

PROGRAMME SPECIFICATION

Name, title and level of final qualification(s)	Graduate Certificate Statistics for Data Science (Level 6)
Name and title of any exit qualification(s)	N/A
Awarding Body	University of London
Teaching Institution(s)	Birkbeck, University of London
Home School/other teaching departments	School of Computing and Mathematical Sciences
Location of delivery	Central London
Language of delivery and assessment	English
Mode of study, length of study and normal start month	Part-time (1 year) September
Professional, statutory or regulatory body	N/A
QAA subject benchmark group(s) Higher Education Credit Framework for England	N/A
Birkbeck Course Code	GCGSTADS_C
HECoS Code	100406
Start date of programme	Autumn 2009
Date of programme approval	Summer 2009
Date of last programme amendment approval	October 2020
Valid for academic year and cohorts	2023-24
Date of last revision to document	23/11/2022

Admissions requirements

A relevant quantitative first degree containing some introductory statistics within it, and an A-level, or equivalent, in Mathematics. In exceptional circumstances candidates without a first degree may be admitted, provided they have equivalent level qualifications or professional experience that convinces the admissions team that they are suitably qualified to enter the programme.

We welcome applicants without traditional entry qualifications as we base decisions on our own assessment of qualifications, knowledge and previous work experience. We may waive formal entry requirements based on judgement of academic potential.

Course aims

The Graduate Diploma in Statistics for Data Science is aimed at students with a first degree who need or desire to develop specialist knowledge in statistical science and its practical implementation, in a package such as R. The Graduate Certificate can also act as a qualifying course for matriculation onto the MSc Applied Statistics portfolio of programmes.

Distinctive features: Part-time, evening, face to face study. Regular coursework forms a part of all modules, to further develop independent learning.

Course structure

The programme comprises two year-long 30 credit, level 6 modules: Advanced Mathematical Methods and Statistics: Theory and Practice. To qualify for the MSc Applied Statistics at Birkbeck, students need to gain at least a merit - corresponding to an average mark of at least 60 (on the College common scale).

Level	Module Code	Module Title	Credit	Comp Core/ Option	Likely teaching term(s)
Part-time – 1 year					
6	BUEM004S6	Advanced Mathematical Methods	30	Compulsory	T1-3
6	BUEM003S6	Statistics: Theory and Practice	30	Compulsory	T1-3

Core: Module must be taken and passed by student

Compulsory: Module must be taken but can be considered for compensated credit (see CAS regulations paragraph 24)

Option: Student can choose to take this module

How you will learn

Your learning and teaching is organised to help you meet the learning outcomes (below) of the course. As a student, we expect you to be an active learner and to take responsibility for your learning, engaging with all of the material and sessions arranged for you.

Each course is divided into modules. You will find information on the virtual learning site (Moodle, see Academic Support below) about each of your modules, what to expect, the work you need to prepare, links to reading lists, information about how and when you will be assessed.

Most teaching sessions are either lectures or statistical computing sessions. Lectures present both theory and worked examples. Computing sessions use statistical software packages, such as R, and enable students to learn about these packages and allow them to develop a greater

understanding of the course material. The computing sessions are usually self-paced and informal.

Detailed course notes, problems and worked solutions are provided to accompany lectures on each module. This facilitates the independent study necessary to understand and assimilate the material. Regular coursework and a variety of assessment methods are also designed to be formative and promote learning.

Individual tutorials are provided as required and are an integral part of the teaching provision. Students may also consult staff via other media.

How we will assess you

The course will use a variety of assessment methods. Assessment is used to enhance your learning rather than simply to test it.

The elements of assessment for the modules that contribute to this programme normally comprise the following:

Unseen written examinations in May/June [weighted 80%];

Coursework comprising assessed assignments [weighted 20%].

The range of assessments, and the types of questions and problems set within examinations and assignments are structured to balance theory and practice, to address the individual learning outcomes and to discriminate between different levels of achievement. However, the assessment strategy recognizes that students may exhibit very different aptitudes and abilities in different aspects of the programme and in different forms of assessment. This is particularly relevant to Birkbeck students who vary considerably in terms of academic background, prior work experience, current career and future career plans. The assessment strategy is therefore designed to: (i) ensure a good coverage of the curriculum and address a reasonable range of the learning outcomes, (ii) perform an ongoing formative function via the theoretical and practical assignments associated with all modules; (iii) give all students the opportunity to demonstrate their strengths and show what they can do well. assignments associated with all course modules; (iii) give all students the opportunity to demonstrate their strengths and show what they can do well.

