

## Programme Specification

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### Economics and Actuarial Science (2018-19)

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 s/he takes full advantage of the learning opportunities that are provided.

Awarding Institution	University of Southampton
Teaching Institution	University of Southampton
Mode of Study	Full-time
Duration in years	3
Accreditation details	Institute and Faculty of Actuaries
Final award	Bachelor of Science in the Social Sciences with Honours (BSc SocSci (Hons))
Name of award	Economics and Actuarial Science
Interim Exit awards	Certificate of Higher Education (CertHE) Diploma of Higher Education (DipHE)
FHEQ level of final award	Level 6
UCAS code	L1N3
Programme code	4642
QAA Subject Benchmark or other external reference	Economics 2007, Mathematics, Statistics And Operational Research 2007
Programme Lead	Emanuela Lotti (e11j06)

### Programme Overview

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#### Brief outline of the programme

The BSc Economics and Actuarial Science (L1N3) is taught in conjunction with Social Statistics, and is administered by Economics.

The programme is unique in the UK, steering a middle way between degrees in Actuarial Science and those in Economics or Mathematics. It equips you with the knowledge and understanding of economic theory and statistical methods and their applications necessary to undertake graduate study in Economics or Actuarial Science and/or to pursue a future career as an economist or actuary. It provides an excellent preparation for a variety of careers in quantitative finance and will give you a head start if you intend to enter the actuarial profession.

Your contact hours will vary depending on your module/option choices. Full information about contact hours is provided in individual module profiles.

## Learning and teaching

Our degrees are full-time honours programmes of three or four year duration. All programmes aim to provide knowledge of the key concepts and arguments in the relevant subjects together with the capacity to apply this knowledge in a variety of contexts. In addition, we seek to ensure that all of our students are able to use data and quantitative techniques appropriately and effectively. The overall programme structure is a flexible one, allowing you to discover and pursue your own interests - either by choice of optional or, if appropriate, by changing degree programme at the end of year one.

## Assessment

Modules are examined at the end of the semester in which they are taught, and in some cases a coursework mark will contribute to the overall grade for the module. Satisfactory performance in the first year is required in order to progress to year two. Final degree classes are based upon marks from the second and third years.

## Special Features of the programme

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### Professional Qualification

The programme offers you the possibility of obtaining exemptions from the professional examinations of the Faculty of Actuaries and the Institute of Actuaries in Core Technical (CT) subjects CT1-CT8.

**Please note:** As a research-led University, we undertake a continuous review of our programmes to ensure quality enhancement and to manage our resources. As a result, this programme may be revised during a student's period of registration; however, any revision will be balanced against the requirement that the student should receive the educational service expected. Please read our [Disclaimer](#) to see why, when and how changes may be made to a student's programme.

Programmes and major changes to programmes are approved through the University's [programme validation process](#) which is described in the University's [Quality handbook](#).

## Educational Aims of the Programme

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The programme offers you the opportunity to study Economics and Actuarial Science. It equips you with the knowledge and understanding of economic theory and statistical methods and their applications necessary to undertake graduate study in Economics or Actuarial Science and/or to pursue a future career as an economist or actuary. The programme aims:

- To equip you with a knowledge and understanding of the core areas of economics and actuarial science, i.e. Microeconomics, macroeconomics, mathematical and statistical methods for economics and insurance, accounting and finance, financial mathematics, financial economics, actuarial mathematics and demography;
  - To enable you to apply economic and statistical analysis to a range of problems;
  - To equip you with knowledge and understanding of the workings of the economy in general and the insurance and financial sectors in particular;
  - To equip you with appropriate conceptual and analytic tools, and to provide opportunities for the development and application of these tools;
  - To enable you to develop critical and evaluative thinking in the context of economics and actuarial science;
  - To enable you to develop, through the study of economics and actuarial science, a range of skills and abilities that will contribute to your effectiveness in employment;
  - To support you in becoming an independent learner, and in planning your studies and subsequent career;
- To give you the opportunity to gain exemptions from some of the professional examinations of the faculty of

actuaries and the Institute of Actuaries.

