MSc

Four core modules:

- Statistics and Statistical Data Mining
- Machine Learning
- Data Programming in Python
- Artificial Intelligence

Plus three compulsory modules:

- Big Data Analysis
- Neural Networks
- Data Science Research Topics

Plus three optional modules from:

- Data Visualisation
- Natural Language Processing
- Social Networks and Graph Analysis
- R for Data Science
- Blockchain Programming
- Financial Data Modelling
- Financial Markets

Plus:

- Final Project in Data Science and Artificial Intelligence

Postgraduate Diploma

Four core modules:

- Statistics and Statistical Data Mining
- Machine Learning
- Data Programming in Python
- Artificial Intelligence

Plus three compulsory modules:

- Big Data Analysis
- Neural Networks
- Data Science Research Topics

Plus one optional module from:

- Data Visualisation
- Natural Language Processing
- Social Networks and Graph Analysis
- R for Data Science
- Blockchain Programming
- Financial Data Modelling
- Financial Markets

Data Science and Financial Technology

MSc

Four core modules:

- Statistics and Statistical Data Mining
- Machine Learning
- Data Programming in Python
- Financial Data Modelling

Plus three compulsory modules:

- Big Data Analysis
- Blockchain Programming
- Financial Markets

Plus three optional modules from:

- Data Science Research Topics
- Data Visualisation
- Natural Language Processing
- Social Networks and Graph Analysis
- Artificial Intelligence
- R for Data Science
- Neural Networks

Plus:

- Final Project in Data Science and Financial Technology

Postgraduate Diploma

Four core modules:

- Statistics and Statistical Data Mining
- Machine Learning
- Data Programming in Python
- Financial Data Modelling

Plus three compulsory modules:

- Big Data Analysis
- Blockchain Programming
- Financial Markets

Plus one optional module from:

- Data Science Research Topics
- Data Visualisation
- Natural Language Processing
- Social Networks and Graph Analysis
- Artificial Intelligence
- R for Data Science
- Neural Networks

Entry requirements

Entry routes

We offer two entry routes into these programmes, so if you do not meet the academic requirements, you may still be eligible to apply through an alternative route.

Entry Route 1

To be eligible to register for any of the Data Science programmes, you must have the following:

- a bachelor's degree (or an acceptable equivalent) in a **relevant subject** which is considered at least comparable to a UK second class honours degree, from an institution acceptable to the University.

Entry Route 2

If you do not meet the academic requirements for Entry Route 1, you can apply for the programme via Entry Route 2.

To be eligible to register, you must have the following:

- a bachelor's degree (or an acceptable equivalent) in **any subject** which is considered at least comparable to a UK second class honours degree, from an institution acceptable to the University.

For Entry Route 2, you will also be required to complete an online preparatory course prior to registration. The online preparatory course, 'Foundations of Data Science', requires approximately 30 hours of study.

This route helps you to develop the necessary skills to complete the full MSc programme successfully.

For more details on entry requirements and eligibility, please visit: **bit.ly/DataSci-entry-reqs**

Recognition of prior learning

Recognition of prior learning (RPL) is our acceptance of a qualification in place of one (or more) modules of the MSc, so you don't need to take them as part of your degree. If your prior learning is recognised, you could complete the MSc more quickly by studying fewer modules. For this programme, the University of London may recognise your prior learning and award you credit towards the qualification up to the value of 120 UK credits.

How we recognise prior learning

We recognise qualifications automatically if we have already confirmed that they meet the learning outcomes of a particular module or set of modules. For qualifications we have not reviewed before, any recognition is classed as discretionary. If you believe a qualification you hold reflects similar learning outcomes to any particular MSc modules, you can apply for this to be recognised. For more information on RPL, please visit: **bit.ly/UoL-RPL**

English language requirements

If your first language is not English, you will be required to show evidence of your English language skills. This can range from an IELTS test score to evidence that you have undertaken substantial education or work experience in English. Please see our website for more details: **london.ac.uk/data-science**

Computer requirements

Students will require regular access to a portable computer with an internet connection to use the University of London's online resources and systems.

