INTRODUCTION

In the current climate of economic uncertainty and market volatility, the role of an actuary is becoming increasingly important. Actuaries evaluate and manage financial risk. They make financial sense of the future for their clients by applying advanced mathematical and statistical techniques to solve complex financial problems.

Qualifying as an actuary is a passport to a wide variety of careers in insurance, investments, pensions, health care and banking, not just in the UK, but throughout the world.

The UK Actuarial Profession
The UK Actuarial Profession is small, but influential and well rewarded. There are more than 6,500 actuaries currently employed in the UK, the majority of whom work in insurance companies and consultancy practices.

As an actuary, your work is extremely varied and can include: advising companies on the amount of funds to set aside for employee pension payments; designing new insurance policies and setting premium rates; pricing financial derivatives and working in fund management and quantitative investment research; advising life insurance companies on the distribution of surplus funds; and estimating the effects of possible major disasters, such as earthquakes or hurricanes, and setting premium rates for insurance against such disasters. For more information about the actuarial profession, see www.actuaries.org.uk

Varied and rewarding career in finance
The global financial sector offers numerous career opportunities for high-calibre students with good numerical skills and a thorough grasp of the principles and application of finance. In addition, the recent developments in the financial sector have highlighted the importance of understanding and managing financial risk for finance specialists aiming for a career in finance and investment.

As a specialist in finance, investment and risk, career options in the financial sector can include roles such as investment analyst, investment manager, asset and portfolio manager, equity analyst, wealth manager, stock broker, risk manager and financial engineer.

Our programmes
If you have strong mathematical skills and are curious about financial matters, one of our postgraduate actuarial science or finance-related courses could be for you.

Kent is one of a very few universities in the UK to teach actuarial science. Our programmes combine academic rigour with practical application, all taught within the Centre for Actuarial Science, Risk and Investment (CASRI), a new academic centre within the highly rated School of Mathematics, Statistics and Actuarial Science.

Actuarial Science PDip
Applied Actuarial Science MSc
Our taught postgraduate courses in Actuarial Science are fully accredited by the UK Actuarial Profession and provide a fast-track route to qualifications which can lead to exemption from professional examinations (see p4).

International Master’s in Applied Actuarial Science
This new programme is aimed at international students with a good first degree (upper second class or above) in mathematics, statistics or economics (or other subjects with a high mathematical content), who wish to gain exemption from subjects in the Core Technical, Core Applications and Specialist Technical stages of the UK Actuarial Profession’s examinations.

The International Master’s programme is equivalent to a pre-Master’s Graduate Diploma (covering the same subjects as the PDip in Actuarial Science), followed by the MSc in Applied Actuarial Science.
Finance, Investment and Risk MSc
This unique programme provides the essential knowledge required in finance and investment with financial risk analysis playing an important role. It offers academic rigour combined with practical applications and as such provides a strong base for a career in finance. This flexible qualification will open up your career opportunities in investment banks, financial and management consultancies, auditing firms, risk management departments of financial institutions and government departments.

Actuarial Science PhD
The PhD in Actuarial Science offers the opportunity to begin or consolidate your research career under the guidance of internationally renowned researchers and professionals in the School.

Professional qualifications
A principal feature of our actuarial science programmes is the exemptions that successful students can gain from the professional examinations of the UK Actuarial Profession. Successful completion of these programmes leads to excellent job prospects, as demonstrated by the strong graduate employment record for all of our actuarial science students.

We are seeking accreditation for the MSc in Finance, Investment and Risk from relevant professional bodies such as the Chartered Institute for Securities and Investment (CISI). Special training for Chartered Financial Analyst (CFA) professional examinations is offered to students on the programme.

Links with industry
The Invicta Actuarial Society is a regional actuarial society organised by Kent students and academic staff. Meetings are often attended by practising actuaries and other visiting actuaries who present current research and business problems, and provide valuable contacts between students and employers. Industry practitioners provide teaching sessions and talks to enhance student learning on the MSc in Finance, Investment and Risk programme.

International recognition
The UK actuarial qualifications, Fellowship of the Institute of Actuaries (FIA) or the Fellowship of the Faculty of Actuaries (FFA), are highly valued throughout the world – ideal if you are interested in working in another country. Nearly 3,000 actuaries with UK qualifications work abroad. The UK Actuarial Profession also offers Associateship (AIA or AFA), a valuable qualification that represents a significant milestone in an actuary’s career. It is recognised internationally as meeting the minimum requirements to be an actuary in many countries around the world.

Excellent resources
The University’s Templeman Library houses a comprehensive collection of books and research periodicals. Students on our actuarial science programmes also have the opportunity to gain practical experience of working with PROPHET, the market-leading actuarial software package used by companies worldwide for profit testing, valuation and model office work.
Academic Excellence

Highly rated research
The School of Mathematics, Statistics and Actuarial Science is committed to developing a world-class research environment. In the most recent Research Assessment Exercise, our work in Statistics was ranked among the top ten universities in the UK. The Centre for Actuarial Science, Risk and Investment (CASRI) has a growing number of researchers engaged in a wide range of topical areas, including economic capital and financial risk management, genetics and insurance, insurance economics, accident compensation and risk classification.