## Programme Learning Outcomes

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### Knowledge and Understanding

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On successful completion of this programme you will have knowledge and understanding of:

- A1. The central theoretical and practical concepts of microeconomics and macroeconomics
- A2. Analytical methods, both theory and model based
- A3. Mathematical and statistical tools for economic analysis and actuarial science
- A4. Application of core economic theory and economic reasoning to applied topics in the insurance sector
- A5. The relationship between economic policy recommendations and the theoretical and empirical features of the economic analysis that underlie such recommendations
- A6. Quantitative data and the appropriate methods for structuring and analysing such data.
- A7. The assumptions underlying statistical and actuarial methods.
- A8. The relevant aspects of accountancy, demography, the mathematics of finance and statistical methods used in insurance.

### Teaching and Learning Methods

You will experience a wide variety of teaching methods and a range of opportunities for learning, designed to facilitate a progressively deeper understanding of the subjects and foster independent learning. Methods include:

- Lectures

This is an effective way of conveying information and explaining ideas. As your study progresses, the lectures explore the relevant issues in greater depth to reflect and further the development of your knowledge and understanding.

- Problem classes

These small-group sessions are used in quantitative and theoretical modules. Students are assigned a set of problems to complete before the class. During the class session the class tutor and students will go through the problems together.

- Seminars

In certain modules students participate in fortnightly small-group seminars. These take various forms but all are designed to encourage a high level of participation by students. Students will be given specific reading to do in preparation for the seminar.

- Consultation with academic staff

All academic staff hold 'office hours' during which you can drop in for individual discussion of the ideas and arguments encountered in lectures and your reading, or which you have arrived at yourself.

- Research supervision

In the final year, you will undertake a dissertation (an extended research project) in Economics,

supervised by a member of academic staff with expertise in the area it concerns. In preparing the dissertation, you will have the opportunity to meet with the supervisor to explore the issues it concerns, to receive guidance on your research and reading, and to receive feedback on the work as it progresses.

- **Independent study**

Independent study forms an essential part in the development of your knowledge and understanding. This will involve careful reading of primary and secondary texts, thoughtful reflection on issues raised in those texts or in class, and arriving at your own considered opinions on the topics you are studying.

**Assessment methods**

## **Assessment Methods**

A range of formative and summative assessment exercises are designed to enable you to demonstrate and apply your knowledge and understanding. Methods of assessment include:

- Written examinations
- Mid-term tests
- Essays
- Exercises and problem sets
- Team projects
- Final year interim report and dissertation
- Library skills exercise

## **Subject Specific Intellectual and Research Skills**

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On successful completion of this programme you will be able to:

- B1. The ability to abstract the essential features of complex systems and provide a useable framework for the evaluation and assessment of the effects of economic policy and other exogenous events.
- B2. The ability to apply logical analysis to assumption-based economic and actuarial models and make use of inductive reasoning
- B3. A familiarity with principal sources of economic information and data, and the ability to organise and present such data in an informative manner
- B4. The ability to recognise what should be taken as given or fixed for the purpose of specifying and solving an economic or actuarial problem, and the implications of potential constraints for policy implementation.
- B5. The ability to apply statistical, mathematical and demographic techniques to analyse actuarial problems.

## **Teaching and Learning Methods**

Lectures, problem classes, seminars, consultation with academic staff, research supervision, independent study.

## **Assessment Methods**

Written examinations, mid-term tests, essays, exercises and problem sets, team projects, final year interim report and dissertation, library skills exercise.

