

MSc Financial Risk Management

Awarding Institution: The University of Reading

Teaching Institution: The University of Reading
Faculty of Economic and Social Sciences

Programme length: 10 months (41 weeks - full-time)

18 months (flexible-learning)

24 months (distance-learning)

For students entering in 2006

Date of specification: 3/4/07

Programme Director: Prof. Carol Alexander

Board of Studies: ICMA Centre

Accreditation: Students' knowledge base will encompass material for the 'Professional Risk Manager' (PRM) Certification. However certification is not part of the degree – students may wish to take the PRM exams in their own time.

Aims

The aim of the programme is to prepare graduates for a career in the financial risk management industry. The programme will provide participants with the opportunity to develop and demonstrate their understanding of both the theory and practical applications of modern finance to market, credit and operational risk management.

Formats

The MSc programme is offered on a full-time residential basis, by Flexible Learning (a combination of distance study and full-time study) and also by Distance Learning. The Masters degree by Flexible or Distance Learning is aimed at participants who cannot come to Reading for 10 months of full-time study or who do not wish to give up their jobs in order to do so. It will be, as near as is practicable, identical in content to the existing residential course. This is essential if standards are to be maintained. The broader educational aims of the flexible-learning and distance-learning versions of the course are, therefore, the same as those of the existing full-time programme. The formats can be summarised as follows:

Full-time study over 10 months: this requires full-time attendance on campus at the University of Reading.

Flexible learning over 18 months: this requires studying Part 1 by distance learning for 12 months followed by full-time attendance on campus at the University of Reading for Part 2 for 6 months.

Distance learning over 24 months: this requires studying both Part 1 and Part 2 by distance learning for a minimum of 24 months.

Transferable skills

Students will have the opportunity to enhance their skills relating to numeracy, problem-solving, communication, information handling and the use of information technology, time management, team working and career planning.

The quantitative skills developed, including the use of statistical and econometrics software, are much in demand in the financial sector, but are readily transferable to other business and organizational contexts. All other skills are transferable and therefore not specific to particular firms or industries. Students will have the opportunity to improve their communication skills both in the preparation of written assignments and during the interaction with their classmates in the online discussions that support their learning.

For the flexible-learning and distance-learning students, a major part of the learning experience will be group work managed via online discussion, thus enhancing their team-working skills. Students will have regular tasks to complete, both individually and as part of a team, thus developing their problem-solving abilities. The distance-learning modules will be supported by online discussion and web-based resources. The significant role of spreadsheet modelling, in particular, will enhance the use of information technology in the programme.

Programme Content

The MSc programme comprises 180 credits. All Part 1 modules are compulsory and are also available by distance learning. One new part I module (ICM106) will be specific to this degree and not currently included in the core modules for MSc ISIB. In Part 2, the Research Project, the Market Risk and Credit Risk modules and a new module on Financial Instruments are all compulsory. The Market Risk and Credit Risk modules will no longer be available as optional modules for MSc ISIB students; the new Financial Instruments module will be available as an Option to other MSc students. In addition, students are allowed a free choice of modules totalling 20 credits from the list of optional modules above. Many of these optional modules will be available by distance learning.

| Programme Summary | | | Credits | Level |
|-------------------|----------|--|---------|-------|
| | Mod Code | Module Title | | |
| Part 1 | ICM101 | <i>Valuation of Securities – Part 1 (Compulsory)</i> | 20 | M |
| | ICM102 | <i>Valuation of Securities – Part 2 (Compulsory)</i> | 20 | M |
| | ICM103 | <i>Quantitative Methods for Finance (Compulsory)</i> | 20 | M |

| | | | | |
|--------|--------|---|----|---|
| | ICM106 | <i>Financial Markets (Compulsory)</i> | 20 | M |
| Part 2 | ICM201 | <i>Portfolio Management (Optional)</i> | 20 | M |
| | ICM206 | <i>Interest Sensitive Securities: Pricing and Hedging (Optional)</i> | 20 | M |
| | ICM207 | <i>Market Risk (Compulsory)</i> | 20 | M |
| | ICM208 | <i>Volatility Analysis (Optional)</i> | 20 | M |
| | ICM211 | <i>Derivative Securities: Pricing, Hedging and Trading (Optional)</i> | 20 | M |
| | ICM214 | <i>Financial Regulation and Regulatory Policy (Optional)</i> | 10 | M |
| | ICM217 | <i>Risk Management and Control (Optional)</i> | 10 | M |
| | ICM218 | <i>Research Project (Compulsory)</i> | 20 | M |
| | ICM239 | <i>Credit Risk (Compulsory)</i> | 20 | M |
| | ICM221 | <i>Hedging (Optional)</i> | 20 | M |
| | ICM231 | <i>Financial Instruments (Compulsory)</i> | 20 | M |