Learning outcomes (what you can expect to achieve)

'Learning outcomes' indicate what you should be able to know or do at the end of your course. Providing them helps you to understand what your teachers will expect and also the learning requirements upon which you will be assessed.

At the end of this course, you should be able to:

Subject Specific:

- Understand and use, mathematical and statistical methods, results and techniques;
- Demonstrate knowledge of the use of statistical techniques to analyse data sets and the ability to collate and analyse data using a statistical computer package (such as R), and draw appropriate conclusions;
- Show awareness of the use of mathematics and/or statistics to model problems in the natural and social sciences, and the ability to formulate such problems using appropriate notation;
- understand the importance of assumptions and have an awareness of where they are used and the possible consequences of their violation;
- demonstrate a deeper knowledge of some particular areas of statistics;

Intellectual

- comprehend conceptual and abstract materia
- Demonstrate a logical and systematic approach to problem solving.

Practical

- Demonstrate problem-solving skills, including the ability to assess problems logically and to approach them analytically.
- Demonstrate highly developed quantitative skills
- Transfer knowledge and expertise from one context to another.

Personal and Social

- Work independently with patience and persistence.
- Demonstrate time-management and organizational skills, including ability to complete work in a limited time period.

Careers and further study

Graduates can pursue career paths in data collection, research, and analysis, modelling and forecasting. Possible professions include:

- statistician
- operational researcher
- research scientist (maths)
- forensic statistician
- higher education lecturer.

Birkbeck offers a range of careers support to its students. You can find out more on [the careers pages of our website](#).

Academic regulations and course management

Birkbeck's academic regulations are contained in its [Common Award Scheme Regulations](#) and Policies published by year of application on the Birkbeck website.

You will have access to a course handbook on Moodle and this will outline how your course is managed, including who to contact if you have any questions about your module or course.

Support for your study

Your learning at Birkbeck is supported by your teaching team and other resources and people in the College there to help you with your study. Birkbeck uses a virtual learning environment called Moodle and each course has a dedicated Moodle page and there are further Moodle sites for each of your modules. This will include your course handbook.

Birkbeck will introduce you to the Library and IT support, how to access materials online, including using Moodle, and provide you with an orientation which includes an online Moodle module to guide you through all of the support available. You will also be allocated a personal tutor and provided with information about learning support offered within your School and by the College.

[Please check our website for more information about student support services](#). This covers the whole of your time as a student with us including learning support and support for your wellbeing.

Quality and standards at Birkbeck

Birkbeck's courses are subject to our quality assurance procedures. This means that new courses must follow our design principles and meet the requirements of our academic regulations. Each new course or module is subject to a course approval process where the proposal is scrutinised by subject specialists, quality professionals and external representatives to ensure that it will offer an excellent student experience and meet the expectation of regulatory and other professional bodies.

You will be invited to participate in an online survey for each module you take. We take these surveys seriously and they are considered by the course team to develop both modules and the overall courses. Please take the time to complete any surveys you are sent as a student.

We conduct an annual process of reviewing our portfolio of courses which analyses student achievement, equality data and includes an action plan for each department to identify ongoing enhancements to our education, including changes made as a result of student feedback.

Our periodic review process is a regular check (usually every four years) on the courses by department with a specialist team including students.

Each course will have an external examiner associated with it who produces an annual report and any recommendations. Students can read the most recent external examiner reports on the course Moodle pages. Our courses are all subject to Birkbeck Baseline Standards for our Moodle module information. This supports the accessibility of our education including expectations of what information is provided online for students.

The information in this programme specification has been approved by the College's Academic Board and every effort has been made to ensure the accuracy of the information it contains.

Programme specifications are reviewed periodically. If any changes are made to courses, including core and/or compulsory modules, the relevant department is required to provide a revised programme specification. Students will be notified of any changes via Moodle.

Further information about specifications and an archive of programme specifications for the College's courses is [available online](#).

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