## **Transferable and Generic Skills**

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On successful completion of this programme you will be able to:

- C1. Communicate economic, statistical and actuarial ideas in written and oral form.
- C2. Use email, access information via the Web and undertake basic word processing.
- C3. Use quantitative reasoning in economic and actuarial contexts.
- C4. Analyse and interpret data using some statistical computer software.
- C5. Identify, select and access a range of sources of printed, electronic and other material as a means to the development and presentation of arguments and evidence.
- C6. Collaborate with others and contribute effectively to the achievement of common goals
- C7. Work independently demonstrating initiative and self-management.

## **Teaching and Learning Methods**

Lectures, seminars, problem classes, group projects, independent research.

## **Assessment Methods**

C1- C5 are assessed by examinations, class tests, problem sheets and coursework as appropriate.  
C6 is assessed by a team project.  
C7 is assessed by individual dissertations.

## **Subject Specific Practical Skills**

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On successful completion of this programme you will be able to:

- D1. An understanding of the importance of opportunity cost and trade-offs.
- D2. An understanding of the significance of rules in providing incentives for behaviour.
- D3. The ability to recognise disequilibria and think coherently about their consequences.
- D4. An understanding of the roles of opportunities, strategies, outcomes, information and motivation in the analysis of strategic actions, including conflict, bargaining and negotiation.
- D5. An understanding of how to model the impact of future events when timing is uncertain, for example the modelling of human mortality and its relationship to life assurance and pension products.

- D6. An awareness of the characteristics of financial transactions and the rationale for financial markets.
- D7. An appreciation of the possible gains from voluntary exchange.
- D8. An understanding of the way that many economic decisions or events can trigger a complex chain of events.

### **Teaching and Learning Methods**

Lectures, seminars, problem classes, group projects, independent research.

### **Assessment Methods**

D1-D8 assessed by examinations, class tests, problem sheets, coursework, and individual dissertations.

## **Programme Structure**

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The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

### **Part I**

Typical programme content

Eight modules are studied each year, with four in each semester. In addition to this, our Curriculum Innovation Programme offers our students the chance to take optional modules outside their core disciplines. This allows you to personalise your education, to develop new skills and knowledge for your future.

Programme details

The structure of the programme and the modules currently offered are set out below. Modules are courses devoted to specific topics. Of the modules shown against each year of your programme, some are compulsory (i.e. enrolment is automatic) and others are options. Against each year, you are directed to which modules are compulsory and which are options. A core module is compulsory and it must be passed in order to progress to the next part of the degree. The option modules listed constitute an indicative list. There will always be choice but the options might vary between years. A list of option modules will be available to you via the Student Record Self-Service system once you enrol at the University.

The programme comprises three parts, each corresponding to one year of full-time study. You will normally have to take 4 modules (30 ECTS/60 CATS) each semester (i.e. 8 modules (60 ECTS/120 CATS) in each year of the programme. Each CATS point can be considered as the equivalent of approximately ten hours of study. All the modules offered in this programme (except the dissertation) are 7.5 ECTS/15 CATS modules. This means that each module comprises

around 150 hours of study divided into contact time (e.g. lectures, seminars, workshops) and non-contact time when you will be engaged in directed study (preparation for classes) and independent study when you will be involved in producing assignments and preparing and taking examinations. You must take at least 3 of the specified named-degree optional modules; provided this minimum is met, any other optional modules from the relevant year list supplied, or approved, by the Faculty of Social and Human Sciences, may be taken as alternatives to the specified named degree options. At each year, some of these option modules may be from disciplines other than Economics and Actuarial Science.

The dissertation is a 15 ECTS/30 CATS module comprising 300 hours of study divided into contact time (workshops and supervisory tutorials) and a significantly larger portion of hours allocated to non-contact, independent study time. This is because the dissertation is designed to foster independent inquiry and is the culmination of three years of study, enabling you to apply theories and methods explored at all years and to examine one area of the discipline in detail.

Please note that students should choose at least 3 modules over years 2 and 3 among these named degree modules: MATH2012 Stochastic Processes, MANG2014 Accounting and Finance for Non-Specialists and MATH3063 Actuarial Mathematics I, MATH3066 Actuarial Mathematics II, MATH3022 Mathematical Finance, STAT3010 Statistical Methods in Insurance, MATH3085 Survival Models.

