

Programme Specification

Awarding Body/Institution	Queen Mary, University of London
Teaching Institution	Queen Mary, University of London
Name of Final Award and Programme Title	BSc Mathematics, Statistics and Financial Economics
Name of Interim Award(s)	N/A
Duration of Study / Period of Registration	3 years
QM Programme Code / UCAS Code(s)	UBSF-QMMATH1-UTMASSTAFEC / GL11
QAA Benchmark Group	Mathematics, statistics and operational research
FHEQ Level of Award	Level 6
Programme Accredited by	N/A
Date Programme Specification Approved	
Responsible School / Institute	School of Mathematical Sciences

Schools which will also be involved in teaching part of the programme

School of Economics & Finance

Institution(s) other than Queen Mary that will provide some teaching for the programme

Programme Outline

This programme is designed for students who wish to follow a joint programme that includes a combination of mathematics/statistics and economics in approximately equal proportions. The programme contains a basic core of general mathematics, statistics and economics. This leads on to more specialised modules in economics related to finance and relevant statistics modules. It combines training in statistical theory and related areas of mathematics with financial economics. It provides hands-on experience of using statistical packages and presentation of reports. Graduates of this programme obtain jobs requiring mathematical and statistical reasoning in diverse areas such as finance, business and government. They may also be suited to further training in economics, statistics and actuarial studies.

Aims of the Programme

This joint programme with the School of Economics & Finance aims to provide graduates with a grounding in mathematics focused on statistics and in economics focused on finance. The programme begins with more emphasis on mathematics in the first year, but subsequent years are balanced between mathematics and economics. It aims to ensure that graduates have enough mathematical background to fully understand the mathematical tools used in economics and finance, whilst also appreciating the economic and financial environment within which the mathematical analysis is applied. Mathematics and

economics are complementary subjects and during this programme students will discover and be able to exploit the many links between them.

What Will You Be Expected to Achieve?

Students who successfully complete this programme will be able to:

Academic Content:

A 1	reason clearly, critically and with rigour within a mathematical context, both theoretical and practical;
A 2	construct appropriate written mathematical and economic arguments;
A 3	analyse a problem within a mathematical context and select appropriate mathematical tools to solve it;
A 4	apply mathematics to financial economics;

Disciplinary Skills - able to:

B 1	be fluent and accurate in basic numerical skills;
B 2	comprehend fundamental concepts and techniques of calculus, discrete mathematics, linear algebra, probability, statistics and other mathematical subjects;
B 3	take notes, write up notes, plan revision, and learn alone;
B 4	use e-mail for cooperation and the internet as a source of information, and have a sense of right and wrong ways of using these facilities;
B 5	manage time and work cooperatively within a community;
B 6	undertake a critical analysis and assessment of financial and economic issues;
B 7	choose appropriate mathematical methods in financial economics, and report the results in writing;
B 8	use statistical computing packages, such as Minitab and Genstat, and make critical interpretations of their output;

Attributes:

C 1	acquire and apply knowledge in a rigorous way;
C 2	connect information and ideas within their field of study;

C 3	use writing for learning and reflection;
C 4	adapt their understanding to new and unfamiliar settings;
C 5	acquire new learning in a range of ways, both individually and collaboratively;
C 6	use quantitative data confidently and competently;
C 7	acquire transferable key skills to help with career goals and continuing education;
C 8	develop effective spoken and written English;
C 9	acquire substantial bodies of new knowledge;
C 10	use information for evidence-based decision-making and creative thinking.

How Will You Learn?

Teaching in most modules is primarily by formal lectures but may include guided reading of text books. For all except some higher-level modules, teaching is supported by tutorial classes and/or computer laboratories. Teaching of reading and project modules is primarily by guided reading of text books and weekly seminars or supervisions.

Learning in most modules is by attending lectures, reading lecture notes and recommended text books, attempting exercises and asking questions in exercise classes and/or computer laboratories and staff office hours.

How Will You Be Assessed?

