Programme Specification

Mathematics with Actuarial Science (2020- 21)

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 with Honours (BSc (Hons))
Name of Award	Mathematics with Actuarial Science
Interim Exit awards	Certificate of Higher Education (CertHE)
	Diploma of Higher Education (DipHE)
FHEQ level of final award	Level 6
UCAS code	G1N3
Programme Code	4702
QAA Subject Benchmark or other external reference	Mathematics, Statistics And Operational Research 2007
Programme Lead	Erengul Dodd
Pathway Lead	

Programme Overview

Brief outline of the programme

Actuaries are highly skilled quantitative professionals who are primarily concerned with the identification, quantification, analysis, and management of various types of risk, particularly those with long term financial consequences. They are problem solvers, tackling the uncertainties of future events using their skills in mathematics, probability and statistics. Their expertise is essential to the proper management of life, general, and health insurance companies, pension funds, and investment firms, and their skills are very highly regarded and valued throughout the financial services industry.

This degree programme provides you with the technical skills in mathematics and a professional level education in actuarial science sufficient to prepare you to embark on a professional career as an actuary.

Transfer to this programme at the end of the first semester is possible from a number of other programmes within Mathematical Sciences.
Your contact hours will vary depending on your module/option choices. Full information about contact hours is provided in individual module profiles.

Please Note: New students entering from September 2019 will, depending on academic performance, be eligible for exemption from the C2019 Core Principles Subjects CS1, CS2, CM1, CM2, CB1, and CB2, whereas existing students from previous entry cohorts will, depending on academic performance, continue to be eligible for exemption from the Core Technical Subjects CT1-CT8 (these exemptions will be mapped to corresponding C2019 Core Principles Subjects by the IFoA, post graduation, according to their transition rules).

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
Acquisition of knowledge and understanding is through structured exposition based on lectures, tutorials or problem classes, case studies, supervised project work, and private study, as appropriate.

Assessment
Every module is assessed, typically by a combination of unseen examinations and coursework, including class tests.

Special Features of the programme

N/A

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

The aims of the programme are to:

• Introduce you to the main basic areas of mathematics;
• Develop your understanding of abstract mathematical concepts;
• Offer you the opportunity to study advanced mathematical concepts and techniques;
• Develop your modelling and problem solving skills;
• Offer you the opportunity to construct an individual programme of study within a coherent framework;
• Offer you the opportunity to study applications of mathematics in a variety of contexts which utilize physical and/or statistical models;
• Introduce you to the theoretical concepts, methods, and techniques of actuarial science;
• Develop your understanding of practical actuarial and statistical modelling and of the context in which such work is undertaken;
• Offer you the opportunity to study actuarial topics selected from a range of options, but within a coherent framework;
• Give you sufficient grounding in actuarial science for employment as an actuarial analyst;
• Offer you the opportunity to gain exemptions from the professional examinations of the Institute and Faculty of Actuaries;
• Provide you with the opportunity to gain practical experience of applying problem-solving and other skills learned by working on individual and group research projects;
• Help you to develop subject specific and key transferable skills: personal organisation, problem solving, logical argument, deductive reasoning and analysis, abstraction and generalisation; locating, retrieving, synthesising, and using information; and written and oral communication.
• Provide some of the basic IT skills necessary for further study and employment, including word processing and use of the internet.

Programme Learning Outcomes

Knowledge and Understanding

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

A1. The fundamentals of calculus, linear algebra, and statistics;
A2. The fundamentals of ordinary and partial differential equations and their applications;
A3. The principles of mathematical proof and some of the techniques of proof;
A4. The fundamental concepts of real analysis of functions of one or more variables;
A5. Statistical and actuarial methods and the assumptions that underlie them;
A6. The theoretical concepts, methods, and techniques of actuarial science;
A7. Actuarial and statistical modelling, including practical limitations and assumptions;
A8. The context in which actuarial work is undertaken;
A9. The aspects of economics and accounting and finance of importance for actuarial science;
A10. Techniques of risk management in an actuarial context;
A11. Communication in mathematics, statistics, and actuarial contexts;
A12. Research planning, information retrieval, data collection, methodology, and reporting.

