Queen Mary
University of London

Programme Specification

Awarding Body/Institution	Queen Mary University of London
Teaching Institution	Queen Mary University of London
Name of Final Award and Programme Title	Bachelor of Science, Mathematics with Actuarial Science with Professional Placement
Name of Interim Award(s)	DipHE, CertHE
Duration of Study / Period of Registration	Four years
QM Programme Code / UCAS Code(s)	G1N3
QAA Benchmark Group	Mathematics, Statistics and Operational Research
FHEQ Level of Award	Level 6
Programme Accredited by	Institute and Faculty of Actuaries
Date Programme Specification Approved	22 February 2016
Responsible School / Institute	School of Mathematical Sciences

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

School of Business & Management

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

Programme Outline

The BSc Mathematics with Actuarial Science programme commences in academic year 2016/17. Discussions with prospective students and employers indicate interest in a 4 year degree including a professional placement (ie a "year in industry"). It is proposed that all students securing 50% or more over the first two years of their programme should be able to transfer to this four year programme after their second year. The 4 year programme will not be available for direct entry. The first students graduating from this programme are expected in 2020.

The year in industry will be assessed and will be recorded as pass or fail on the degree transcript. Years 1,2 and the final year of the programme are fully aligned with the year 3 programme.

The programme includes assessed, but non credit bearing, Actuarial Professional Development modules in years 1 and 2 , as is being proposed for the 3 year degree programme.

The programme is subject to approval for accreditation from the IFoA.

Queen Mary
University of London

Aims of the Programme

The programme is designed to attract high performing students in Mathematics who are interested in careers in the Financial services sector, in particular Insurance or pensions where qualified actuaries are sought after and attract high salaries. By introducing many of the skills which a qualified actuary needs at an early stage in their development it also allows students to decide that they are perhaps more suited to a more general financial, statistical or other career. The programme includes a range of both general and specialist modules.

What Will You Be Expected to Achieve?

Academic Content:	
A1	Core techniques in Mathematics.
A2	Statistical modelling relevant to Actuarial and Business applications.
A3	Techniques of financial modelling.
A4	Knowledge of economics and financial reporting.
A5	Application of actuarial and mathematical knowledge in a business environment.

Disciplinary Skills - able to:	
B1	Solve mathematical problems using a range of analytical tools.
B2	Apply techniques from probability and statistics to problems in insurance and pensions.
B3	Report results of analyses appropriately.
B4	Understand the legal, social, ethical and professional issues of being an Actuary.
B5	Communicate clearly in writing and through presentations in a style and manner appropriate to the subject and audience.

Attributes:	
C1	Integrate knowledge from many different fields.

Queen Mary
University of London

C2	Choose the appropriate mathematical tools for solving particular problems.
C3	Have a broad knowledge of the work of an actuary.
C4	Work individually and in groups as a participant who contributes effectively to the group's task.
C5	Demonstrate initiative and resilience in meeting challenges.

How Will You Learn?

Throughout years 1 and 2, and in the final year, of your programme, you will attend lectures in a range of subject areas. Many lecturers make their lecture notes & other resources available to students via our online learning environment, QMplus.
You will also attend examples classes and tutorials, where you can receive one-to-one support in learning how to solve mathematical problems. For some statistics and computing modules, you will undertake practical assignments in the computer laboratories, again with plenty of personal support. In addition, you will be expected to spend a considerable amount of your own time in independent study, reviewing the material covered in the lectures, and working through various coursework assignments to help you fully understand how to apply your new knowledge.

In your 3rd year, you will undertake a placement working in an actuarial or related role in a financial services company or related industry. If you do not secure a placement, you will transfer to the 3 year BSc Mathematics with Actuarial Science programme.

How Will You Be Assessed?

The majority of our modules are assessed by written examination, although some also involve an element of assessed coursework, or practical work using computers.
The placement year will be assessed by the university on the basis of employer feedback, a written reflective work journal, a 4000 word report and a short presentation.

How is the Programme Structured?
Please specify the full time and part time programme diets (if appropriate).

In the first two years all modules are compulsory. In the final year there is a choice of one elective in the second semester.