### Part I Compulsory

Code	Module Title	ECTS	Type
ECON1016	Economics Skills and Employability 1	0	Compulsory

### Part I Core

Students with No Economics A Level:

ECON1001 - Foundations of Microeconomics

Students with Economics A Level:

ECON1003 - Principles of Microeconomics

Code	Module Title	ECTS	Type
ECON1001	Foundations of Microeconomics	7.5	Core
ECON1008	Mathematics for Economics	7.5	Core
ECON1002	Principles of Macroeconomics	7.5	Core
ECON1003	Principles of Microeconomics	7.5	Core
ECON1011	Quantitative Modelling in Economics	7.5	Core
ECON1007	Statistics for Economics	7.5	Core

### Part I Optional

The option modules shown below constitute an indicative list; there will always be choice but the options might vary between years. A full list of option modules and rules will be available to you via the Student Record Self-Service system once you enrol at the University.

Code	Module Title	ECTS	Type
ECON1004	Economic Perspective and Policy	7.5	Optional
ECON1014	Economics with Experiments	7.5	Optional
ECON1015	Topics in Economic History	7.5	Optional

### Part II

#### Part II Compulsory

Code	Module Title	ECTS	Type
ECON2001	Applied Microeconomics 2	7.5	Compulsory
ECON2034	ECON Dissertation: Prelim Info		Compulsory
ECON2007	Econometrics 2	7.5	Compulsory
ECON2035	Economics Skills and Employability 2	0	Compulsory
MATH2040	Financial Mathematics	7.5	Compulsory
ECON2002	Macroeconomic Policy 2	7.5	Compulsory
ECON2006	Statistical Theory 2	7.5	Compulsory

#### Part II Optional

The option modules shown below constitute an indicative list; there will always be choice but the options might vary between years. A full list of option modules and rules will be available to you via the Student Record Self-Service system once you enrol at the University.

If you intend to take ECON3010: 'Topics in Macroeconomics 3' in Year 3 you MUST take ECON2004: 'Topics in Macroeconomics 2' in Year 2.



Code	Module Title	ECTS	Type
MANG2014	Accounting and Finance for Non-Specialists	7.5	Optional
ECON2033	Microeconomics of Strategy	7.5	Optional
ECON2036	Research Skills for an Economist	7.5	Optional
MATH2012		7.5	Optional
ECON2004	Topics in Macroeconomics 2	7.5	Optional

### Part III

#### Part III Compulsory

Code	Module Title	ECTS	Type
ECON3033	Economics Skills and Employability 3	0	Compulsory

#### Part III Optional

You must take either DEMO3011 or ECON3023. Once chosen, this module will become core.

You must choose at least one from either:

ECON3008 - Macroeconomic Policy 3

OR

ECON3015 - Principles of Finance

OR

ECON3010 - Topics in Macroeconomics 3

Code	Module Title	ECTS	Type
ECON3023	Dissertation/Project	15	Optional/Core
DEMO3011	Project/Dissertation	15	Optional/Core
MATH3063	Actuarial Mathematics I	7.5	Optional
MATH3066	Actuarial Mathematics II	7.5	Optional
ECON3034	International Trade Theory & Policy	7.5	Optional

ECON3008	Macroeconomic Policy 3	7.5	Optional
MATH3022	Mathematical Finance	7.5	Optional
ECON3015	Principles of Finance	7.5	Optional
STAT3010	Statistical Methods in Insurance	7.5	Optional
MATH3085	Survival Models	7.5	Optional
ECON3010	Topics in Macroeconomics 3	7.5	Optional

## Progression Requirements

The programme will follow the University's regulations for [\*Progression, Determination and Classification of Results: Undergraduate and Integrated Masters Programmes\*](#) or the University's regulations for [\*Progression, Determination and Classification of Results: Standalone Masters Programmes\*](#) as set out in the General Academic Regulations in the University Calendar: <http://www.calendar.soton.ac.uk/sectionIV/sectIV-index.html>

## Support for student learning

There are facilities and services to support your learning some of which are accessible to students across the University and some of which will be geared more particularly to students in your particular Faculty or discipline area.

