

## Programme Specification

1	<b>Awarding body</b>	University of London				
2	<b>Teaching Institution</b>	<b>Birkbeck College</b>				
3	<b>Programme Title(s)</b>	<b>BSc Mathematics with Management</b>				
4	<b>Programme Code(s)</b>	UUBSMWMN_C (3 years full-time) UBSMTWMN_C (4 years full-time)				
5	<b>UCAS code</b>	G1N2				
6	<b>Home Department</b>	Economics, Mathematics and Statistics				
7	<b>Exit Award(s)</b>	Certificate of Higher Education Diploma of Higher Education				
8	<b>Duration of Study (number of years)</b>	3 years full-time/4 years part time				
9	<b>Mode of Study</b>	FT	✓	PT	✓	DL
10	<b>Level of Award (FHEQ)</b>	6				
11	<b>Other teaching depts or institution</b>	Management				
12	<b>Professional, Statutory Regulatory Body(PSRB) details</b>	N/A				
13	<a href="#"><u>QAA Benchmark Statement</u></a>	Mathematics, Statistics and Operational Research				
14	<b>Programme Rationale &amp; Aims</b>	<p>The BSc Mathematics with Management aims to provide a broad education in and some of the main concepts and methods of management. The programme concentrates on the methods and modelling techniques of mathematics, but also provides the theoretical background for these ideas. Students develop knowledge of a range of mathematical skills together with an understanding of management.</p> <p>In line with the College's mission to make high quality education available to students who are not able for whatever reason to study during the day, the programme is delivered by evening, face-to-face study and is offered both in part-time and full-time modes.</p>				
15	<b>Entry Criteria</b>	<p>A UCAS tariff of at 112-128 points, including a grade B, or higher, in A-level mathematics, or the equivalent.</p> <p>For student who have not recently studied, A-level mathematics, or the equivalent, is desirable. Students without such a qualification are required to pass an entrance test.</p> <p>Students can also follow this programme after successful completion of the foundation year of the BSc Mathematics with Foundation Year at Birkbeck, by transferring onto the BSc Mathematics with Management with Foundation Year route.</p>				

16	<p><b>Learning Outcomes</b></p> <p><i>On successful completion of this programme a student will have attained the following learning outcomes.</i></p> <p><b>Subject Specific:</b></p> <p>LO1 Knowledge and understanding of, and the ability to use, mathematical and/or statistical techniques.</p> <p>LO2 Knowledge and understanding of a range of results in mathematics and statistics.</p> <p>LO3 Appreciation of the need for proof in mathematics, and the ability to follow and construct mathematical arguments.</p> <p>LO4 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.</p> <p>LO5 Understand the importance of assumptions and have an awareness of where they are used and the possible consequences of their violation.</p> <p>LO6 Ability to present, analyse and interpret data.</p> <p>LO7 A deeper knowledge of some particular areas of mathematics.</p> <p>LO8 Understand the ways in which different aspects of management behaviour have been analyzed by social scientists.</p> <p>LO9 Develop knowledge and understanding of management theory and practice.</p> <p>LO10 Appreciate the utility of economic tools in business planning</p> <p>LO11 Understand and apply the principles of costing and budgeting.</p> <p>LO12 A deeper knowledge of some particular areas of, or relevant to, management.</p> <p><b>Intellectual:</b></p> <p>LO13 Problem-solving skills, including the ability to assess problems logically and to approach them analytically.</p> <p>LO14 Ability to comprehend conceptual and abstract material.</p> <p>LO15 Highly developed quantitative skills.</p> <p><b>Practical:</b></p> <p>LO16 Ability to use appropriate software packages.</p> <p>LO17 Ability to transfer knowledge and expertise from one context to another.</p> <p><b>Personal and Social:</b></p> <p>LO18 Ability to learn independently using a variety of media.</p> <p>LO19 Ability to work independently with patience and persistence.</p>
----	--

	<p>LO20 Time-management and organizational skills.</p> <p>LO23 Good communication skills, including the ability to write coherently.</p>
--	--

17	<p><b>Learning, teaching and assessment methods</b></p> <p>Most teaching sessions are lectures or occasionally computing sessions. Lectures present both theory and worked examples. Computing sessions use either spreadsheets or a modern statistical or mathematical software package, 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.</p> <p>Detailed notes, problems and worked solutions are provided to accompany most 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.</p> <p>Individual tutorials are provided as required and are an integral part of the teaching provision. Students may also consult staff by email and telephone.</p> <p>The methods of assessment used are:</p> <ul style="list-style-type: none"> <li>• Unseen examinations.</li> <li>• Assessed assignments.</li> <li>• Essays.</li> </ul> <p>For most modules 80% of the assessment comes from unseen examinations in the Summer Term. 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.</p> <p>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.</p> <p>Both the external and the second internal examiner normally scrutinize all HE level 5 and 6 examination papers before they are finalized. All examination papers are double marked. Coursework is marked by the first examiner and moderated by the second internal</p>
----	---

	examiner. All marks are moderated by the External Examiner, who is invited to comment on the suitability of the assessment methods, criteria and procedures. These comments influence any changes that are recommended at the BSc review meeting.
--	---