Assessment is normally primarily by written examination but for some modules may also include continuous assessment of coursework consisting of solutions to exercises, which are set weekly or fortnightly, and one or more tests. Summative coursework assessment or tests may typically contribute up to 10% of the assessment. Assessment of project modules is normally by a project report, presentation and, at the examiners' discretion, an oral examination.

How is the Programme Structured?

Overall, students must take at least 210 credits (14 modules) taught by the School of Mathematical Sciences and at least 135 credits (9 modules) taught by the School of Economics and Finance.

In the first year, students take 2 core and 6 compulsory level-4 modules. In the second year, they take 1 core level-4 module, 2 core level-5 modules and 5 compulsory level-5 modules. In the final year, they take 1 core level-5 module, 3 compulsory level-6 modules, choose either ECN358 Futures and Options or ECN372 Corporate Finance 2, choose two of

MTH6121 Introduction to Mathematical Finance

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MTH6134 Statistical Modelling II
 MTH6138 Third Year Project
 MTH6100 Actuarial Mathematics
 MTH6116 Design of Experiments
 MTH6120 Further Topics in Mathematical Finance
 MTH6141 Random Processes

and have free choice of 15 credits at level 5 or 6.

All first-year Mathematical Sciences students must pass Essential Mathematical Skills in order to progress to the second year of a Mathematical Sciences degree programme. Students must pass all core modules in order to obtain a degree in Mathematics, Statistics and Financial Economics; students who fail a core module but satisfy all other degree requirements will be awarded a degree in Mathematics, Statistics and Economic Studies.

For full details, please see <http://qmplus.qmul.ac.uk/mod/book/view.php?id=489759&chapterid=43332>.

Academic Year of Study 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Essential Mathematical Skills	MTH3100	0	3	Core	1	Semesters 1 & 2
Calculus I	MTH4100	15	4	Compulsory	1	Semester 1
Mathematical Structures	MTH4110	15	4	Compulsory	1	Semester 1
Introduction to Probability	MTH4107	15	4	Compulsory	1	Semester 1
Principles of Economics	ECN113	15	4	Core	1	Semester 1
Calculus II	MTH4101	15	4	Compulsory	1	Semester 2
Geometry I	MTH4103	15	4	Compulsory	1	Semester 2
Introduction to Statistics	MTH4106	15	4	Compulsory	1	Semester 2
Microeconomics I	ECN111	15	4	Core	1	Semester 2

Academic Year of Study 2

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Linear Algebra I	MTH5112	15	5	Compulsory	2	Semester 1
Probability Models	MTH5121	15	5	Compulsory	2	Semester 1
Statistical Methods	MTH5122	15	5	Compulsory	2	Semester 1
Games and Strategies	ECN214	15	5	Core	2	Semester 1
Statistical Modelling I	MTH5120	15	5	Compulsory	2	Semester 2
Macroeconomics I	ECN106	15	4	Core	2	Semester 2
Microeconomics II	ECN211	15	5	Core	2	Semester 2
Capital Markets 1	ECN226	15	5	Compulsory	2	Semester 2

Academic Year of Study 3

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Financial Markets and Institutions	ECN222	15	5	Core	3	Semester 1
Corporate Finance 1	ECN371	15	6	Compulsory	3	Semester 1
Statistical Modelling II	MTH6134	15	6	Elective	3	Semester 1
Time Series	MTH6139	15	6	Compulsory	3	Semester 1
Statistical Theory	MTH6136	15	6	Compulsory	3	Semester 2
Random Processes	MTH6141	15	6	Elective	3	Semester 2
Design of Experiments	MTH6116	15	6	Elective	3	Semester 2
Futures and Options	ECN358	15	6	Elective	3	Semester 2

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Corporate Finance 2	ECN372	15	6	Elective	3	Semester 2
Introduction to Mathematical Finance	MTH6121	15	6	Elective	3	Semester 1
Actuarial Mathematics	MTH6100	15	6	Elective	3	Semester 2
Further Topics in Mathematical Finance	MTH6120	15	6	Elective	3	Semester 2
Third Year Project	MTH6138	15	6	Elective	3	Semesters 1 & 2

What Are the Entry Requirements?

