



Programme Specification (UG)

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 BSc Mathematics, Statistics and Financial Economics with Year Abroad BSc Mathematics, Statistics and Financial Economics with Professional Placement
Name of interim award(s):	CertHE, DipHE
Duration of study / period of registration:	3/4 years
QMUL programme code / UCAS code(s):	UBSF-QMMATH1-UTMASSTAFEC/GL11;UBSF-QMMATG1-UTMAASTYFEA
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 / Institutes which will also be involved in teaching part of the programme:

School of Economics & Finance

Institution(s) other than QMUL 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:

QMUL Model

The QMUL Model is an innovative teaching and learning initiative that will broaden opportunities for Queen Mary undergraduates within and beyond higher education, supporting them to plan and manage their ongoing professional development. The Model is firmly grounded in the core QMUL values of respect for, and engagement with, the local area and communities, with a distinctive focus on enabling students to make a positive societal impact through leadership in their chosen field. The Model is organised around the key themes of:

- networking
- multi- and inter-disciplinarity
- international perspectives
- enterprising perspectives.

Students are required to study QMUL Model modules to the value of at least 10 credits at each year of undergraduate study. Model modules may be 5, 10 or 15 credits. Model modules are indicated within this programme specification.

In your first year of study, the Model module will be core or compulsory and will be situated within your home School or Institute. In subsequent years, students will be strongly encouraged to study at least one Model module beyond their home discipline(s), which could, for example, be in another School / Institute or area of QMUL or undertaken as a module outside of QMUL.

If Model module information is not provided on this programme specification for all subsequent years of study, this will be identified as your studies continue.

Where a Model module elective can be selected from an approved group of Model modules, no guarantee can be provided that your first choice of Model module will be available.

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;
C 2	connect information and ideas within their field of study;
C 3	use writing for learning, reflection, and communication;
C 4	adapt their understanding to new and unfamiliar settings;
C 5	acquire new learning skills 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 English and presentation skills;
C 9	use information for evidence-based decision-making and creative thinking.

QMUL Model Learning Outcomes - Level 4:	
D 1	(Networking) Identify and discuss their own career aspirations or relevant skills and knowledge and how they i
D 2	(Networking) Identify and discuss what their own role in their programme and/or subject discipline might mea
D 3	

QMUL Model Learning Outcomes - Level 5:	
E 1	(Enterprising Perspectives) Demonstrate and evaluate how they have enhanced their own learning through engaging

QMUL Model Learning Outcomes - Level 6:	
F 1	
F 2	
F 3	

QMUL Model Learning Outcomes - Level 7:	
G 1	
G 2	
G 3	

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 applicable). Please also outline the QMUL Model arrangements for each year of study. The description should be sufficiently detailed to fully define the structure of the diet.

All first-year Mathematical Sciences students must take and pass MTH3100 Essential Mathematical Skills in order to progress to the second year of a Mathematical Sciences degree programme.

Year 1

MTH3100 [3] Essential Mathematical Skills (0 Credit Core module)

8 compulsory level 4 modules

MTH4100 [4] Calculus I

ECN113 [4] Principles of Economics

MTH4113 [4] Numbers, Sets and Functions

MTH4107 [4] Introduction to Probability

MTH4101 [4] Calculus II

ECN111 [4] Microeconomics I

MTH4115 [4] Vectors and Matrices

MTH4116 [4] Probability and Statistics I

Year 2

Eight Compulsory Modules

MTH5212 [5] Applied Linear Algebra

MTH5129 [5] Probability and Statistics II

ECN222 Financial Markets (2019/20 only)

ECN1xx Principles of Finance (2020/21 onwards)

ECN214 [5] Games and Strategies [Will be Sem B from 2020/21 onwards]

MTH5120 [5] Statistical Modelling I

ECN106 [4] Macroeconomics I

ECN211 [5] Microeconomics II [Will be Sem A from 2020/21 onwards]

ECN226 [5] Capital Markets 1

Year 3

Three Compulsory Modules

MTH6141 [6] Random Processes

ECN378 [6] Corporate Finance

MTH6139 [6] Time Series

Choose three modules from the list below:

MTH6134 [6] Statistical Modelling II

MTH6138 [6] Third Year Project (Semester 5 or 6)

MTH6154 [6] Financial Mathematics I
 MTH6155 [6] Financial Mathematics II
 ECN358 [6] Futures and OptionsR
 MTH6102 Bayesian Statistical Methods
 MTH6101 Introduction to Machine Learning

Choose a further 30 credits of level 5 or 6 modules.

