

School of Mathematical and Computer Sciences



Full-Time / Part-Time

QUANTITATIVE FINANCIAL RISK MANAGEMENT

MSc / PG DIPLOMA

Distinctly Ambitious
www.hw.ac.uk

Your University an overview

Heriot-Watt University offers a superb environment for postgraduate study. We are one of the UK's leading universities, recognised internationally for excellent teaching and research in our specialist areas of science, engineering, business management, languages and textile design.

Our community of postgraduate students is made up of bright, highly imaginative and self-motivated individuals, who work closely with our forward-looking and energetic research-active academic staff. This collaborative atmosphere is fundamental to Heriot-Watt's enviable academic and research reputation.

Those of you who choose to study with us will discover high quality taught and research programmes, flexible student-centred delivery, unrivalled facilities and pioneering research.

www.macs.hw.ac.uk

PROGRAMME BACKGROUND

In the light of the 2007-9 financial crisis, financial risk has become one of the most important issues in our society. There is a strong consensus that higher standards of risk management in financial institutions, as well as improvements in risk regulation, are required to prevent repetitions of the crisis in the future. These developments mean that risk management is a rapidly growing profession which offers exciting employment opportunities across the world of financial services. Risk managers are employed by banks, asset managers, insurers, consultancies and in many other sectors. The skills of a risk manager have a very high degree of transferability and good quantitative skills are in particular demand as financial products, models and regulation increase in technical complexity. Quantitative Financial Risk Management is an excellent choice for any graduate with good analytical and quantitative skills who is looking for a rewarding career as a risk manager in financial services.

PROGRAMME OBJECTIVES

Quantitative financial risk management is an interdisciplinary subject that draws on mathematics, economics, finance and statistics. We aim to provide a rounded view of the subject combining an appreciation of the practical application of risk management procedures in financial institutions with a rigorous grounding in the kind of stochastic models that underpin risk management.

Our objective is to provide a thorough coverage of risk regulation (such as Basel II in banking and Solvency II in insurance) and the methodologies that are used in industry to measure and manage market, credit, operational and other risks. We examine industrial practice critically and train students to recognize its limitations.

We align our material closely with the emerging professional syllabus in risk management. Our objective is to give our students the knowledge and skills that will put them on a fast track to qualifying as risk management professionals.

PROGRAMME STRUCTURE

In the first semester students follow courses on Enterprise Risk Management (I), Financial Markets, and Derivatives Markets and Pricing. They usually study Statistical Methods but may elect to substitute Corporate Finance if they have a strong background in statistics.

In the second semester students follow courses on Enterprise Risk Management (II), Credit Risk Modelling, Financial Econometrics, Time Series Analysis and Economic Scenario Generation. They also choose two Special Topics which are taken as guided reading courses and are often led by practitioners from industry. Students write a summer dissertation.

The courses on Enterprise Risk Management form the backbone of the programme and cover the ST9 syllabus of the UK Actuarial Profession. Financial Markets provides essential background on the functioning of equity and fixed-income markets, whereas Derivatives Markets and Pricing introduces common derivatives contracts, explaining how they are used and valued.

Credit Risk Modelling provides an immersion in regulatory and internal models for defaults and an introduction to credit derivatives. Economic Scenario Generation Models introduces the Monte Carlo techniques that are used in the insurance industry to value and manage the risk of complex liabilities. The Financial Econometrics and Time Series courses develop advanced modeling skills for dealing with empirical data. The diploma takes 9 months and the MSc takes 1 year full time and part time options are available.

INDUSTRY LINKS

The programme has close links to the Scottish Financial Risk Academy (www.sfra.ac.uk). Industry practitioners deliver special topics courses through the SFRA giving students invaluable insights into actual industrial practice. Students who do well have the opportunity of carrying out their summer dissertations during placements with SFRA member companies.

PROFESSIONAL RECOGNITION

The programme is closely aligned with the emerging professional syllabus in risk management (such as the qualifications offered by PRMIA and GARP). It also covers in its entirety the enterprise risk management syllabus (ST9) of the UK actuarial profession.

ASSESSMENT METHODS

Courses are assessed by a mixture of written examinations at the end of each semester and continuous assessment. The special topics are assessed by presentations and submitted essays.

www.postgraduate.hw.ac.uk/apply/

FEES, FUNDING AND SCHOLARSHIPS

Latest tuition fees are published on our fees web pages: www.hw.ac.uk/fees

We offer scholarships to well qualified applicants, instructions on applying can be accessed from our scholarship web pages: www.scholarships.hw.ac.uk

ENTRY REQUIREMENTS

Applicants should have achieved, or be expected to attain, at least the equivalent of a UK upper second-class degree in a discipline with a substantial mathematical component. First degrees in mathematics, statistics, physics and engineering are particularly suitable. First degrees in economics and finance will also be considered.

LANGUAGE REQUIREMENTS

If your first language is not English, or your first degree was not taught in English, we'll need to see evidence of your English language ability. The minimum requirement for English language is IELTS 6.5 or equivalent. We offer a range of English language courses to help you meet the English language requirement prior to starting your masters programme:

- 2 semesters English (for IELTS of 4.5-5.0)
- 12 weeks English (for IELTS of 5.5)
- 6 weeks English (for IELTS 5.5*-6.0) (*minimum 5.5 reading and writing)

Further details can be found at

www.english.hw.ac.uk

HOW TO APPLY

You can apply by using our online application form available at: www.postgraduate.hw.ac.uk/apply You must also provide a copy of your degree certificate and relevant academic transcripts, references from two academic sources and evidence of your English language ability. You can attach documents to the online application using the document upload facility. If you are an applicant from outside the European Union and require a visa for entry to the UK, please provide a copy of the photograph page of your current passport.

There is no official deadline for applying to the programme. However it is always better to submit your completed application as early as possible to have a good chance of securing a place and for overseas applicants to obtain their Tier 4 student visa in sufficient time.

CONTACT

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5 GOOD REASONS

- 1 The programme is taught by genuine academic experts in financial risk management with research track records and strong ties to industry
- 2 Recruitment prospects for risk managers with quantitative expertise are excellent in the coming years
- 3 The programme covers the enterprise risk management syllabus of the UK actuarial profession
- 4 Close links to the Scottish Financial Risk Academy (SFRA) which offers special topics modules led by industry practitioners
- 5 Opportunities for able students to experience summer dissertation placements with SFRA member companies