Expert teaching
Our actuarial staff are involved in examining and tutoring for the UK Actuarial Profession and are in frequent contact with actuaries working in insurance companies and consultancy firms. All of our core actuarial science modules on our postgraduate study programmes are taught by qualified actuaries, who are all Fellows of the Institute or Faculty of Actuaries with many years’ experience in consultancy or the insurance industry. All subjects on our MSc in Finance, Investment and Risk programme are taught by professionally trained and qualified staff with industry experience.

Our School is friendly and we place an emphasis on getting to know our students on a one-to-one basis.

Fast track to qualification
For students who wish to qualify as actuaries, professional recognition of our taught postgraduate programmes by the UK Actuarial Profession is very important.

Our Postgraduate Diploma in Actuarial Science programme gives you the opportunity to gain exemptions from eight of the Core Technical subjects (CT1 to CT8) of the professional examinations set by the UK Actuarial Profession, and provides you with a firm foundation for the later subjects. If you perform well enough on this course to obtain the full set of exemptions available, you could reduce your time to qualify as an actuary by three years or more.

Our MSc in Applied Actuarial Science programme gives you the opportunity to gain exemptions from most of the Core Applications and Specialist Technical subjects of the professional examinations set by the UK Actuarial Profession.

Our International Master’s programme offers students the opportunity to gain exemptions from the subjects of the Core Technical, Core Applications and Specialist Technical stages of the UK Actuarial Profession’s examinations.

Our MSc in Finance, Investment and Risk provides you with the opportunity to prepare for the CFA professional examinations Levels I and II at the same time as studying for your MSc. The syllabus of this programme is closely aligned with those of highly rated professional qualifications. In addition, revision and support sessions, led by professionally qualified industry trainers, prepare you for professional examinations.
WORLD-LEADING RESEARCH
In the most recent Research Assessment Exercise, Kent’s staff were found to be engaged in research of world-class standing.
Ivar Billfalk-Kelly recently completed the MSc in Applied Actuarial Science.

**What attracted you to postgraduate study at Kent?**

I chose to do a postgraduate course rather than to start my professional career straight after my undergraduate degree because I felt it would give me a big advantage when looking for a job.

The MSc in Applied Actuarial Science at Kent provides you with the opportunity to gain additional exemptions from the professional examinations set by the Institute and Faculty of Actuaries. Although it’s possible to sit these exams while working, I thought it would be easier to pass them while still at university as I would be taught the subjects rather than having to learn them on my own. I also thought it would be a lot of fun to live abroad for a year and doing this course gave me an opportunity to do that – I enjoyed every minute of it!

I visited Canterbury for a postgraduate open day and was impressed by both the University and the city itself. The staff were welcoming and helpful in answering any questions I had about the course and the University. After my visit, I decided I really wanted to study here.

**How did you find the course?**

All the lecturers were fantastic and I really enjoyed the course. Although it was in the same field as my undergraduate degree, the MSc was far more specialised. I chose to take classes in finance and derivative securities and, while we did cover these in my undergraduate course, we didn’t go into the same level of detail as we did here. There were also modules that were completely new to me, such as the one in which we learned how to use the actuarial modelling programme PROPHET.

**What are the advantages of postgraduate study?**

Although I could have secured a job straight after my first degree, the benefits associated with further study far outweigh the costs in terms of tuition fees and possible lost earnings.

The biggest advantage I found was that it gave me the chance to learn more about subjects that I started during my undergraduate course. I have an interest in finance and had the opportunity to learn many more specific things that I had never touched on before. I firmly believe that you can never learn enough and a postgraduate degree is a great way to continue learning. You also give yourself a big advantage when looking for a job – you will have a more detailed knowledge than most other graduates.

**What's next for you?**

I would like to get a job in the financial sector, either in London or Dublin. At the moment, I’m leaning towards a career as either a trader or an investment consultant. This course equips you with the skills to go on to work in a large number of areas, such as banking, trading and insurance. However, virtually no door is closed in terms of working in the financial sector.

**What advice can you offer to others considering postgraduate study at Kent?**

Once I had visited the campus and seen what the University was like, I didn’t take much time to decide that I wanted to study here and I am very glad that I did – I have nothing but positive things to say about the Kent.

Academically, it was great, but the social aspect shouldn’t be overlooked either. There is a huge number of societies and sports clubs to join, all of which are extremely active. I joined the hockey club and I have never been a member of any club that is as much fun in terms of playing the sport and socialising.
A postgraduate qualification from Kent opens up a wealth of career opportunities by providing an impressive portfolio of skills and specialist knowledge.

As well as providing a first-class academic experience, we want you to be in a good position to face the demands of a tough economic environment. Employers recognise that a postgraduate qualification demonstrates a wide range of skills. At Kent, we provide a comprehensive package of skills development programmes, careers advice, and volunteering and paid work opportunities to help enhance your career prospects.

Skills training
During your programme, you acquire a high level of academic knowledge and specialist practical skills. Kent also helps you to develop key transferable skills that are essential within the competitive world of postgraduate employment, such as the ability to adapt to challenges, analyse complex real-world problems and develop original ideas that can be applied to all aspects of employment.