Part-time/Modular arrangements

Part 1 of the programme can be studied by distance learning over a 12-month period starting in September of each year. Following successful completion of Part 1, participants can either join Part 2 of the full-time programme in the following January or continue with distance learning in September.

Progression requirements

N/A

Summary of teaching and assessment

Teaching is organised in modules. The method of delivery varies among modules, especially in terms of the proportions of time allocated to lectures, seminars and dealing-room sessions. All modules are part-assessed via a multiple-choice test or coursework that can take a variety of forms. Final assessment normally involves a written examination, and also incorporates coursework marks.

The full-time programme is taught over two 11-week terms. Part 1 begins at the beginning of Freshers Week in September of each year. Examinations for Part 1 modules are held in Week 1 of the following spring term. Part 2 occupies 9 weeks of the spring term and 2 weeks at the beginning of the summer term. Examinations for Part 2 are normally held in late May / early June.

The core of the distance-learning part of the programme (Part 1 for flexible-learning and Parts 1 and 2 for distance learning) will consist of paper-based learning materials. These will be supported by e-lectures, including either moving-image footage of lectures from the full-time programme or lecturers talking direct to camera and will employ internet learning technology. This will involve the use of a

Learning Management System that will include tutor-moderated online discussion groups and a simulated trading environment. The internet will be used to create a community of learners linked by the web, in order to support their learning. All students, whether full-time, flexible or distance learners, will study the same materials and will sit the same examinations.

In June of each year, distance-learning participants will be recommended to attend a one-week non-compulsory consolidation programme at the ICMA Centre where they will meet their fellow participants. During that period, they will be able to attend special lectures in support of the modules they are studying, attend study skills sessions and participate in dealing room sessions.

The examinations will be held in Reading, UK and also in British Council Offices worldwide. (We cannot guarantee an exam centre in every home country).

The University's taught postgraduate marks classification is as follows:

| <u>Mark</u> | <u>Interpretation</u> |
|-------------|-----------------------|
| 70 – 100% | Distinction |
| 60 – 69% | Merit |
| 50 – 59% | Good standard (Pass) |

Failing categories:

| | |
|----------|-------------------------------|
| 40 – 49% | Work below threshold standard |
| 0 – 39% | Unsatisfactory Work |

To pass the MSc students must gain an average mark of 50 or more overall. In addition the total credit value of all modules marked below 40 must not exceed 30 credits and for all modules marked below 50 must be less than 60 credits. The provision to permit a candidate to be passed overall with a profile containing marks below 40 is made subject to the condition that there is evidence that the candidate applied his or herself to the work of those modules with reasonable diligence and has not been absent from the examination without reasonable cause. Students who gain an average mark of 70 or more overall and have no mark below 40 will be eligible for a Distinction. Those gaining an average mark of 60 or more overall and have no mark below 40 will be eligible for a Merit.

Admission requirements

Normal admissions procedures apply to full-time, flexible-learning and distance-learning applicants. It is intended that flexible-learning and distance-learning students will be inducted alongside full-time participants in Reading at the beginning of the programme in September. The entry requirements are as follows:

Undergraduate Degree: Minimum 2:1 or the equivalent from an overseas institution.

Degree Discipline: Any, but applicants must have a good level of numeracy.

English: If the applicant's native language is not English, then proof of proficiency is required. The two approved tests are:

TOEFL (Test of English as a Foreign Language) - score of 590 or above.

IELTS (British Council International English Language Test) - score of 7 or above.

GMAT (*Graduate Management Admissions Test*)

We strongly recommend that applicants submit a GMAT score, particularly if they have been out of education for more than a few years. We may ask an applicant to submit a GMAT score if we think it appropriate in their individual case.

