Year of entry: 2022/23

Programme Specification

1	**Awarding body**	University of London					
2	**Teaching Institution**	**Birkbeck College**					
3	**Programme Title(s)**	**Graduate Diploma Mathematics**					
4	**Programme Code(s)**	GDGMTHMT_C					
5	**UCAS code (if applicable)**	N/A					
6	**Home Department**	Economics, Mathematics and Statistics					
7	**Exit Award(s)**	Graduate Certificate Mathematics					
8	**Duration of Study (number of years)**	2 years part time/ 1 year full time					
9	**Mode of Study**	FT	✓	PT	✓	DL	
10	**Level of Award (FHEQ)**	6					
11	**Other teaching depts or institution**	N/A					
12	**Professional, Statutory Regulatory Body(PSRB) details**	N/A					
13	***QAA Benchmark Statement***	Mathematics, Statistics and Operational Research					

14	**Programme Rationale & Aims**
	The Graduate Diploma in Mathematics is aimed at students with a first degree in a quantitative discipline, who need or desire to develop specialist knowledge in an area of mathematics, or to "top up" their existing skills. In consultation with the programme director, students will have the opportunity to create a coherent programme of study tailored to their particular needs and interests in Mathematics. The Graduate Diploma can also act as a qualifying course for an MSc programme, such as the MSc Mathematics at Birkbeck. Distinctive features: Evening, face to face study, either part-time or full-time so you can study at your own pace. Regular coursework forms a part of all modules, to further develop independent learning. A choice of modules to allow students to pursue their areas of interest.

15	**Entry Criteria**
	• A degree in a quantitative subject, normally at least 2:2 or equivalent. • Standard college English language requirement. • Students may be able to be admitted without a 2:2 in a quantitative degree, subject to passing an entrance test. • Unfortunately regulations do not allow us to offer the programme to international applicants who would require a Student Visa to study.

16	**Learning Outcomes**
	On successful completion of this programme a student will be expected to have: **Subject Specific:** LO1 Knowledge and understanding of, and the ability to use, mathematical techniques. LO2 Knowledge and understanding of a range of results in mathematics. LO3 Appreciation of the need for rigour in mathematics, such as valid proofs or initial assumptions, and the ability to follow and construct mathematical arguments. LO4 Appreciation of the power of generalization and abstraction in mathematics. LO5 A deeper knowledge of some particular areas of mathematics. **Intellectual** LO6 Ability to comprehend conceptual and abstract material. LO7 Develop a logical and systematic approach to problem solving. **Practical** LO8 Problem-solving skills, including the ability to assess problems logically and to approach them analytically. LO9 Highly developed quantitative skills LO10 Ability to transfer knowledge and expertise from one context to another. **Personal and Social** LO11 Ability to learn independently using a variety of media. LO12 Ability to work independently with patience and persistence. LO13 Time-management and organizational skills. LO14 Good communication skills, including the ability to write coherently. LO15 Ability to complete work in a limited time period.

17	**Learning, teaching and assessment methods**
	Most teaching sessions are lectures, presenting both theory and worked examples. Typically a 30 credit module would comprise a total of 18 evenings of lectures, each running from 6-9pm, with eight evenings in each of the Autumn and Spring terms, and two revision evenings in the Summer Term. Students may also choose options from our Graduate Certificate in Mathematics by distance learning. For these 15 credit modules, teaching is delivered online, with a mix of live sessions and pre-recorded videos. 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. The methods of assessment used are: • Unseen 3 hour examinations in May/June for 30 credit modules • Unseen 2 hour examinations at the end of the term for 15 credit (1-term) modules • Assessed assignments, such as problem sheets or essays, and for some modules in-class or online tests For most modules 80% of the assessment comes from unseen examinations. This allows time for students to assimilate the material and develop a thorough understanding of the course curriculum. The 20% contribution from coursework enables students to get practice

	in tackling and solving problems independently, without the time pressure of examinations, and gives staff an opportunity to give relevant feedback. The range of assessments, and the type 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 course 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 the range of learning outcomes, (ii) perform an on-going formative function via the theoretical and practical assignments associated with all course modules; (iii) give all students the opportunity to demonstrate their strengths and show what they can do well. Both the external and the second internal examiner normally scrutinize all examination papers before they are finalized. Exams and Essays are all double marked. Coursework is marked by the first examiner and moderated by the second internal examiner. All marks are moderated by the External Examiner, who is invited to comment on the suitability of the assessment methods, criteria and procedures.

18	**Programme Description**
	Students will study 120 credits worth of mathematics modules at level 5 or 6, with at least 90 credits at level 6 (corresponding to final year undergraduate). Part-time students will take 60 credits of modules in each of the two years of their programme. Usually if a level 5 module is taken, it will be taken in year 1 of the programme if you are studying part-time, but that is not essential. Full-time students complete the programme in 1 year. All level 5 modules run every year, but not every level 6 module runs every year. The programme director will offer guidance about the most suitable choices, given experience, prior study and future goals. For those wishing to qualify for the MSc Mathematics at Birkbeck, we would usually require at least 30 credits of level 6 algebra modules.

19 **Programme Structure**

Full-Time programme (1 year)

Students take 120 credits of modules at level 5 or 6 from our BSc or Graduate Certificate programmes in Mathematics, with a total of 120 credits at level 5 or 6, including at least 90 credits at level 6.

Year 1

Level	Module Code	Module Title	Credits	Status*
6	Option	90 credits of option modules at level 6, indicative list below	90	option
5/6	Option	30 credit module at level 5 or 6, indicative list below	30	option

Part-Time programme (2 years)

Students take 60 credits each year of modules at level 5 or 6 from our BSc or Graduate Certificate programmes in Mathematics, with a total of 120 credits at level 5 or 6, including at least 90 credits at level 6.

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Year 1				
Level	**Module Code**	**Module Title**	**Credits**	**Status***
5/6	Option	Option(s) in mathematics – indicative list below	30	option
6	Option	Option(s) in mathematics – indicative list below	30	option
Year 2				
Level	**Module Code**	**Module Title**	**Credits**	**Status***
5/6	Option	Option(s) in mathematics – indicative list below	30	option
6	Option	Option(s) in mathematics – indicative list below	30	Option
Indicative List of Option Modules				
5	BUEM100S5	Number Theory and Cryptography	30	option
5	BUEM101S5	Algebra 2	30	option
5	BUEM001S5	Calculus 2	30	option
5	EMMS098S5	Probability and Statistics	30	option
6	BUEM102S6	Algebra 3	30	option
6	BUEM103S6	Analysis	30	option
6	BUEM104S6	Ordinary Differential Equations	30	option
6	BUEM105S6	Finite Mathematics	30	option
6	BUEM106S6	Approximation: Theory and Methods	30	option
6	BUEM003S6	Statistics: Theory and Practice	30	option
6	BUEM004S6	Advanced Mathematical Methods	30	option
6	BUEM123H6	Abstract Algebra 1**	15	option
6	BUEM124H6	Abstract Algebra 2**	15	option
6	BUEM122H6	Advanced Calculus**	15	option
6	BUEM125H6	Real Analysis**	15	option
** Online distance-learning modules – students should not select more than 60 credits of online modules.				

Status*

CORE – Module must be taken and passed by student
COMPULSORY – Module must be taken, mark can be reviewed at sub-exam board
OPTIONAL – Student can choose to take this module

20	**Programme Director**	Sarah Hart
21	**Start Date** ***(term/year)***	Autumn 2010
22	**Date approved by Education Committee**	Spring 2010
23	**Date approved by Academic Board**	Summer 2010
24	**Date(s) updated/amended**	8 March 2021