The Graduate School
The Graduate School co-ordinates the Transferable Skills Training Programme for research students, in which you can access a wide range of lectures and workshops. These provide training, personal development planning and career development skills. The Graduate School also delivers the Global Skills Award programme for students following taught programmes of study, which is specifically designed to consolidate your awareness of current global issues and improve your employment prospects.

Exciting career options
Kent has an excellent record for postgraduate employment: over 90% of our postgraduate students who graduated in 2010 found a job or further study opportunity within six months.

Qualifying as an actuary opens up a wide range of career options, both in the UK and internationally, in areas such as insurance, consultancy, the Stock Exchange, investment management, pensions and health care. While our courses in actuarial science provide an excellent start to an actuarial career, choosing these programmes does not commit you to becoming an actuary. Some graduates go on to successful careers in accounting, banking, government service or operational research.

Gaining the MSc in Finance, Investment and Risk provides a direct route to numerous careers in the financial sector, including roles such as stockbroking, investment advice and management, wealth management, risk management, equity and derivatives analysis, portfolio management, fund and asset management, and financial engineering.

The specialist knowledge and practical application gained from the MSc in Finance, Investment and Risk is highly rated by the finance industry and provides students with a substantial advantage in securing positions in the financial sector.

Careers and Employability Service
Our Careers and Employability Service can help you to plan for your future by providing one-to-one advice at any stage in your postgraduate studies. It also provides online advice on employability skills, career choices, making applications and interview skills.

For the MSc in Finance, Investment and Risk, careers advisers from industry will provide up-to-date information on employment opportunities in the financial sector as well as specific advice on preparation of CVs and the application process in the industry.

Further information
For more information on the careers help we provide at Kent, visit our Employability web page at www.kent.ac.uk/employability
Wei Yang graduated with an MSc in Applied Actuarial Science and is now studying for a PhD in Actuarial Science at Kent.

Why did you choose Kent?
I chose to study at Kent mainly as the Master’s course here can lead to exemption from the professional examinations required to qualify as a Fellow of the Institute and Faculty of Actuaries. I found that the living and tuition fee costs were relatively low compared to other universities providing courses in Actuarial Science. I also liked the environment in the School of Mathematics, Statistics and Actuarial Science, which is friendly and enthusiastic, as well as the atmosphere on campus.

How would you describe the course?
It provides you with all the information you need to become an actuary, teaching you the essential skills required to start a career in the profession. These include writing and communication skills, teamwork and mastering important software such as Matlab, PROPHET, Excel and Latex.

What are the advantages of undertaking a further degree?
Obviously, a further degree in Actuarial Science leads to more exemptions, which is important for entering the profession. It also gives you a deeper understanding of mathematical principles and how these can be applied in the real world.

What’s next for you?
I’m currently studying for a PhD in Actuarial Science here at Kent. Once I’ve completed this, I’m planning to spend a few years working in the insurance industry. After gaining enough experience, I hope to qualify as a Fellow of the Institute and Faculty of Actuaries. After that, I’ll either continue on this path or possibly start a new career as a university lecturer.
TAUGHT PROGRAMMES

There is a range of taught programmes on offer, so you can choose the degree that reflects your interests. Below is an explanation of what the different degree programmes offer.

Actuarial Science PDip
The PDip is a nine-month, full-time intensive programme that is suited to students who have a degree in mathematics, statistics or economics. Leading to the award of Diploma, it covers the syllabus of the Core Technical Stage of the professional examinations of the Institute and Faculty of Actuaries, and offers the opportunity to gain exemption from eight subjects (CT1 to CT8). On successful completion, students also have the opportunity to continue to a higher level on our MSc in Applied Actuarial Science programme at a discounted rate and gain further exemptions.

Although only 120 credits (equivalent to a minimum of four subjects leading to the professional examinations) are required to pass the Diploma, further subjects may be taken for exemption purposes. If fewer than 120 credits are taken, students may be eligible for the Postgraduate Certificate in Actuarial Science.

Course content
- Financial Mathematics (CT1)
- Finance and Financial Reporting (CT2)
- Probability and Mathematical Statistics (CT3)
- Models (CT4)
- Contingencies (CT5)
- Statistical Methods (CT6)
- Business Economics (CT7)
- Financial Economics (CT8)
- Financial Modelling: PROPHET (optional)

Assessment
Assessment is a combination of coursework and written examinations.

Accreditation
Students who are considered to have performed sufficiently well in the programme (both in examinations and coursework), as determined by an examiner appointed by the UK Actuarial Profession, will be exempt from all the CT subjects studied within the programme.

If a student fails to achieve a suitable overall standard, they might still be awarded individual module exemptions as recommended by the Profession’s examiner. Please note that individual exemptions are granted based on the final written examinations only.
Subject modules

Financial Mathematics (CT1)
This module provides an introduction to financial mathematics and its simple applications.

Finance and Financial Reporting (CT2)
In this module, you are introduced to corporate finance and the interpretation of company accounts.

Probability and Mathematical Statistics (CT3)
You gain a grounding in basic statistics and its applications in readiness for other courses.

Models (CT4)
In this module, you look at stochastic processes and actuarial survival models and their applications.

Contingencies (CT5)
You explore the mathematical techniques of pricing and evaluating insurance and pension products.

Statistical Methods (CT6)
The Statistical Methods module covers the fundamental statistical techniques used in the analysis of short-term insurance contracts.