Teaching and Learning Methods

Acquisition of knowledge and understanding is through structured exposition based on lectures, tutorials or problem classes, case studies, supervised project work, and private study, as appropriate.
Increasing independence of learning is required as the programme progresses.
Throughout the programme, students are encouraged to use additional recommended reading material for private study to consolidate the formal learning process and to broaden and deepen their understanding.

Assessment Methods

Each module is assessed, typically by a combination of unseen examinations and coursework, including class tests. The varied approach to assessment reflects the nature and learning objectives of the module, and the methods, techniques, and skills developed.

Subject Specific Intellectual and Research Skills

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

B1. Demonstrate mathematical problem-solving skills for certain types of problems and their variants in a variety of mathematical contexts;
B2. Undertake algebraic calculations accurately and with understanding;
B3. Use computer packages as vehicles for mathematical exploration and understanding;
B4. Understand and construct mathematical proofs;
B5. Appreciate, construct and analyse mathematical models of practical situations;
B6. Use statistical, mathematical and demographic techniques to analyse actuarial problems;
B7. Apply statistical methods such as regression and analysis of variance to practical situations
B8. Logically analyse and critically evaluate the appropriateness and applicability of the concepts, methods, and techniques of actuarial science;
B9. Structure and analyse actuarial problems;
B10. Construct, analyse, and interpret appropriate actuarial, statistical, and financial models in an actuarial context;
B11. Assess the role and impact of economics and accounting and finance in an actuarial context;
B12. Assess risk and apply an appropriate risk management strategy and associated techniques in an actuarial context;
B13. Logically discuss and communicate actuarial concepts and analyses, both orally and in written form;

B14.   Plan and analyse a research project, both individually and as part of a team.

Teaching and Learning Methods

Problem-solving is at the heart of all mathematical activity, and so it is emphasised throughout the learning and teaching experience, as is the need for accurate calculation and logical argument. The use of specific mathematical and computational packages is a part of the curriculum, and the skills acquired there are used in later modules as appropriate.
The application, analysis, critical evaluation, and interpretation of actuarial, statistical, and financial models are fundamental to actuarial science, and are emphasised throughout the teaching and learning experience. The fundamental role played by risk and the need to assess and manage risk in an actuarial context is also emphasised throughout. Planning, analysis, and logical communication skills are further developed through the individual and group research projects.

Assessment Methods

Each module is assessed, typically by a combination of unseen examinations and coursework, including class tests.
The various methods of assessment involve analysis, problem solving, modelling, and critical evaluation, in addition to the assessment of knowledge and understanding. For the individual and group research projects, planning, analysis, and communication are assessed through the resulting reports and presentation.

Transferable and Generic Skills

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

C1.   Communicate mathematical ideas in written form;
C2.   Undertake oral presentations;
C3.   Demonstrate group-working skills;
C4.   Use email and spreadsheets and show basic word-processing skills;
C5.   Develop personal organisation and time management skills;
C6.   Demonstrate skills in problem solving, logical argument, deductive reasoning and analysis, abstraction and generalisation;
C7.   Locate, retrieve, synthesise, and use information from a variety of different sources, particularly through use of the library and the web;
C8.   Demonstrate written and oral communication skills;
C9.   Develop independent learning ability;
C10.   Use the skills acquired (e.g. time-management, organisation, problem-solving, critical analysis, independent learning, etc.) for life-long learning.

Teaching and Learning Methods

The learning of transferable skills begins in the first year. In addition to the modules you take each semester, you will also be timetabled for weekly computer labs. The first year lecturers will set problems for which one of a range of computing packages, such as the statistics package R, will be useful, thereby developing transferable skills alongside subject specific skills. Other IT skills such as basic word processing are used alongside first year project work, particularly in statistics. Mathematics Workshop drop-in sessions are offered during the first year, and extensive electronic resources on study skills are available through the Mathematical Sciences and University websites.
Further development of IT skills, written communication and general skills such as organisation and time-management are associated with optional second and third year modules which may contain an

element of coursework in their assessment. The third year core module Communicating and Researching Mathematics develops your portfolio of skills to include internet and library research, group working, report writing and presentation skills. The last will be of particular importance if you are undertaking a third year project, for which you give an oral presentation of your work.