Admissions Tutor: Dr Simone Varotto

Support for students and their learning

University-wide support for students and their learning falls into two categories. Learning support includes IT Services, which has several hundred computers, and the University Library, which holds over a million volumes across its three sites, subscribes to around 4,000 current periodicals, has a range of electronic sources of information and houses the Student Access to Independent Learning (S@IL) computer-based teaching and learning facilities. There are also language laboratory facilities both for those students studying a language degree and for those taking modules offered by the Institution-wide Language Programme. Student guidance and welfare support is provided by Personal Tutors, the Careers Advisory Service, the University's Special Needs Advisor, Study Advisors, Hall Wardens and the Students' Union.

In addition, the ICMA Centre provides three purpose-built dealing rooms that include Reuters, Bridge and Bloomberg terminals and high-specification PCs that students routinely use for *INVEST* trading simulations and course work. Furthermore, the ICMA Centre has its own library that holds journals specialising in finance that are not available in the main university library. Each student is given a hand-held calculator for use throughout their studies. The ICMA Centre's Continuing Professional Development Unit provides specialised careers advice targeted at the investment banking industry as part of a non-credit Continuing Professional Development (CPD) module (which will also be available by distance learning).

Learning support also includes a student handbook containing full details of the programme structure and administration. A Learning Management System, MyICMACentre, will be used in conjunction with Blackboard, to manage teaching and learning and to monitor student progress for full-time, flexible learning and distance learning students. MyICMACentre provides students and staff with on-line access

to student records including photographs, e-mail and postal contact addresses, personal timetables, seminar group allocations, examinations marks and careers advice. Student learning is fully supported by moderated web-based discussion boards.

Distance learners will be able to meet with other students in their cohort and teaching and support teams during the non-compulsory week at the ICMA Centre in the June of the year of distance learning.

Career prospects

Graduates of the ICMA Centre have an enviable record of attainment when it comes to gaining employment in the financial services industry. The global investment banking and securities markets attract the very best applicants and competition for entry-level positions remains intense. Despite the volatile nature of the financial markets, demand for well-qualified recruits remains high.

Risk Management is a sector of the financial industry that has been growing very rapidly over the last few years. Demand for well-qualified graduates in this area greatly exceeds supply and there are strong reasons to suppose that this demand will continue to grow. Hence several UK universities are planning to offer Masters degrees in Risk Management. The ICMA centre is in a unique position to offer the most prestigious of these new qualifications. We very strong links with the risk management profession and, mainly through the research and other activities of the Chair of Risk Management (Prof. Carol Alexander), the ICMA centre has built a reputation for being the top ranked university in the UK for research in Risk Management. Graduates of the proposed MSc programme would thus have excellent career prospects.

ICMA Centre graduates from the new programme will be equipped with knowledge and transferable skills that are also prized by employers outside of the risk management sectors. Many of our graduates are currently enjoying successful careers with government agencies specialist IT firms, multinational companies and global consulting organisations. However, increasingly, students join us to obtain specific skills: the Risk Management programme will enable them to join fund managers, banks, corporates, small financial boutiques, proprietary trading firms and hedge funds.

Since our inception in 1994, at least 75% of our graduates each year have secured employment within three months of graduation.

Opportunities for study abroad or for placements

There are currently no opportunities to study abroad.

Educational aims of the programme

Each module sets explicit objectives and learning outcomes in a limited and well-defined area of the course syllabus. Some of these learning outcomes relate to key theoretical concepts, and are achieved through directed study supported by lectures, seminars and dealing room simulations in which students uncover theoretical concepts through their own actions. The programme is distinguished from the MSc in ISIB in that the compulsory Part II modules on Market and Credit Risk, which are not available to MSc SIB students, have practical workshops that focus on the application of risk management software. Achievement of these outcomes is assessed through written examinations, Blackboard 'Quiz' assessments and graded presentations.

Other objectives require students to demonstrate that they can apply specific techniques introduced in the module to new problems. These learning outcomes are achieved in part through seminar work based on exercises and problems set by lecturers and led by course tutors. They are also achieved through group and individual project work. Achievement of these outcomes is assessed through written examinations, and in some modules, graded project work.

On completion of the Masters degree by full time, flexible learning or distance learning, students should be able to demonstrate extensive knowledge of finance theory and its application to regulatory and economic capital models. They should be able to apply these models to practical problems at a level of sophistication approaching that encountered in actual risk management. They should also have acquired transferable core skills in computing and quantitative analysis.

The distance-learning modules are the same as those taught on the existing residential version of the programme.