Queen Mary
University of London

Programme Title: Mathematics with Actuarial Science with Professional Placement

Academic Year of Study   FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Calculus I	MTH4100	15	4	Compulsory	1	Semester 1
Introduction to Probability	MTH4107	15	4	Compulsory	1	Semester 1
Mathematical Structures	MTH4110	15	4	Compulsory	1	Semester 1
Numerical computing for finance with Excel	MTH4111	15	4	Compulsory	1	Semester 1
Economics for Business Management	BUS137	15	4	Compulsory	1	Semester 2
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
Essential Mathematical Skills	MTH3100	0	3	Core	1	Semesters 1 & 2
Actuarial Professional Development I	MTH4112	0	4	Compulsory	1	Semesters 1 & 2

Academic Year of Study   FT - Year 2

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Applied Linear Algebra	MTH5212	15	5	Compulsory	2	Semester 1
Probability models	MTH5121	15	5	Compulsory	2	Semester 1
Statistical methods	MTH5122	15	5	Compulsory	2	Semester 1
Corporate Financial Reporting	BUS241	15	5	Compulsory	2	Semester 2

Programme Title: Mathematics with Actuarial Science with Professional Placement

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Actuarial Mathematics I	MTH5124	15	5	Compulsory	2	Semester 1
Statistical Modelling I	MTH5120	15	5	Compulsory	2	Semester 2
Statistics for Insurance	MTH5126	15	5	Compulsory	2	Semester 2
Actuarial Mathematics II	MTH5125	15	5	Compulsory	2	Semester 2
Actuarial Professional Development II	MTH5127	0	5	Compulsory	2	Semesters 1 & 2

Academic Year of Study   FT - Year 3

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Actuarial Work Experience	MTHnew	120	5	Compulsory	3	Semesters 1 & 2

Academic Year of Study   FT - Year 4

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Financial Mathematics I	MTH6154	15	6	Compulsory	4	Semester 1
Time Series	MTH6139	15	6	Compulsory	4	Semester 1
Corporate Financial Management	BUS341	15	6	Compulsory	4	Semester 1
Financial Mathematics II	MTH6155	15	6	Compulsory	4	Semester 2
Random Processes	MTH6141	15	6	Compulsory	4	Semester 2
Survival Models	MTH6157	15	6	Compulsory	4	Semester 1

Programme Title: Mathematics with Actuarial Science with Professional Placement

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Financial Mathematics III	MTH6156	15	6	Compulsory	4	Semester 2
Actuarial Project	MTH6153	15	6	Elective	4	Semester 2
Statistical Theory	MTH6136	15	6	Elective	4	Semester 2
Baysian Statistics	MTH6909	15	6	Elective	4	Semester 2
Computational Statistics	MTH6931	15	6	Elective	4	Semester 2
Other suitable options from Business		15	6	Elective	4	Semester 2

What Are the Entry Requirements?

For UK applicants, we require 3 GCE A-levels at AAA-AAB including Mathematics at Grade A. Grade C GCSE in English Language is also required.

International Baccalaureate : Acceptable on its own and combined with other qualifications.
Subjects and grades required: 34-36 points total including Higher Level Mathematics at grade 6.

Non-UK applicants: Equivalent qualifications may be accepted. IELTS: 6.0 (with a minimum of 5.5 in all sections) is required.

How Do We Listen and Act on Your Feedback?

The Staff-Student Liaison Committee provides a formal means of communication and discussion between schools/institutes and its students. The committee consists of student representatives from each year in the school/institute together with appropriate representation from staff within the school/institute. 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/institute operates a Learning and Teaching Committee, or equivalent, which advises the School/Institute 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 the committee's work in a number of ways, such as through student membership, or consideration of student surveys.

All schools/institutes operate an Annual Programme Review of their taught undergraduate and postgraduate provision. APR is a continuous process of reflection and action planning which is owned by those responsible for programme delivery; the main document of reference for this process is the Taught Programmes Action Plan (TPAP) which is the summary of the school/institute's work throughout the year to monitor academic standards and to improve the student experience. Students' views are considered in this process through analysis of the NSS and module evaluations.

Academic Support

All students are allocated a personal advisor, with whom any academic issue can be raised. In addition, the Senior Tutor and the Student Support Officer (both in SMS) can provide additional support.

Queen Mary
University of London

Programme-specific Rules and Facts

The exact details of which exemptions from examinations of the Institute and Faculty of Actuaries are awarded will be decided by representatives of the Institute by looking at individual examination scripts.

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)
• Access to specialist mentoring support for students with mental health issues and Autistic Spectrum Disorders.

Links With Employers, Placement Opportunities and Transferable Skills

The School of Mathematical Sciences has established a Professional Advisory Board with representatives from Lloyds and other major employers of Actuaries. It is hoped that this will enable students on the programme to have opportunities to gain insight into the Actuarial profession.

The School recognises the importance of vacation internships and placement and is developing a database of employers offering or interested in placements and internships.

Programme Specification Approval

Person completing Programme Specification   Jim Webber

Queen Mary
University of London

Programme Title: Mathematics with Actuarial Science with Professional Placement

Person responsible for management of programme

Prof Thomas Prellberg

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

27 Jan 2016

Date Programme Specification approved by Taught Programmes Board

22 February 2016

Queen Mary
University of London