Our normal entry requirement is three GCE A-levels at grade A including Mathematics. Applicants also need at least grade C in GCSE English Language, or equivalent.

How Do We Listen and Act on Your Feedback?

The Staff-Student Liaison Committee (SSLC) provides a formal means of communication and discussion between a School and its students. The committee consists of student representatives from each year in the School together with appropriate representation from staff within the School. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. Staff-Student Liaison Committees meet regularly throughout the year.

Each School operates a Teaching and Learning Committee, or equivalent, which advises the School Director of Taught Programmes on all matters relating to the delivery of taught programmes at School level including monitoring the application of relevant QM policies and reviewing all proposals for module and programme approval and amendment before submission to Taught Programmes Board. Student views are incorporated in this Committee's work in a number of ways, such as through the SSLC, or consideration of student surveys.

All Schools operate an Annual Programme Review of their taught undergraduate and postgraduate provision. The process is normally organised at a School-level basis with the Head of School, or equivalent, responsible for updating the School's Taught Programmes Action Plan. Students' views are considered in this process through analysis of the NSS and module evaluations.

Academic Support

Each student is allocated a personal academic adviser, who approves option choices and provides initial support with any problems. Personal tuition is provided primarily through tutorial classes and visits to module organisers during their office hours, which are advertised on the web. Programme induction for new students begins during the enrolment period and extends into the first semester; it includes a series of presentations organised by the Student Support Officer. Each programme is assigned a Programme Director and all teaching is overseen by the Teaching and Learning Committee, which includes the Programme Directors and is chaired by the Director of Taught Programmes. Programmes are monitored continuously and reviewed every few years by the Teaching and Learning Committee.

Programme-specific Rules and Facts

All first-year Mathematical Sciences students must pass Essential Mathematical Skills in order to progress to the second year of a Mathematical Sciences degree programme.

Student may not take any of the following modules: BUS005 Quantitative Research Methods for Business, BUS017 Economics for Business, BUS021 Financial Institutions, BUS024 Strategy, BUS208 Microeconomics for Managers, BUS306 Financial Management, BUS330 Macroeconomic Modelling and Policy, GEG6108 Regional Economics and Policy.

Specific Support for Disabled Students

Queen Mary has a central Disability and Dyslexia Service (DDS) that offers support for all students with disabilities, specific learning difficulties and mental health issues. The DDS supports all Queen Mary students: full-time, part-time, undergraduate, postgraduate, UK and international at all campuses and all sites.

Students can access advice, guidance and support in the following areas:

- Finding out if you have a specific learning difficulty like dyslexia
- Applying for funding through the Disabled Students' Allowance (DSA)
- Arranging DSA assessments of need
- Special arrangements in examinations
- Accessing loaned equipment (e.g. digital recorders)
- Specialist one-to-one "study skills" tuition
- Ensuring access to course materials in alternative formats (e.g. Braille)
- Providing educational support workers (e.g. note-takers, readers, library assistants)
- Mentoring support for students with mental health issues and conditions on the autistic spectrum.

Links With Employers, Placement Opportunities and Transferable Skills

Graduates have gone on to apply their excellent mathematical knowledge and skills to banking. Several have been employed as investment bankers, some with blue-chip companies such as Goldman Sachs. But graduates are not restricted to working for financial companies and gain employment in a wide range of businesses. High-level numeracy is one of the most sought-after skills in the workplace and many opportunities are open to a mathematical sciences graduate. During this degree programme students learn how to analyse and solve problems, apply mathematical modelling, communicate their ideas and theories effectively, and work independently and manage their own time. Students learn to apply mathematical techniques to situations across the sciences and other areas such as finance. These skills are highly desirable to employers ranging from business and finance to the chemicals and materials industries.

Programme Specification Approval

Person completing Programme Specification

Dr F J Wright, Director of Undergraduate Studies

Person responsible for management of programme

Dr F J Wright, Director of Undergraduate Studies

Date Programme Specification produced/amended by School Learning and Teaching Committee

4 May 2016

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**Date Programme Specification approved by
Taught Programmes Board**