Business Economics (CT7)
This module introduces you to key economic concepts at both the micro and macro levels.

Financial Economics (CT8)
Financial Economics gives you a grounding in modern financial theory and its applications.

Financial Modelling: PROPHET
This module provides an introduction to the use and application of the market-leading actuarial software package, PROPHET. You also look at other financial models and learn how to analyse and summarise data, develop a model with an audit trail and gain the ability to apply the results.

Applied Actuarial Science MSc
The MSc is available as a full-time (one-year) or part-time (two-year) programme and is suitable for those who have completed a first degree or postgraduate diploma in Actuarial Science, or those who have studied the majority of the earlier subjects in the Core Technical Stage subjects.

“I enjoyed the programme, all the modules were well run and the lectures were well delivered. You quickly build up the skills needed for the Diploma course regardless of your academic background.”

Bill Sakaria
PDip Actuarial Science

The course is based on a ‘core modules plus options’ structure and exemptions can be gained from the following professional examinations in the Core Applications Stage and Specialist Technical Stage: CA1, CA3, ST2, ST4 to ST9. You can also choose the optional Financial Modelling modules, which prepare you for subject CA2 in the Core Applications Stage.

You must take 180 credits in order to pass the MSc. If you take fewer than 180 credits, you may be eligible for the Postgraduate Diploma in Applied Actuarial Science.

Course content

- Actuarial Risk Management (CA1)*
- Model Documentation, Analysis and Reporting (CA2)
- Communications (CA3)*
- Life Insurance (ST2)
- Pensions and Other Benefits (ST4)
- Finance and Investment A (ST5)
- Finance and Investment B (ST6)
- General Insurance: Reserving and Capital Modelling (ST7)
- General Insurance: Pricing (ST8)
- Enterprise Risk Management (ST9)
- Financial Modelling: PROPHET I
- Financial Modelling: PROPHET II

* compulsory modules
Assessment
Assessment is a combination of coursework and written examinations.

Accreditation
Students who are considered to have performed sufficiently well in the programme (both in examinations and coursework), as determined by an examiner appointed by the UK Actuarial Profession, will be exempt from subjects CA1, CA3 and the Specialist Technical subjects studied within the programme.

If you fail to achieve a suitable overall standard, you might still be awarded individual module exemptions as recommended by the Profession's examiner. Please note that individual exemptions are granted based on the final written examinations only.

Subject modules
Actuarial Risk Management (CA1)
This subject gives you the ability to apply the principles of investment and investment risk to the selection and management of investments appropriate to the needs of investors. The subject is covered by two compulsory modules.

Model Documentation, Analysis and Reporting (CA2)
This module ensures that you understand how to model data in practice and maintain an audit trail for information.

Communications (CA3)
In the Communications module, you learn to present fundamental actuarial ideas and arguments to others outside the Profession.

Life Insurance (ST2)
In this module, you understand how to apply, in simple situations, the principles of actuarial planning and control needed for the operation of life insurance companies.

Pensions and Other Benefits (ST4)
This module enables you to apply, in simple situations, the principles of actuarial planning and control needed for the operation of providers of pensions and other benefits.

Finance and Investment A (ST5)
You apply modern techniques in financial management to the business of managing assets and financing corporate entities.

Finance and Investment B (ST6)
The aim of this subject is to provide you with the ability to value financial derivatives.

General Insurance: Reserving and Capital Modelling (ST7) and General Insurance: Pricing (ST8)
These two modules have replaced the subject, General Insurance Specialist Technical (ST3). They provide you with the ability to apply, in simple situations, the principles of actuarial planning and control needed for the operation of general insurers.

Enterprise Risk Management (ST9)
You gain the ability to understand and apply modern techniques in risk management.

Financial Modelling: PROPHET I
You are introduced to the use and application of the market-leading actuarial software package, PROPHET, including setting up a new product, performing profit testing and model office runs.

Financial Modelling: PROPHET II
This module provides further experience on the use and application of PROPHET and also shows you how to analyse and summarise data used in financial models as well as to develop the ability to apply the results obtained.
International Master’s in Applied Actuarial Science

The first year of this programme covers subjects CT1-CT8 and the second year covers a number of the CA and ST subjects. Details of the subjects and assessments are given on p10-12.

Finance, Investment and Risk MSc

The recent crisis in the financial sector has highlighted the importance of understanding and managing risk as an integral part of the body of knowledge required for finance, investment and insurance industries.

This unique taught programme provides the essential knowledge base in quantitative finance, investment analysis and portfolio management with financial risk analysis playing an important role.

The programme has an international perspective and offers academic rigour combined with practical application and vocational orientation.

You must take 180 credits in order to pass the MSc. If you take fewer than 180 credits, you may be eligible for the Postgraduate Diploma in Finance, Investment and Risk.

Candidates should have a good degree in a relevant subject, such as accounting, finance, actuarial science, economics, business, engineering or other sciences.

Graduates holding degrees without mathematical content may be advised to attend a preparatory course in mathematics and statistics prior to the start of the programme.