The University provides:

- library resources, including e-books, on-line journals and databases, which are comprehensive and up-to-date; together with assistance from Library staff to enable you to make the best use of these resources
- high speed access to online electronic learning resources on the Internet from dedicated PC Workstations onsite and from your own devices; laptops, smartphones and tablet PCs via the Eduroam wireless network. There is a wide range of application software available from the Student Public Workstations.
- computer accounts which will connect you to a number of learning technologies for example, the Blackboard virtual learning environment (which facilitates online learning and access to specific learning resources)
- standard ICT tools such as Email, secure filestore and calendars.
- access to key information through the MySouthampton Student Mobile Portal which delivers timetables, Module information, Locations, Tutor details, Library account, bus timetables etc. while you are on the move.
- IT support through a comprehensive website, telephone and online ticketed support and a dedicated helpdesk in the Hartley Library.
- Enabling Services offering support services and resources via a triage model to access crisis management, mental health support and counselling. Support includes daily Drop In at Highfield campus at 13.00 – 15.00 (Monday, Wednesday and Friday out of term-time) or via on-line chat on weekdays from 14.00 – 16.00. Arrangements can also be made for meetings via Skype.
- assessment and support (including specialist IT support) facilities if you have a disability, long term health problem or Specific Learning Difficulty (e.g. dyslexia).
- the Student Services Centre (SSC) to assist you with a range of general enquiries including financial matters, accommodation, exams, graduation, student visas, ID cards
- Career and Employability services, advising on job search, applications, interviews, paid work, volunteering and internship opportunities and getting the most out of your extra-curricular activities alongside your degree programme when writing your CV
- Other support that includes health services (GPs), chaplaincy (for all faiths) and 'out of hours' support for students in Halls and in the local community, (18.00-08.00)

- A Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers.

The Students' Union provides

- an academic student representation system, consisting of Course Representatives, Academic Presidents, Faculty Officers and the Vice-President Education; SUSU provides training and support for all these representatives, whose role is to represent students' views to the University.
- opportunities for extracurricular activities and volunteering
- an Advice Centre offering free and confidential advice including support if you need to make an academic appeal
- Support for student peer-to-peer groups, such as Nightline.

Associated with your programme you will be able to access:

- Module co-ordinators support. Module co-ordinators will be available at designated times during the week to discuss issues related to the particular modules you are studying at the time. This will be in addition to class contact time.
- Academic/personal tutor. As soon as you register on this programme, you will be allocated a personal tutor. S/he is a member of the academic team and will be available to discuss general academic issues related to the programme as well as offer advice and support on any personal issues which may affect your studies.
- Module handbooks/outlines. These will be available at the start of each module (often in online format). The Handbook includes the aims and learning outcomes of the module, the methods of assessment, relevant background material to the module and a session-by-session breakdown of the module together with appropriate reading lists.
- Within the Faculty, administrative support is provided by your Student Office which deals with student records and related issues and with queries related to your specific degree programme.

## Methods for evaluating the quality of teaching and learning

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You will have the opportunity to have your say on the quality of the programme in the following ways:

- Completing student surveys for each module of the programme
- Acting as a student representative on various committees, e.g. Staff: Student Liaison Committees, Faculty Programmes Committee OR providing comments to your student representative to feedback on your behalf.
- Serving as a student representative on Faculty Scrutiny Groups for programme validation
- Taking part in programme validation meetings by joining a panel of students to meet with the Faculty Scrutiny Group

The ways in which the quality of your programme is checked, both inside and outside the University, are:

- Regular module and programme reports which are monitored by the Faculty
- Programme validation, normally every five years.
- External examiners, who produce an annual report
- A national Research Excellence Framework (our research activity contributes directly to the quality of your learning experience)
- Institutional Review by the Quality Assurance Agency

Further details on the University's quality assurance processes are given in the [Quality Handbook](#).

