

## 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)	CertHE, DipHE
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, linear algebra, probability, statistics and other mathematical subjects;
B 3	take notes, write up notes, plan revision, and learn independently;
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 with fellow students;
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 and make critical interpretations of their output.

#### Attributes:

C 1	acquire complex knowledge and apply it rigorously;
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C2	connect information and ideas within their field of study;
C3	use writing for learning, reflection, and communication;
C4	adapt their understanding to new and unfamiliar settings;
C5	acquire new learning skills in a range of ways, both individually and collaboratively;
C6	use quantitative data confidently and competently;
C7	acquire transferable key skills to help with career goals and continuing education;
C8	develop effective spoken English and presentation skills;
C9	use information for evidence-based decision-making and creative thinking.

QMUL Model Learning Outcomes - Level 4:

D1	Identify and discuss their own career aspirations or enterprise skills and knowledge and how they impact on others
D2	Identify and discuss what their own role in their programme and/or subject discipline might mean to them for future €

**How Will You Learn?**

Teaching in most modules is primarily by formal lectures but may include guided reading. 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 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 tutorial 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/or 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?

Please specify the full time and part time programme diets (if appropriate).

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

MTH6116 Design of Experiments  
MTH6134 Statistical Modelling II  
MTH6138 Third Year Project  
MTH6141 Random Processes  
MTH6154 Financial Mathematics I  
MTH6155 Financial Mathematics II

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>.

## QMUL Model

Students are required to undertake the equivalent of one module (15 credits in 2017/18) per year of study which has been identified as meeting the requirements of the QMUL Model. Each of these modules has been designed to combine the best of QMUL's academic excellence with your ability to identify and develop your skills, networks and experience. This will help to ensure you become a graduate who can undertake further study or secure graduate employment in areas that interest you, and will support your ability to position yourself to find the right job or opportunity for you. The relevant module for your first year of study in 2017/18 is indicated below.

Where more than one module is specified, this is because pertinent elements from these modules have been identified as being appropriate to the QMUL Model and when studied together, deliver the equivalent content of one 15-credit QMUL Model module.

The QMUL Model modules for future years and associated Learning Outcomes will be identified as your studies continue.

Should Professional, Statutory and Regulatory Body requirements apply to your programme of study, these will be taken into account in the specification of QMUL Model requirements.

Academic Year of Study FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Essential Mathematical Skills	MTH3100	0	3	Core	1	Semesters 1 & 2	<input type="checkbox"/> No
Calculus I	MTH4100	15	4	Compulsory	1	Semester 1	<input type="checkbox"/> No
Numbers, Sets and Functions	MTH4113	15	4	Compulsory	1	Semester 1	<input type="checkbox"/> Yes
Introduction to Probability	MTH4107	15	4	Compulsory	1	Semester 1	<input type="checkbox"/> No
Principles of Economics	ECN113	15	4	Core	1	Semester 1	<input type="checkbox"/> No
Calculus II	MTH4101	15	4	Compulsory	1	Semester 2	<input type="checkbox"/> No
Geometry I	MTH4103	15	4	Compulsory	1	Semester 2	<input type="checkbox"/> No
Introduction to Statistics	MTH4106	15	4	Compulsory	1	Semester 2	<input type="checkbox"/> No
Microeconomics I	ECN111	15	4	Core	1	Semester 2	<input type="checkbox"/> No

Academic Year of Study FT - Year 2

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Applied Linear Algebra	MTH5212	15	5	Compulsory	2	Semester 1	<input type="checkbox"/> No
Probability Models	MTH5121	15	5	Compulsory	2	Semester 1	<input type="checkbox"/> No
Statistical Methods	MTH5122	15	5	Compulsory	2	Semester 1	<input type="checkbox"/> No
Games and Strategies	ECN214	15	5	Core	2	Semester 1	<input type="checkbox"/> No
Statistical Modelling I	MTH5120	15	5	Compulsory	2	Semester 2	<input type="checkbox"/> No
Macroeconomics I	ECN106	15	4	Core	2	Semester 2	<input type="checkbox"/> No

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Microeconomics II	ECN211	15	5	Core	2	Semester 2	No
Capital Markets 1	ECN226	15	5	Compulsory	2	Semester 2	No

Academic Year of Study FT - Year 3

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Financial Markets and Institutions	ECN222	15	5	Core	3	Semester 1	No
Corporate Finance 1	ECN371	15	6	Compulsory	3	Semester 1	No
Time Series	MTH6139	15	6	Compulsory	3	Semester 1	No
Statistical Modelling II	MTH6134	15	6	Elective	3	Semester 1	No
Third Year Project	MTH6138	15	6	Elective	3	Semesters 1 & 2	No
Financial Mathematics I	MTH6154	15	6	Elective	3	Semester 1	No
Statistical Theory	MTH6136	15	6	Compulsory	3	Semester 2	No
Futures and Options	ECN358	15	6	Elective	3	Semester 2	No
Corporate Finance 2	ECN372	15	6	Elective	3	Semester 2	No
Design of Experiments	MTH6116	15	6	Elective	3	Semester 2	No
Random Processes	MTH6141	15	6	Elective	3	Semester 2	No
Financial Mathematics II	MTH6155	15	6	Elective	3	Semester 2	No

### 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 B or 5 in GCSE English Language, IELTS 6.5, or equivalent.

## How Do We Listen and Act on Your Feedback?

The Student-Staff Liaison Committee (SSLC) provides a formal means of communication and discussion between the 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. The Student-Staff Liaison Committee meets regularly throughout the year.

The School operates a Teaching and Learning Committee, 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 QMUL 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 and consideration of student surveys.

The School operates an Annual Programme Review of all its taught provision. The process is organised at a School-level basis with the Director of Taught Programmes responsible for updating the School's Taught Programmes Action Plan. Students' views are considered in this process through analysis of student surveys and module evaluations.

## Academic Support

Each student is allocated a personal academic adviser, who acts as a first point of contact for general academic and pastoral support. 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, MTH6156 Financial Mathematics III.

## 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;

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- 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 Francis Wright, Director of Undergraduate Studies

**Person responsible for management of programme**

Dr Lawrence Pettit

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

29 Mar 2017

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