Course content

- Investment Analysis and Portfolio Management*
- Financial Statements Analysis*
- Financial Risk Management*
- Finance and Financial Reporting*
- Mathematics of Finance*
- Probability and Statistics for Finance*
- Fund Management
- Portfolio Theory and Asset Pricing Models
- Mathematics of Financial Derivatives
- Financial Modelling and Analysis
- Communication in Finance and Investment Writing
- Business Economics

* compulsory modules

Assessment

Assessment is a combination of coursework and written examinations.

Subject modules

Investment Analysis and Portfolio Management

This module enables you to understand the market for financial products, and to learn about the principles underlying selection of investments and management of portfolios for different types of investors.

Financial Statements Analysis

In this module, you learn the structure of financial statements and methods of company evaluation. It enables you to evaluate the performance of companies and use appropriate methods to examine company accounts critically. Examination of real-life case studies throughout the module allows you to understand the practical application of
accounting concepts and methods, and provides insight into and deeper understanding of the international accounting standards.

**Financial Risk Management**
You gain an understanding of the various types of risk faced by financial institutions and how to select and apply modern techniques in risk management. The module initially introduces the principal terms and concepts in enterprise risk management and the framework for risk management and control within a company – why and how risk should be controlled within a company. You later focus on risk management in the financial services industry and risk of intermediation; how to measure risks of different kinds, including interest rate risk, market risk, credit risk, off balance-sheet risk, foreign exchange risk, sovereign risk, technology and other operational risk, and liquidity risk; and how to employ effective methods to manage risk.

**Finance and Financial Reporting**
This module provides you with an understanding of the principles of corporate finance and an introduction to company accounts. It explores the modern theories relating to company finance, the environment within which the companies operate and the main issues concerning alternatives available to companies in making decisions on raising and using finance. You are also introduced to the structure of financial statements for different types of institutions and their use as an aid to evaluating company performance and valuation.

**Mathematics of Finance**
You are introduced to mathematical techniques and their application in finance and investment.

**Probability and Statistics for Finance**
This module provides you with the necessary statistical knowledge used in finance and investment.

**Fund Management**
This module enables you to select and apply appropriate models for asset allocation and security selection, and to evaluate performance. You learn the key operational risk factors and steps that fund managers can take to manage and control risk.

**Portfolio Theory and Asset Pricing Models**
You gain a technical grounding in modern portfolio theory and asset pricing models.

**Mathematics of Financial Derivatives**
This module enables you to understand the mathematical techniques and models used in analysing the features of financial derivatives. Recommended for those interested in mathematical finance.

**Financial Modelling and Analysis**
You gain an understanding of building financial models in practice and the maintenance of an audit trail for recording and communicating technical information.

**Communication in Finance and Investment Writing**
The Communications module ensures that you are able to present fundamental financial ideas and arguments to others outside the professional field. It provides training on preparing industry-standard documents and reports. Business games help you to gain an understanding of business ethics, the dynamics of team building and making decisions within a team.

**Business Economics**
This module provides an introduction to key economic concepts at both the micro and macro levels. You gain an understanding of the basic principles in economics that play a role in finance and financial markets, and explore the factors that underpin the government’s macroeconomic, monetary and regulatory policies.
Examinations of the Institute and Faculty of Actuaries

Core Technical Stage
CT1 Financial Mathematics
CT2 Finance and Financial Reporting
CT3 Probability and Mathematical Statistics
CT4 Models
CT5 Contingencies
CT6 Statistical Methods
CT7 Business Economics
CT8 Financial Economics
CT9 Business Awareness

The Business Awareness module involves a two-day residential course arranged by the Actuarial Profession. Attendance of this course and passing the follow-up test is now a requirement of qualification for students joining the Profession.

Core Applications Stage
CA1 Actuarial Risk Management
CA2 Model Documentation, Analysis and Reporting
CA3 Communications

Specialist Technical Stage
ST0 Alternative Specialist Technical
ST1 Health and Care
ST2 Life Insurance
ST4 Pensions and Other Benefits
ST5 Finance and Investment A
ST6 Finance and Investment B
ST7 General Insurance: Reserving and Capital Modelling
ST8 General Insurance: Pricing
ST9 Enterprise Risk Management

Specialist Applications Stage
SA0 Research Dissertation
SA1 Health and Care
SA2 Life Insurance
SA3 General Insurance
SA4 Pensions and Other Benefits
SA5 Finance
SA6 Investment

Students are required to take all subjects from the Core Technical and Core Applications Stages, two subjects from the Specialist Technical Stage and one subject from the Specialist Applications Stage.

For further information on the examinations of the Institute and Faculty of Actuaries, see www.actuaries.org.uk/students/pages/syllabus-exams
The PhD in Actuarial Science offers you the opportunity to begin or consolidate your research career under the guidance of internationally renowned researchers and professionals in the School of Mathematics, Statistics and Actuarial Science. The School has a strong reputation for research, both nationally and internationally, and a well-established system of support and training, with a high level of contact between staff and researchers.

The research programme, which can be taken three to four years full-time or five to six years part-time, offers the opportunity to work in highly topical areas such as economic capital and risk management for financial services firms, developing stochastic modelling techniques, genetics and insurance, longevity modelling and risk classification. Applications for PhD research in these and other areas will be welcomed.

Research groups
Genetics and insurance risks
Advances in human genetics, and medical sciences in general, have led to many gene discoveries and a number of single-gene disorders have been successfully identified and studied in detail.