Students must be able to download and install software to their Windows or MacOS device to include secure examination browsers for online assessment purposes (if offered on your programme of study). Depending on the security settings for each assessment you may be required to have full administrator rights on your computer to install and run the software needed to take part in the assessment. Full administration rights are likely to apply to a computer that you own but not to one provided by your employer, for example.

The portable computer must have at least the following minimum specification:

- Windows: 10 and 11 on 64-bit platforms
- MacOS Big Sur (version 11) and higher
- CPUs newer than 2011 (Intel Sandy Bridge (Core i3, i5 and i7 or newer)
- OpenGL 2.0 graphics driver
- Local storage for the recording of proctored examinations (75MB per hour)
- Web camera & microphone (internal or external)
- A broadband internet connection capable of streaming video and a minimum of 0.15Mbps upload speed.
- Minimum device requirements are subject to change and older operating systems may become obsolete over time.
- It should also have the following applications installed:
- Word processor (for Microsoft Word documents)
- A PDF reader (e.g. Adobe)

Please note: full mobile access is not available for all programmes. Proctored assessments will not work on any smartphone, tablet, Chromebook, Linux Operating Systems or other mobile device of any kind.

We are developing further security protocols and therefore you may require a mobile device (such as a mobile phone or tablet/iPad), to approve for our services. Full details will be provided ahead of the transition.

Sarah Rauchas

Lecturer in Computing, Goldsmiths

'It has a solid academic foundation, where you learn about the theory behind techniques and approaches, as well as practical aspects, where you learn about applying those techniques. So graduates, depending on their interest of course, might be engaged in developing new techniques, or they might be engaged in using techniques to solve practical problems. The content of the modules is exciting and inspiring, and of high quality. The academics at Goldsmiths who are engaged on this programme are passionate about their areas of expertise, and also passionate about engaging with and supporting students. I'm very pleased to be a part of this.'

Fees and further information

Gain a prestigious University of London qualification at outstanding value.

The degree fee varies depending on a number of factors, which include:

- where you live
- whether you receive online or face-to-face tutor support.

Our module fees include access to study materials and entry into assessments, but not the fee for sitting exams. All exam fees should be paid directly to your local exam centre, should exams take place in an exam centre. More details are available at: **london.ac.uk/data-science**

The total fee payable to the University of London for 2024–2025 will be published on our website once confirmed. On average, fees incur a five per cent year-on-year increase. For the latest information on programme fees, please visit: **london.ac.uk/fees**

Please note: Student fees shown on our website are net of any local VAT, Goods and Services Tax (GST) or any other sales tax payable by the student in their country of residence. Where the University is required to add VAT, GST or any other sales tax at the local statutory rate, this will be added to the fees shown during the payment process. For students resident in the UK, our fees are exempt from VAT.

Employer sponsorship

If you're working and apply to study for this degree, your employer may be willing to help with the cost. Our online programmes are ideal for employers, because they keep you as an employee while they benefit from the additional skills you bring to the workplace.

For information about the University of London and the benefits of sponsorship, please visit: **london.ac.uk/employers**

About your qualification

When you graduate, you receive your Final Diploma and a Diploma Supplement.

The Final Diploma includes the following information:

- you were awarded a University of London degree, diploma or certificate
- Goldsmiths, University of London was your education provider
- the University of London crest and the Vice-Chancellor's signature.

If, for any reason, you are unable to finish your MSc or Postgraduate Diploma programme, an exit award (i.e. a Postgraduate Certificate or Postgraduate Diploma) may be granted for the successful completion of 60 or 120 credits respectively. All exit awards are granted at the discretion of the exam board.

The Diploma Supplement includes the following information:

- the award you successfully completed
- your transcript of modules taken, marks achieved and overall classification
- the role of Goldsmiths, University of London.

Distance and flexible learning qualifications are not always recognised by every country's authorities or regulators when it comes to employment or further study. It is advisable to check the recognition status of this degree in your country of study before enrolling on the programme.

For further information on the range of programmes we offer, please visit our website (**london.ac.uk**) or contact us at:

The Student Advice Centre
University of London
Senate House, Malet Street
London WC1E 7HU
United Kingdom

Telephone enquires: **+44 (0)20 7862 8360**

Online enquiries: **sid.london.ac.uk**

View the **Data Science** web page

This material is available in alternative formats upon request.
Please contact: **special.arrangements@london.ac.uk**

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