Assessment Methods

Throughout the programme, problem solving, deductive reasoning and analysis, and communication form an essential part of the assessment criteria employed, either explicitly or implicitly. For some elements of coursework and for the individual and group research projects, a proportion of the assessment is related to communication, and, where appropriate, to the appropriate use of library and web research. Project work and coursework assessment also relate to the other transferable and generic skills listed above. Problem solving is an integral component of all mathematical work, and other learning skills are implicit in this work.

Programme Structure

The programme structure table is below:

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

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Pathway

Part I
Typical programme content

This degree programme provides a strong education in mathematics, statistics and actuarial science.

New students entering from September 2019 will, depending on academic performance, be eligible for exemption from the C2019 Core Principles Subjects CS1, CS2, CM1, CM2, CB1, and CB2, whereas existing students from previous entry cohorts will, depending on academic performance, continue to be eligible for exemption from the Core Technical Subjects CT1-CT8 (these exemptions will be mapped to corresponding C2019 Core Principles Subjects by the Institute and Faculty of Actuaries, post graduation, according to their transition rules).

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, and 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. Of the modules shown in each year of your programme, some are compulsory (i.e. enrolment is automatic) and others are optional. In each year, you are directed to which modules are compulsory and which are optional. The optional modules listed constitute an indicative list. There will always be choice but the options might vary between years. A list of optional 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 be required 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 CAT credit can be considered as the equivalent of approximately ten hours of study. All the modules offered in this programme 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 undertaking assignments and preparing for and taking examinations.

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 modules and rules will be available to you via the Student Record Self-Service system once you enrol at the University

NOTE: Students must take at least five "named degree options" from the following modules:

MATH2012 Stochastic Processes
MANG2014 Accounting and Finance for Non-Specialists
MATH3063 Actuarial Mathematics I
MATH3022 Mathematical Finance
MATH3066 Actuarial Mathematics II
MATH3085 Survival Models
STAT3010 Statistical Methods in Insurance

NOTE: Students must take at least 16 MATH modules over the three years of full-time study, including at least 4 level 3 MATH (MATH3XXX) modules.

Part I Compulsory

Code	Module Title	ECTS	Type
MATH1046	First Year Mathematics Workshop	0	Compulsory
MATH1024	Introduction to Probability and Statistics	7.5	Compulsory
MATH1049	Linear Algebra II	7.5	Compulsory
MATH1060	Multivariable Calculus	7.5	Compulsory
MATH1058	Operational Research I and Mathematical Computing	7.5	Compulsory
MATH1047	TT Induction	0	Compulsory

Part I Core

Code	Module Title	ECTS	Type
MATH1059	Calculus	7.5	Core
MATH1048	Linear Algebra I	7.5	Core

Part I Option - Rule 1
It is normally expected that students select ECON1002 & (ECON1001 or ECON1003), as these correspond to professional actuarial exemptions. If you do not want to qualify for this you may choose not to take these modules.

Students may select ECON1001 or ECON1003 (Not both). If you have NOT passed Economics at A Level, or an equivalent level, select ECON 1001 only, if you HAVE passed Economics at A Level select ECON 1003 only.

Programme regulations require you take minimum of 5 'named modules' during your degree.
These are;
Part 1: ECON1002 & (ECON1001 or ECON1003)
Part 2: MATH2012, MANG2014
Part 3: MATH3085, MATH3063, MATH3022, MATH3066, STAT3010.

You must take a min of 16 MATH modules (240 Credits) from a mix of core/compulsory/optional modules during your degree. MATH modules included in the 'named modules' list may contribute to this.

There is flexibility for students to take alternative modules (eg. Languages) but any request must be discussed with & approved by the Programme Director.

