

FACULTY OF SCIENCE

DEPARTMENT OF MATHEMATICS AND STATISTICS

FINANCIAL MATHEMATICS AND DATA SCIENCE

Master of Science in Financial Mathematics and Data Science
Postgraduate Diploma in Financial Mathematics and Data Science
Postgraduate Certificate in Financial Mathematics and Data Science

These regulations are to be read in conjunction with [General Academic Regulations – Postgraduate Taught Degree Programme Level](#).

Admission

1. Notwithstanding the [General Academic Regulations – Postgraduate Taught Degree Programme Level](#) applicants shall possess:
 - i. a first or second class Honours degree with mathematical and/or statistical content from a United Kingdom university; or
 - ii. a qualification deemed by the Programme Director acting on behalf of Senate to be equivalent to (i) above
2. In all cases, applicants whose first language is not English, shall be required to demonstrate an appropriate level of English.

Duration of study

3. The [General Academic Regulations – Postgraduate Taught Degree Programme Level](#) shall apply.

Mode of study

4. The programme is available by full-time study.

Place of study

5. On-campus or “face to face learning in an approved physical location” is the default Mode of Delivery.

Curriculum

6. All students shall undertake an approved curriculum as follows:
 - i. for the degree of MSc no fewer than 180 credits including a 60 credit research project,
 - ii. for the Postgraduate Diploma no fewer than 120 credits,
 - iii. for the Postgraduate Certificate no fewer than 60 credits.

Compulsory Modules

Module Code	Module Title	Level	Credits
CS989	Big Data Fundamentals	5	10
AG910	Principles of Finance	5	20
AG951	Data Analytics for Accounting and Finance	5	10
MM914	Foundations of Probability and Statistics	5	20

MM904	Financial Stochastic Processes	5	10
MM905	Financial Econometrics	5	10

Optional Modules

Students should select 40 credits chosen from:

Module Code	Module Title	Level	Credits
MM962	Data dashboards with RShiny	5	10
MM913	Quantitative Risk Analysis	5	10
MM969	Deep Learning	5	10
AG924	Portfolio Theory and Management	5	10
AG929	Derivatives	5	10
AG952	Textual Analytics for Accounting and Finance	5	10
CS983	Evolutionary Computation for Finance 1	5	10
CS984	Evolutionary Computation for Finance 2	5	10
CS815	AI for Finance	5	20

Note that up to 20 credits of these optional modules can be substituted with other level 5 modules under the approval of the Programme Director. Not all optional modules on this list will be available in each academic year and there are restrictions on which modules can be chosen together. In particular, it is not possible to select CS983 or CS984 along with CS815.

Students for the degree of MSc only:

Module Code	Module Title	Level	Credits
MM550	Research Project	5	60

Progress

- The [General Academic Regulations – Postgraduate Taught Degree Programme Level](#) shall apply.
- The final award will be based on the student's performance in their assessments.

Award

- Degree of MSc:** In order to qualify for the degree of MSc in Financial Mathematics and Data Science, a candidate must have performed to the satisfaction of the Board of Examiners and must have accumulated no fewer than 180 credits, of which 60 credits must have been awarded in respect of the research project MM550.
- Postgraduate Diploma:** In order to qualify for the award of the Postgraduate Diploma in Financial Mathematics and Data Science, a candidate must have accumulated no

fewer than 120 credits from the programme curriculum.

11. **Postgraduate Certificate:** In order to qualify for the award of the Postgraduate Certificate in Financial Mathematics and Data Science, a candidate must have accumulated no fewer than 60 credits from the programme curriculum.