Researchers are now increasingly focusing on common multifactorial genetic disorders like cancer, heart attack and stroke, caused by interaction of genes and environmental factors. It is important for the insurance industry to understand the full implications of these latest developments. Firstly, can an insurer justify charging different premium rates to different risk groups? Secondly, if insurers are not allowed to discriminate between individuals based on their genes, by regulation or by law, is there a risk of adverse selection?

From a public policy perspective, regulators and governments face the dilemma of whether to regulate against genetic underwriting or to allow market economies to take their own course.

On the one hand, there is a moral obligation not to discriminate against individuals for their genetic make-up. On the other hand, risk of adverse selection against insurance firms cannot be ruled out altogether. Maintaining an appropriate balance between the two is key.

Economic capital and financial risk management
Financial services firms are in the business of accepting risks on behalf of their customers. Customers do not always have the time or expertise to handle financial risks on their own, so they pass these on to financial services firms. However, even the most reputable firms can sometimes get it wrong, so it is fundamentally important for all stakeholders that financial services firms hold an appropriate amount of capital calculated on a robust scientific basis, to back the risks they are running. Economic capital can provide answers by specifying a unifying approach to calculating risk-based capital for any firm in the financial services sector.
Staff in the School of Mathematics, Statistics and Actuarial Science offer a wide range of knowledge, skills and experience, combining practical expertise with up-to-date teaching methods.

Professor Malcolm Brown
BSc (Kent), FIA
Professor of Actuarial Science and Head of School

Previous professional experience
Twenty-five years’ experience working in the financial services industry, including Head of Product Development and Marketing Actuary for Colonial Financial Services and Deputy Actuary for Lloyds TSB Life with main responsibilities for all corporate actuarial functions of the company.

Affiliations and links
Fellow of the Institute of Actuaries; Senior Examiner, Regional Careers Advisor and member of Education Committee for the UK Actuarial Profession; external assessor for universities in England, Scotland, Wales and Hong Kong.

Core expertise
Financial mathematics; survival models; contingencies; financial economics; life assurance practice; and financial modelling.

www.kent.ac.uk/smsas/staff/mb

Professor Paul Sweeting
PhD (Bristol), FIA, FSI, CFA
Professor of Actuarial Science

Previous professional experience
Seventeen years in the financial services industry, initially in pensions and investment consultancy, then working in asset management as Director of Research for the Fidelity Retirement Institute, and finally as Longevity Strategist for Munich Reinsurance with responsibility for developing the firm’s longevity reinsurance strategy.

Affiliations and links
Fellow of the Institute of Actuaries; Fellow of the Royal Statistical Society; Fellow of the Securities and Investment Institute; CFA Charterholder.

Core expertise
Longevity modelling; longevity derivatives; institutional and retail investment strategy; enterprise risk management; pension scheme risk management; copulas.

www.kent.ac.uk/smsas/staff/pjs34

Dr Lothar Breuer
Reader in Statistics

Previous professional experience
Assistant Professor, University of Trier, Germany.

Core expertise
Stochastic processes and their applications in queuing theory and insurance mathematics.

www.kent.ac.uk/smsas/staff/lb209

www.kent.ac.uk/casri

CONTINUED OVERLEAF
ACADEMIC STAFF (CONT)

John Millett
BSc (Nottingham), FIA
Senior Lecturer in Actuarial Science and Head of Actuarial Science Group

Previous professional experience
Fifteen years’ experience in the life assurance industry, including roles at Friends Provident and Lloyds TSB.

Affiliations and links
Fellow of the Institute of Actuaries; Principal Examiner for the Institute of Actuaries and the Faculty of Actuaries; external assessor for universities in England, Wales and Egypt.

Core expertise
Financial mathematics; survival models; contingencies; actuarial management; enterprise risk management.

www.kent.ac.uk/smsas/staff/csb

Roger Bevan
FIA
Lecturer in Actuarial Science

Core expertise
Practical application of actuarial principles, including business awareness and professionalism training, with detailed knowledge of life and general insurance.

www.kent.ac.uk/smsas/staff/rlb28

Peter Duffett
MA (Oxford), FIA
Lecturer in Actuarial Science

Previous professional experience
Thirty-five years’ experience in professional, managerial and consultancy roles in the financial services industry, both in the UK and overseas.

Esther Glover
BSc (Kent), FIA
Lecturer in Actuarial Science and Senior Tutor

Previous professional experience
Five years’ experience working for Towers Perrin as an Actuarial Analyst, Associate in Employee Benefits Services and in all areas of Pension Schemes (in the UK, US and Germany), including international (and UK) accounting, pension scheme valuations, and mergers and acquisitions.

“...In the School of Mathematics, Statistics and Actuarial Science, we have 13 fully qualified actuaries on our staff, with many years’ experience behind them, so students not only learn about the core actuarial theory, but also gain an understanding of the practical applications of the theory – how things actually work in the real world.”

John Millett
Senior Lecturer in Actuarial Science
Affiliations and links
Fellow of the Institute of Actuaries.

Core expertise
Financial mathematics; core applications; financial modelling; pensions.

www.kent.ac.uk/smsas/staff/ejg5

Mark Heller
BSc (Sussex) FIA
Lecturer in Actuarial Science

Previous professional experience
Twenty years’ experience in the actuarial profession, including roles as Pricing Actuary within AXA and Director of an actuarial recruitment company.