+ FREEXX15 – Part 1 Elective Module (15 credits)
+ LANGXX15 – Language Module (15 credits)
+ LANGXX30 – Language Module (30 credits)

Code	Module Title	ECTS	Type
MATH1057	Dynamics and Relativity	7.5	Optional
ECON1001	Foundations of Microeconomics	7.5	Optional
MATH1001	Number Theory	7.5	Optional
ECON1002	Principles of Macroeconomics	7.5	Optional
ECON1003	Principles of Microeconomics	7.5	Optional

Part II

Part II Compulsory

Code	Module Title	ECTS	Type
MATH2039	Analysis	7.5	Compulsory
MATH2040	Financial Mathematics	7.5	Compulsory
MATH2038	Partial Differential Equations	7.5	Compulsory
MATH2011	Statistical Distribution Theory	7.5	Compulsory
MATH2010	Statistical Modelling I	7.5	Compulsory

Part II Option – Rule 1
Select 45 credits from the list of optional modules.

Note: Programme regulations require you to undertake a minimum of 5 'named degree modules' during your degree. 'Named degree modules' are;
Part 1: ECON1002 & (ECON1001 or ECON1003)
Part 2: MATH2012, MANG2014
Part 3: MATH3085, MATH3063, MATH3022, MATH3066, STAT3010.
Please bear this in mind when making your selections below.

You are also required to undertake a min of 16 MATH modules (240 Credits) from a combination of Core/Compulsory/Optional modules during your degree. MATH modules included in the `named degree modules' list may contribute to the required modules.

Note: Please do NOT select modules you have taken previously. Please also ensure that you select an even split of credits overall by semester, including your compulsory modules.

+ FREEXY15 – Part 2 Elective Module (15 credits)
+ LANGXX15 – Language Module (15 credits)
+ LANGXX30 – Language Module (30 credits)

Code	Module Title	ECTS	Type
MANG2014	Accounting and Finance for Non-Specialists	7.5	Optional
ECON2007	Econometrics with Big Data	7.5	Optional
MATH3087	Maths and your Future	7.5	Optional
ECON2003	Microeconomics of Markets	7.5	Optional
MANG2004	Portfolio Theory and Financial Markets	7.5	Optional
MATH2012	Stochastic Processes	7.5	Optional

Part III

Part III Option – Rule 0
You must select 1 module (15 Credits) from the list below.
If you took MATH3087 and do not wish to take one of the other modules listed below, please contact your student office. You may not select MATH3087 if you have previously taken it in part II.

Code	Module Title	ECTS	Type
MATH3023	Communicating and Teaching Mathematics	7.5	Optional
MATH3032	Mathematical Investigation and Communication	7.5	Optional
MATH3031	Mathematics Project	7.5	Optional
MATH3087	Maths and your Future	7.5	Optional

Part III Option – Rule 1
Select 7 modules (105 credits) from a combination of the modules listed in PT3 R1 G1, PT3 R1 G2 and PT3 R1 G3.

Note: Programme regulations require you to undertake a minimum of 5 'named degree modules' during your degree. 'Named degree modules' are;
Part 1: ECON1002 & (ECON1001 or ECON1003)
Part 2: MATH2012, MANG2014
Part 3: MATH3085, MATH3063, MATH3022, MATH3066, STAT3010.
Please bear this in mind when making your selections below.

You are also required to undertake a min of 16 MATH modules (240 Credits) from a combination of core/compulsory/optional modules during your degree. MATH modules included in the `named degree modules' list may contribute to the required modules.

Note: Please do NOT select modules you have taken previously. Please also ensure that you select an even split of credits overall by semester, including your compulsory modules.