18	<b>Programme Description</b>
	<p>The first two years of the programme consist mainly of core and compulsory modules. These modules cover the body of knowledge that every student is expected to know as a key part of university level study in this area.</p> <p>At level 5 there are 60 credits of compulsory modules, and 60 credits of options, while at level 6 there are 120 credits of options, allowing students to tailor their programme to suit their interests and strengths.</p> <p>(Note: Students who successfully complete the foundation year of the BSc Mathematics with Foundation Year, can then transfer onto the BSc Mathematics with Management with Foundation Year route to follow the programme below.)</p>

19	<b>Programme Structure</b>			
<b>Full-Time programme – 3 years</b>				
<b>Year 1</b>				
Level	Module Code	Module Title	Credits	Status*
4	EMMS096S4	Calculus 1	30	Core
4	EMMS097S4	Algebra 1	30	Core
4	BUEM096S4	Numbers, Proofs and Counting	30	Compulsory
4	BUMN077H4	Management Studies I	15	Core
4	BUMN078H4	Management Studies II	15	Core
<b>Year 2</b>				
Level	Module Code	Module Title	Credits	Status*
5	BUEM001S5	Calculus 2	30	Compulsory
5	option	One mathematics option from the indicative list below	30	Option
5/6	option	One level 5 or 6 mathematics option from indicative list below (they can do a level 6 option at the Programme director's discretion, to increase choice, and if they do this, then they do 30 credits at level 5 in Year 3 to compensate)	30	Option
5	options	Any level 5 management/business related modules	30	Option

<b>Year 3</b>				
<b>Level</b>	<b>Module Code</b>	<b>Module Title</b>	<b>Credits</b>	<b>Status*</b>
6/5	option	One level 6/5 mathematics option from indicative list below (they do a level 5 option only if they did a level 6 in Year 2)	30	option
6	options	90 credits of level 6 options from indicative list below	90	option
Over the programme students must complete 120 credits at level 6, including at least 60 credits of level 6 mathematics options, and at least 30 credits of level 6 Management options.				
<b>Part-Time programme – 4 years</b>				
<b>Year 1</b>				
<b>Level</b>	<b>Module Code</b>	<b>Module Title</b>	<b>Credits</b>	<b>Status*</b>
4	EMMS096S4	Calculus 1	30	Core
4	EMMS097S4	Algebra 1	30	Core
4	BUMN077H4	Management Studies I	15	Core
4	BUMN078H4	Management Studies II	15	Core
<b>Year 2</b>				
<b>Level</b>	<b>Module Code</b>	<b>Module Title</b>	<b>Credits</b>	<b>Status*</b>
4	BUEM096S4	Numbers, Proofs and Counting	30	Compulsory
5	BUEM001S5	Calculus 2	30	Compulsory
5	Option(s)	Any 30 credits of level 5 Management/Business related modules	30	Option
<b>Year 3</b>				
<b>Level</b>	<b>Module Code</b>	<b>Module Title</b>	<b>Credits</b>	<b>Status*</b>
5	option	30 credits level 5 from the indicative option list below	30	Option
5	option	30 credits level 5 from the indicative option list below	30	Option
6	option	30 credits level 6 from the indicative option list below	30	Option
<b>Year 4</b>				
6	options	90 credits at level 6 from indicative option list below	90	Options
Over years 3 and 4 students must do at least 60 credits of level 6 mathematics options, and at least 30 credits of level 6 Management options.				
<b>Optional modules (indicative list)</b>				
<b>Level</b>	<b>Module Code</b>	<b>Module Title</b>	<b>Credits</b>	<b>Status*</b>
5	EMMS098S5	Probability and Statistics	30	Option
5	BUEM101S5	Algebra 2	30	Option
5	BUEM100S5	Number Theory and Cryptography	30	Option
5	options	Any level 5 management/business related modules	15/30	Option
6	BUEM102S6	Algebra 3	30	Option

Year of entry: 2022/23



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	options	Any management/business related modules for which they have completed the level 4 and 5 prerequisites	15/30	Option

**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	<b>Programme Director</b>	Dr Andrew Bowler
21	<b>Start Date</b> ( <i>term/year</i> )	Autumn 2010
22	<b>Date approved by TQEC</b>	Autumn 2009
23	<b>Date approved by Academic Board</b>	Spring 2010
24	<b>Date(s) updated/amended</b>	February 2019