Programme Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

Knowledge and Understanding

A. Knowledge and understanding of:

Fundamental theory of finance, including financial decision-making in an uncertain environment.

Practical techniques for the valuation and the risk management of cash and derivative securities in equity, fixed income, commodity and foreign exchange markets.

Analytical techniques used routinely in the valuation and the risk management of cash and derivative securities.

Quantitative techniques including: Linear Algebra, Elementary Numerical Methods, Probability and Statistics (incl. Econometrics).

Teaching/learning methods and strategies

Formal lectures, practical (including dealing-room) sessions and conventional classes, supervisions supported by directed and assessed self-study. Feedback and guidance are an important part of the process.

This body of knowledge is communicated by detailed, paper-based lecture notes. These are supported by lectures or e-lectures and a Learning Management System (LMS). The LMS provides the students with the ability to participate in online discussion.

Assessment

Knowledge is tested via multiple-choice tests, tutor-marked assignments, tutor-moderated online discussion boards and unseen written examinations.

Courses are assessed through a combination of coursework and unseen examinations.

Practical project work is also assessed and provides a source of feedback on performance to students

B. Intellectual skills – able to:

Gather, analyse and interpret data.

Read, understand and discuss the relevant literature in refereed academic journals.

Think logically and apply analytical principles to a range of problems in finance.

Validate the pricing and hedging models used by derivative securities traders.

Teaching/learning methods and strategies

Substantive problems are illustrated in lectures and smaller group seminars. Essays, project work and problem sets provide related opportunities for problem solving. Lectures supported by essays and seminar discussions provide the basis of ensuring the growing knowledge base becomes comprehensible.

These skills are developed by each of the core modules, which are supported by key milestones and submission of tutor-marked assignments. Students will be presented with financial datasets and required to analyse them and to draw appropriate inferences.

Assessment

Through tutor-marked assignments, project work, problem sets, moderated online discussions and unseen written examinations.

C. Practical skills – able to:

Use Information Technology effectively.

Utilise Value-at-Risk (VaR), statistical and econometric software to analyse financial data.

Communicate ideas online.

Utilise Reuters, Bridge and Bloomberg business information and analytical tools.

Use spreadsheet software, and VaR models in particular, to assess risk capital (both regulatory and economic)

Operate effectively in a simulated middle office environment, including the ability to handle daily P&L and to validate quantitative trading models

Teaching/learning methods and strategies

Practical skills are introduced in lectures, developed in supporting tutorials, computer-based sessions and dealing-room sessions, and reinforced by problem sets and supervised project work.

Teaching is supported by a LMS that requires students to participate in asynchronous online discussions.

Risk Management software is included in the teaching of the Market and Credit Risk modules

Valuation of Securities and Quantitative Methods have practical exercises based on spreadsheets, dealing room, statistical and econometric software.

Assessment

These are assessed through *INVEST* dealing-room sessions, computer-based sessions and tutorials. For flexible learners, tutor-marked assignments using Excel spreadsheets and other software packages will be submitted electronically as part of the milestones built into the programme calendar.

D. Transferable skills – able to:

Contribute to online group discussions.

Gather and interpret data, and present results.

Work in teams.

Demonstrate familiarity with the workings of the international financial markets.

Use IT, including word processing, data exchange, graphics, spreadsheet and econometrics software and directed website searches.

Communicate orally and in writing.

Use library and web-based resources.

Manage time to achieve goals.

Teaching/learning methods and strategies

The use of IT is an integral part of the practical side of the course. It is encouraged through applications that require economic and financial analysis. These involve spreadsheet-modelling exercises, Monte-Carlo simulations, website searches, use of library resources, the presentation of word-processed documents including graphics displays. Communication skills are assessed at several points throughout the programme. Communication, presentation and team-working skills are specifically emphasised in CPD. Good time management is essential for organising a timetable to complete project work.

Tutor-moderated online discussion groups (1) and (3). Assignments. Interviews with prominent guest speakers from the City of London (4).

Assessment

Assessment of transferable skills is incorporated at several points in the programme. (1) and (3) contribute towards assessed work in projects, problem sets and dealing-room sessions. These are also assessed by means of unseen written examinations, tutor-marked assignments and moderated online discussion.

Please note - This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the module description and in the programme handbook. The University reserves the right to modify this specification in unforeseen circumstances, or where the process of academic development and feedback from students, quality assurance processes or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.