

The Department of Statistics

The Department of Statistics at LSE is one of the oldest and most distinguished in the UK. It has a rich research portfolio covering core areas of statistical inference and real applications, particularly in the economic, financial and actuarial, social and industrial arenas.

The close collaboration between departments, its London location and strong international partnerships are reflected in the research life of the Department of Statistics through the members of staff, PhD students, postdoctoral research fellows and the thriving visitor and seminar programmes.



Entry Requirements

Entry requirements to the MSc Quantitative Methods for Risk Management programme are an upper second class honours degree or equivalent in actuarial science, mathematics, statistics or mathematical economics/finance

This should include training in analysis and linear algebra, with rigorous proofs, and probability theory at the level of our third year undergraduate course ST302, a description of which can be found online in the LSE Calendar.

Overseas students should consult the section on equivalence of non-UK qualifications at the Graduate Admissions website below.

How to Apply

You should apply online here:

lse.ac.uk/study/graduate/home.aspx

You will need to click on the Apply Online icon and follow the instructions.

You will also be given access to the Graduate Application Tracker via LSE for You, which will reflect the personal details held in the School's database and the up-to-date status on your application.

How to contact us:

For further general information about the MSc programmes please contact the MSc Administrator at the Department of Statistics or visit the Departmental website:

lse.ac.uk/statistics/home.aspx



February 2017

LSE

THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE

An advanced MSc in Risk Management, emphasizing probabilistic, statistical and computational methods; their application in finance and insurance; and their interface.

MSc

QUANTITATIVE
METHODS FOR
RISK MANAGEMENT

MSc Quantitative Methods for Risk Management

The MSc Quantitative Methods for Risk Management – formerly known as MSc Risk and Stochastics – offers in-depth instruction in probabilistic, statistical, and computational methods to quantify risk arising from, but not limited to, economic, financial, and insurance applications.

This programme is LSE's timely response to industry's strong demand for experts with quantitative expertise in risk management, finance, insurance, and their interface. The programme will instruct students in theoretical as well as practical aspects of various quantitative methods to measure and mitigate financial and insurance risk. It draws on diverse disciplines, from mathematical finance and actuarial science to statistics and computation. Students will work with real financial data, and will receive hands-on training in real-world problems and case studies.

The programme draws on world-class research in modern financial and actuarial mathematics and statistics within the Department. It aims to prepare students for a range of expert careers in financial and insurance industries, in regulatory bodies, and in applied and theoretical research.

Degree Structure

Students must take the following five compulsory half-unit courses:

- ST409 Stochastic Processes (H) (including revision course in Probability Theory)
- ST429 Statistical Methods for Risk Management (H)
- ST433 Computational Methods in Finance and Insurance (H) *
- ST439 Stochastics for Derivatives Modelling (H)
- ST440 Recent Developments in Finance and Insurance (H)

Plus three optional half-unit courses, chosen from these two sets of courses:

(I) At least one of the following half-unit options:

- ST422 Time Series (H)
- ST426 Applied Stochastic Processes (H)
- ST435 Advanced Probability Theory (H) (Lent Term Week 0 Exam)
- ST436 Financial Statistics (H)
- ST441 Introduction to Markov Processes and their Applications (H)
- ST443 Machine Learning and Data Mining (H)
- ST448 Insurance Risk (H)
- MA411 Probability and Measure (H) (Department of Mathematics)
- MA416 The Foundations of Interest Rate and Credit Risk Theory (H) (Department of Mathematics)
- MA420 Quantifying Risk Modelling and Alternative Markets (H) (Department of Mathematics)

(II) Up to two of the following half-unit options:

- FM404 Forecasting Financial Time Series (H) (Department of Finance)
- FM441 Derivatives (H) (Department of Finance)
- FM442 Quantitative Methods for Finance and Risk Analysis (H) ** (Department of Finance)
- MA409 Continuous Time Optimisation (H) (Department of Mathematics)

Note: *Students taking this course can apply for a place to audit the first 8 hours lectures of MA417 Computational Methods in Finance in the MT.

Note: **Students taking FM442 can apply for a place on FM457 MATLAB for MSc students, a non-assessed computer course.

Students can also take MA422 Research Topics in Financial Mathematics, a non-assessed course taken in addition to the required five compulsory half unit courses and three half units of optional courses detailed above.

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Exemptions

Students who graduate from the MSc Quantitative Methods for Risk Management degree programme are eligible to apply for exemption from the Institute of Actuaries subject 'ST0' on successful completion of the ST433 project. Please see www.actuaries.org.uk/studying/exam-exemptions for more information.

Graduate Careers

The programme offers excellent prospects for employment and further study. Graduates can gain employment in the finance or insurance industries, or go on to do a higher degree. Our alumni have taken up roles in banks, asset management firms and insurance and reinsurance companies; as well as data analytics companies, consulting firms, and world-wide research institutions.