Affiliations and links
Fellow of the Institute of Actuaries.

Core expertise
Survival models; life insurance practice; communications; training and development.

www.kent.ac.uk/smsas/staff/mh376

Andrew Jackson
MA, MSc (Oxford), FIA
Lecturer in Actuarial Science

Previous professional experience
Many years’ experience working for a range of life offices and pension consultants.

Affiliations and links
Fellow of the Institute of Actuaries.

Core expertise
Management; life and pensions; survival models; economics; financial economics; financial modelling. Non-teaching interests include alternative economics and the principle of mutuality.

www.kent.ac.uk/smsas/staff/aj33

Vaishnavi Srinivasan
MSc (Madras), FFA, FIAI
Lecturer and Postgraduate Admissions Officer in Actuarial Science

Previous professional experience
Seven years’ experience in the life insurance industry in the UK and India, including experience setting up a new joint venture life insurer in India.

Affiliations and links
Fellow of the Faculty of Actuaries, UK; Fellow of the Institute of Actuaries of India; Examiner for the UK Actuarial Profession; Fellow of the Royal Statistical Society.
**Loba Van der Bijl**  
BSc (London), MSc (LSE)  
Lecturer in Finance  
**Previous professional experience**  
Roles as financial planner (GlaxoSmithKline), business planner (Honeywell) and modeller in management consultancy.  
**Affiliations and links**  
Affiliate Member of the Institute of Actuaries; Principal Examiner for the Institute of Actuaries.  
**Core expertise**  
Corporate finance; financial reporting; financial modelling; economics.  
www.kent.ac.uk/smsas/staff/lv3

**Dr Huamao Wang**  
BSc, MSc (Hunan), PhD (Leeds)  
Lecturer in Finance  
**Previous professional experience**  
PhD scholarship in the Centre for Advanced Studies in Finance (CASIF), Leeds University Business School.  
**Core expertise**  
Computational finance, financial mathematics and financial economics.  
www.kent.ac.uk/smsas/staff/hw239

**Nick Wood**  
BSc (Manchester), FIA  
Lecturer in Actuarial Science  
**Previous professional experience**  
Experience includes: working in Employee Benefits at Bain Clarkson; role of industry contractor (both employed and self-employed), notably setting up industry-accepted practice standards in Personal Pensions mis-selling review in connection with the GEC plan; and involvement with both the Free Standing Additional Voluntary Contributions and Endowment mis-selling reviews.  
**Affiliations and links**  
Fellow of the Institute of Actuaries.  
**Core expertise**  
Finance and financial reporting; pensions and other benefits; financial modelling.  
www.kent.ac.uk/smsas/staff/ncw

**Core expertise**  
Finance and investment; financial economics; life assurance practice; financial modelling.  
www.kent.ac.uk/smsas/staff/vs

**Dr Pradip Tapadar**  
BStat, MStat (Kolkata), PhD, FFA, FIAI  
Lecturer in Actuarial Science  
**Previous professional experience**  
Over five years’ experience in the life insurance industry in the UK and India, including managerial roles in pricing, product development and valuation.  
**Affiliations and links**  
Fellow of the Faculty of Actuaries, UK; Fellow of the Institute of Actuaries of India; Examiner for the Actuarial Professions in UK and India; Fellow of the Royal Statistical Society.  
**Core expertise**  
Financial economics; financial modelling; economic capital and financial risk management; derivative securities; genetics and insurance; life assurance practice and pensions.  
www.kent.ac.uk/smsas/staff/pt56

**Core expertise**  
Finance and financial reporting; pensions and other benefits; financial modelling.  
www.kent.ac.uk/smsas/staff/ncw
APPLYING TO KENT

Entry requirements

**Actuarial Science P Dip**
International Master's in Applied Actuarial Science
A good first degree (usually in mathematics, statistics or economics although other subjects with a high mathematical content are acceptable). A prior knowledge of statistics, economics or finance is not required but would increase the opportunity to gain the highest number of exemptions.

**Applied Actuarial Science M Sc**
A good first degree in actuarial science or a degree that covers all or most of the Core Technical Stage subjects of the Institute and Faculty of Actuaries' examinations. We may also accept applicants who have a good first degree in another subject and who have passed most of the Core Technical Stage subjects.

**Finance, Investment and Risk M Sc**
A good first degree in a relevant subject, such as accounting, finance, economics, business, actuarial science, engineering or other sciences. Work experience is not required but relevant work experience will enhance your profile.

Graduates with degrees without a substantial mathematical content will be required to attend a two-week preparatory course in mathematics and statistics prior to the start of the programme.

**Actuarial Science PhD**
A first or second class honours degree in a relevant subject (or equivalent).

For more information on requirements for international qualifications, visit www.kent.ac.uk/internationalstudent/country

**English language**
The University requires all non-native speakers of English to reach a minimum standard of proficiency in written and spoken English before beginning a postgraduate degree.