Academic Year of Study FT - Year 1

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
Calculus II	MTH4101	15	4	Compulsory	1	Semester 2	<input type="checkbox"/> No
Vectors and Matrices	MTH4115	15	4	Compulsory	1	Semester 2	<input type="checkbox"/> No
Probability and Statistics I	MTH4115	15	4	Compulsory	1	Semester 2	<input type="checkbox"/> No
Principles of Economics	ECN113	15	4	Core	1	Semester 1	<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
Statistical Modelling I	MTH5120	15	5	Elective	2	Semester 2	<input type="checkbox"/> No

Programme Title: BSc Mathematics, Statistics and Financial Economics;BSc Mathematics, Statistics and Financial Economics w

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Financial Markets and Institutions	ECN222	15	5	Compulsory	2	Semester 1	<input type="checkbox"/> Yes
Probability and Statistics II	MTH5129	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
Microeconomics II	ECN211	15	5	Core	2	Semester 2	<input type="checkbox"/> No
Capital Markets 1	ECN226	15	5	Compulsory	2	Semester 2	<input type="checkbox"/> No

Academic Year of Study FT - Year 3

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Third Year Project	MTH6138	15	6	Elective	3	Semester 2	<input type="checkbox"/> Yes
Financial Mathematics I	MTH6154	15	6	Elective	3	Semester 1	<input type="checkbox"/> Yes
Random Processes	MTH6141	15	6	Compulsory	3	Semester 1	<input type="checkbox"/> No
Financial Mathematics II	MTH6155	15	6	Elective	3	Semester 2	<input type="checkbox"/> No
Corporate Finance	ECN378	15	6	Compulsory	3	Semester 1	<input type="checkbox"/> No
Time Series	MTH6139	15	6	Compulsory	3	Semester 2	<input type="checkbox"/> No
Futures and Options	ECN358	15	6	Elective	3	Semester 2	<input type="checkbox"/> No
Statistical Modelling II	MTH6134	15	6	Elective	3	Semester 1	<input type="checkbox"/> No

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Bayesian Statistical Methods	MTH6XXX	15	6	Elective	3	Semester 1	<input type="checkbox"/> No
Introduction to Machine Learning	MTH6XXX		6	Elective	3	Semester 2	<input type="checkbox"/> Yes

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 will the quality of the programme be managed and enhanced?

The programme is over seen by a Programme Director with overall oversight of the programme.

The quality of individual modules is monitored by DOTP and DUGS, and includes evaluation of student feedback through questionnaires, the Student Staff Liaison Committee, module registrations, exam performance, as well as direct observations of the lectures.

The quality and structure of the programme as a whole is the responsibility of the DoTP with support from DUGS, the Programme Director and the School's Teaching and Learning Committee. This includes revising the syllabuses of modules, and refining the module offering.

How do we listen to 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.

What academic support is available?

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 Title: BSc Mathematics, Statistics and Financial Economics;BSc Mathematics, Statistics and Financial Economics w

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. At the end of year two, students have the opportunity to take a placement year in industry - G100 Mathematics with Professional Placement. Students also have the option to take advantage of studying abroad - G100 Mathematics with Year Abroad.

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;
- 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

Recent graduates have gone into a wide variety of jobs. Some went into positions in the financial sector ranging from actuarial and accountancy trainees with banks such as Lloyds TSB to a financial analyst with AIG. Teacher training was an option that was taken up by a number of our graduates, as was further study: around one third of our graduates go on to complete a Masters or PhD degree. 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 Mark Walters, DoTP

Programme Title: BSc Mathematics, Statistics and Financial Economics;BSc Mathematics, Statistics and Financial Economics w

Person responsible for management of programme:

Dr Lawrence Pettit

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

13 Dec 2018

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