## Career Opportunities

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Employability is embedded into modules from the first year onwards and right from the first lecture. We explain the degree skills which are taught throughout the modules and offer a number of optional employability modules.

The skills you will develop are in high demand. Our degrees are a passport to vocational and non-vocational careers alike, with recent graduates employed in a range of professions.

This programme provides excellent preparation for a variety of careers in quantitative finance and will give you a head start if you choose to enter the actuarial profession.

Read more about the careers and employability support we offer.

## External Examiner(s) for the programme

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Name: Dr Patrick W Marsh - University of Nottingham

Name: Professor Dieter Balkenborg - University of Exeter

Name: Dr Panayiotis Pourpourides - University of Cardiff

Name: Professor Malcolm Brown - University of Kent

Name: Mr Peter J Savill - Fellow of the Institute of Actuaries

Students must not contact External Examiner(s) directly, and external examiners have been advised to refer any such communications back to the University. Students should raise any general queries about the assessment and examination process for the programme with their Course Representative, for consideration through Staff: Student Liaison Committee in the first instance, and Student representatives on Staff: Student Liaison Committees will have the opportunity to consider external examiners' reports as part of the University's quality assurance process.

External examiners do not have a direct role in determining results for individual students, and students wishing to discuss their own performance in assessment should contact their Personal Academic Tutor in the first instance.

**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 s/he takes full advantage of the learning opportunities that are provided. More detailed information can be found in the programme handbook.

## Appendix 1:

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. In addition to this, students registered for this programme also have to pay for:

### Additional Costs

Type	Details
Software Licenses	publicly available software in public workstations and some available via iSolutions, but otherwise purchase.
Hardware	Publicly available workstations and some available via iSolutions, but otherwise purchase.
Stationery	You will be expected to provide your own day-to-day stationery items, e.g. pens, pencils, notebooks, etc.). Any specialist stationery items will be specified under the Additional Costs tab of the relevant module profile.
Textbooks	<p>Where a module specifies core texts these should generally be available on the reserve list in the library. However due to demand, students may prefer to buy their own copies. These can be purchased from any source.</p> <p>Some modules suggest reading texts as optional background reading. The library may hold copies of such texts, or alternatively you may wish to purchase your own copies. Although not essential reading, you may benefit from the additional reading materials for the module.</p>
Approved Calculators	Candidates may use calculators in the examination room only as specified by the University and as permitted by the rubric of individual examination papers. The University approved model is Casio FX-570 This may be purchased from any source and no longer needs to carry the University logo.
Exemptions	Students who perform sufficiently well in relevant modules will receive recommendation for exemption from the corresponding professional exams of the Institute and Faculty of Actuaries (IFoA), at no cost to the student. Graduates who subsequently decide to join the IFoA and claim these exemptions must pay the relevant fees to the IFoA, details of which may be found here: <a href="http://www.actuaries.org.uk">http://www.actuaries.org.uk</a>
Printing and Photocopying Costs	In the majority of cases, coursework such as essays; projects; dissertations is likely to be submitted on line. However, there are some items where it is not possible to submit on line and students will be asked to provide a printed copy. A list of the University printing costs can be found here: <a href="http://www.southampton.ac.uk/isolutions/students/printing-for-students.page">http://www.southampton.ac.uk/isolutions/students/printing-for-students.page</a>

In some cases you'll be able to choose modules (which may have different costs associated with that module) which will change the overall cost of a programme to you. Details of such costs will be listed in the Module Profile. Please also ensure you read the section on additional costs in the University's Fees, Charges and Expenses Regulations in the University Calendar available at [www.calendar.soton.ac.uk](http://www.calendar.soton.ac.uk).