Part III Option – Rule 1 Group 1
Select 3 modules (45 credits) up to a maximum of 7 modules (105 credits) from the following:

Code	Module Title	ECTS	Type
MATH3063	Actuarial Mathematics I	7.5	Optional
MATH3066	Actuarial Mathematics II	7.5	Optional
MATH3072	Advanced Fluid Dynamics	7.5	Optional
MATH3083	Advanced Partial Differential Equations	7.5	Optional
MATH3080	Algebraic Topology	7.5	Optional
MATH3023	Communicating and Teaching Mathematics	7.5	Optional
MATH3088	Complex Analysis	7.5	Optional
MATH3014	Design and Analysis of Experiments	7.5	Optional
MATH3078	Further Number Theory	7.5	Optional
MATH3033	Graph Theory	7.5	Optional
MATH3076	Hilbert Spaces	7.5	Optional
MATH3084	Integral Transform Methods	7.5	Optional
MATH3052	Mathematical Biology	7.5	Optional
MATH3022	Mathematical Finance	7.5	Optional
MATH3032	Mathematical Investigation and Communication	7.5	Optional
MATH3017	Mathematical Programming	7.5	Optional
MATH3089	Mathematics for the Modern World	7.5	Optional
MATH3031	Mathematics Project	7.5	Optional
MATH3087	Maths and your Future	7.5	Optional
MATH3018	Numerical Methods	7.5	Optional
MATH3016	Optimization	7.5	Optional
MATH3006	Relativity, Black Holes and Cosmology	7.5	Optional
MATH3013	Simulation & Queues	7.5	Optional
MATH3044	Statistical Inference	7.5	Optional

MATH3091	Statistical Modelling II	7.5	Optional
MATH3090	Structure and Dynamics of Networks	7.5	Optional
MATH3085	Survival Models	7.5	Optional

Part III Option – Rule 1 Group 2
Select 0 modules up to a maximum of 1 module (15 credits) from the following.
Note: You are permitted to only 'backtrack' once to take a Part II module.
Please note you cannot take MATH2049 Geometry and Topology if you have previously taken MATH2046.

+ FREEXY15 – Part 2 Elective Module (15 credits)

Code	Module Title	ECTS	Type
ECON2007	Econometrics with Big Data	7.5	Optional
ECON2003	Microeconomics of Markets	7.5	Optional
MANG2004	Portfolio Theory and Financial Markets	7.5	Optional

Part III Option – Rule 1 Group 3
Select 0 modules up to a maximum of 4 modules (60 credits) from the following.

+ FREEXZ15 – Part 3 Elective Module (15 credits)
+ LANGXX15 – Language Module (15 credits)
+ LANGXX30 – Language Module (30 credits)

Code	Module Title	ECTS	Type
MANG3020	Futures and Options	7.5	Optional
MANG3009	International Banking	7.5	Optional
ECON3015	Principles of Finance	7.5	Optional
MANG3034	Project Management	7.5	Optional
STAT3010	Statistical Methods in Insurance	7.5	Optional

Progression Requirements

The programme follows the University's regulations for *Progression, Determination and Classification of Results : Undergraduate and Integrated Masters Programmes* or *Progression, Determination and Classification of Results: Postgraduate Master's Programmes.* Any exemptions or variations to the University regulations, approved by AQSC are located in *section VI of the University Calendar*.

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.

• Senior Tutor. The Senior Tutor will also be available to offer such advice and support.

• 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

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

- Completing student evaluation questionnaires for each module of the programme.
- Acting as a student representative on various committees, e.g. Staff/Student Liaison Committees, School 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.

Further details on the University's quality assurance processes are given in the ***Quality handbook***.

Career Opportunities

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

Technical skills you will acquire are in great demand, as are the skills of understanding and analysing problems, together with communicating the results.

Our degrees are a passport to vocational and non-vocational careers alike, with recent graduates employed in roles ranging from actuaries and statisticians to accountants and medical researchers.

External Examiner(s) for the programme

Name: Mr Neil McConville – Queens University Belfast

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 they take 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
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 models are Casio FX-570 and Casio FX-85GT Plus. These may be purchased from any source and no longer need to carry the University logo.
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: http://www.southampton.ac.uk/isolutions/students/printing-for-students.page For students undertaking modules with a high mathematical content, some assessed work will be submitted in handwritten hard copy format. Students are advised that they will need to bear the costs of the required stationery.
Software Licenses	The software required for the programme is available on all public workstations on campus, and accessible from your own computer via VPN.
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	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. 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.

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*.