**Actuarial Science P Dip**
International Master's in Applied Actuarial Science
TOEFL: 87 internet-based; or British Council IELTS: 6.0

**Applied Actuarial Science M Sc**
Finance, Investment and Risk M Sc
Actuarial Science PhD
TOEFL: 90 internet-based; or British Council IELTS: 6.5

If you do not reach the required standard, you can apply for one of our pre-sessional courses. For further information, please see www.kent.ac.uk/cewl

Only English language tests taken up to a maximum of two years prior to the date of registration will be accepted for admission to the University. Please note that if your university studies have been completed entirely in English, you may be exempt from providing an English test certificate. Please contact International Development for clarification (www.kent.ac.uk/internationalstudent/contact.html)

**Making an application**
You can apply for a Kent higher degree electronically via our website at www.kent.ac.uk/courses/gradapply.html

If you do not have access to the web, please contact the Recruitment and Admissions Office at the address on p23 for a paper copy of the application form.

If you are applying for a research degree, it is strongly recommended that you contact the School of Mathematics, Statistics and Actuarial Science in the first instance so that you have an opportunity to discuss your study plans with the programme director.

**Application deadline**
There is no fixed closing date for applications although we recommend you make your formal application as early as possible and
The University of Kent has established a scholarship fund of £1.5 million to support research students. This fund allows the University to provide support for more than 100 students in any one year. Many individual schools at the University also offer scholarships. Many UK students fund their places through a Professional Career Development Loan (PCDL) – contact any UK bank or Job Centre for further information.

Organisations are occasionally willing to offer students sponsorship. For up-to-date details, please contact the Actuarial Profession on +44 (0)207 632 2100, or visit www.actuaries.org.uk

The fees quoted for full-time study are the full cost of tuition fees for the programme per year. The fees quoted for part-time study are the cost of one year of study only. They include the cost of course reading, which is mainly taken from the course notes provided by the Actuarial Education Company for the actuarial science programmes.

All fees are payable in full on the first day of the course (instalment arrangements are available – please contact the Student Finance Office on +44 (0)1227 823101 or visit: www.kent.ac.uk/finance).

The University of Kent has established a scholarship fund of £1.5 million to support research students. This fund allows the University to provide support for more than 100 students in any one year. Many individual schools at the University also offer scholarships.

Many UK students fund their places through a Professional Career Development Loan (PCDL) – contact any UK bank or Job Centre for further information.

Organisations are occasionally willing to offer students sponsorship. For up-to-date details, please contact the Actuarial Profession on +44 (0)207 632 2100, or visit www.actuaries.org.uk

Funding

The School of Mathematics, Statistics and Actuarial Science has established a bursary scheme to support taught postgraduate students. All applicants who have accepted a place on one of the above taught programmes will automatically be considered for a bursary. There is no need to make a separate application. Home/EU and overseas students are all eligible. For more information, see www.kent.ac.uk.smsas/postgraduate/bursaries.html

Further information

For further information, please visit www.kent.ac.uk/casri

Admissions enquiries

T: +44 (0)1227 827272
E: information@kent.ac.uk

Terms and conditions: the University reserves the right to make variations to the content and delivery of courses and other services, or to discontinue courses and other services, if such action is reasonably considered to be necessary. If the University discontinues any course, it will endeavour to provide a suitable alternative. To register for a programme of study, all students must agree to abide by the University Regulations (available online at: www.kent.ac.uk/regulations).

Data protection: for administrative, academic and health and safety reasons, the University needs to process information about its students. Full registration as a student of the University is subject to your consent to process such information.
A global outlook
Kent has a great international reputation, attracting academic staff and students from around the world. Our academic schools are engaged in collaborative research with universities worldwide and we offer a range of opportunities to study abroad and an approach that is truly global.

The Graduate School
As a postgraduate student, you also have the support of the Graduate School, which promotes your academic interests, co-ordinates the Transferable Skills Training Programme and the Global Skills Award, and facilitates cross-disciplinary interaction and social networking.

A global outlook
Kent has a great international reputation, attracting academic staff and students from around the world. Our academic schools are engaged in collaborative research with universities worldwide and we offer a range of opportunities to study abroad and an approach that is truly global.

The Graduate School
As a postgraduate student, you also have the support of the Graduate School, which promotes your academic interests, co-ordinates the Transferable Skills Training Programme and the Global Skills Award, and facilitates cross-disciplinary interaction and social networking.

Funding
Kent provides a variety of financial support opportunities for postgraduate students. These range from research studentships, location-specific funding, sport and music scholarships, and funding specifically for overseas fee-paying students. For further information, see www.kent.ac.uk/pgfunding

Enhanced career prospects
At Kent, we want you to be in a good position to face the demands of a tough economic environment. During your studies, you acquire a high level of academic knowledge and specialist practical skills. We also help you to develop key transferable skills that are essential within the competitive world of work.

Further information
For information about applying to Kent, or to order a copy of the Graduate Prospectus, please contact:
The Recruitment and Admissions Office, The Registry, University of Kent, Canterbury, Kent CT2 7NZ, UK
T: +44 (0)1227 827272
F: +44 (0)1227 827077
E: information@kent.ac.uk

The University also holds Open Days and postgraduate recruitment events throughout the year. Please see www.kent.ac.uk/opendays
COME AND VISIT US

We hold Open Days and postgraduate events throughout the year.
For more information, see: www.kent.ac.uk/opendays