

1. Programme Title:

Mathematics with Finance

NQF Level:

6

2. Description of the Programme (as in the Business Approval Form)

Mathematics plays an important role in many aspects of modern life, providing the techniques and language to handle problems from a wide variety of disciplines. It has always been essential for engineering and the physical sciences and is becoming increasingly important in the life sciences and social sciences. Yet mathematics is not only studied because of its applications; it has a fascination and beauty of its own, characterised by precision and logical rigour. Mathematics forms a rewarding, challenging and varied subject of study at university, and works particularly well in combination with other subjects to produce highly employable graduates. Our Mathematics with Finance degree enables you to combine all the benefits of a mathematical education with an additional specialism in Finance, making you well-placed to pursue a career in a wide range of industries and businesses.

3. Educational Aims of the Programme

The programme is intended to:

- a) provide a high quality general mathematical education comprising a balanced core of key knowledge together with the opportunity to study a range of selected topics in more depth;
- b) develop the analytical abilities of students so that they can identify and apply appropriate mathematical techniques and methods to solve problems in a range of application areas;
- c) develop in students appropriate subject-specific, core academic and personal and key skills in order to prepare them for a wide range of employment opportunities;
- d) generate in students an enthusiasm for the subject of mathematics and for the subsidiary subject studied in their programme and involve them in a demanding, interesting and intellectually stimulating learning experience reinforced by appropriate academic and pastoral tutorial support;
- e) provide students with knowledge and understanding of some of the key areas of financial technique
- f) enable students to appreciate some of the contexts in which finance operates;
- g) develop a view of finance that is predominantly influenced by guided learning with a critical perspective.

4. Programme Structure

Your Mathematics with Finance programme is a (3) year programme of study at National Qualification Framework (NQF) level (6) (as confirmed against the FHEQ). This programme is divided into (3) 'Stages'. Each Stage is normally equivalent to an academic year. The programme is also divided into units of study called 'modules' which are assigned a number of 'credits'. The credit rating of a module is proportional to the total workload, with 1 credit being nominally equivalent to 10 hours of work.

Interim Awards

If you do not complete the programme you may be able to exit with a lower qualification. If you have achieved 120 credits, you may be awarded a Certificate of Higher Education in Mathematics with Finance, and if you achieve 240 credits, where at least 90 credits are at level 2 or above, you may be awarded a Diploma of Higher Education in Mathematics with Finance.

5. Programme Modules

The following tables describe the programme and constituent modules. Constituent modules may be updated, deleted or replaced as a consequence of the annual programme review of this programme. Details of the modules currently offered may be obtained from the College web site. You may take Option Modules as long as any necessary prerequisites have been satisfied, where the timetable allows and if you have not already taken the module in question or an equivalent module. Descriptions of the individual modules are given in full on the College web site

<https://intranet.exeter.ac.uk/emps/>

Stage 1

Code	Title	Credits	Compulsory	NonCondonable
ECM1701	Vectors and Matrices	15	Yes	Yes
ECM1702	Calculus and Geometry	15	Yes	No
ECM1705	Advanced Calculus	15	Yes	Yes
ECM1706	Numbers, Symmetries and Groups	15	Yes	No
ECM1707	Probability and Discrete Mathematics	15	Yes	No
BEE1030	Microeconomics 1	30	Yes	Yes
BEE1033	Introduction to Finance and Accounting	15	Yes	Yes

Stage 2

Code	Title	Credits	Compulsory	NonCondonable
ECM2701	Analysis	15	Yes	Yes
ECM2702	Differential Equations	15	Yes	Yes
ECM2706	Vector Calculus and Applications	15	Yes	No
ECM2712	Linear Algebra	15	Yes	No
BEE2025	Microeconomics II	30	Yes	Yes
<i>Select 30 credits:</i>				
ECM2704	Numerics and Optimisation	15	No	No
ECM2707	Systems, Series and Transforms	15	No	No
ECM2709	Statistics	15	No	No
ECM2710	Statistical Modelling	15	No	No
ECM2711	Groups, Rings and Fields	15	No	No
EMP2001	Ambassadors for Science	15	No	No
XXXXXX	Free Choice	30	No	No

ECM2710 cannot be chosen without ECM2709.

The free choice (electives) can include either ECM modules from any discipline within the College, or modules from outside the College subject to approval, pre-requisites, timetabling and availability.

Stage 3

Code	Title	Credits	Compulsory	NonCondonable
BEE3033	Financial Markets and Decisions 1	15	Yes	Yes
BEE3034	Financial Markets and Decisions 2	15	Yes	Yes
<i>Select between 60 and 90 credits:</i>				
ECM3703	Complex Analysis	15	No	No
ECM3704	Number Theory	15	No	No
ECM3706	Mathematical Biology and Ecology	15	No	No
ECM3707	Fluid Dynamics	15	No	No
ECM3708	Partial Differential Equations	15	No	No
ECM3711	Nonlinear Systems and Control	15	No	No
ECM3712	Advanced Statistical Modelling	15	No	No
ECM3721	Combinatorics	15	No	No
ECM3722	Graphs, Networks and Algorithms	15	No	No
ECM3724	Stochastic Processes	15	No	No
ECM3726	Cryptography	15	No	No
ECM3728	Statistical Inference	15	No	No
ECM3730	Mathematics of Climate Change	15	No	No
ECM3731	Modern Algebra	15	No	No
ECM3732	Applications of Geometry and Topology	15	No	No
ECM3738	Galois Theory	15	No	No
<i>You may select between 0 and 30 credits:</i>				
ECM3719	Mathematics: History and Culture	15	No	No
EMP3001	Commercial and Industrial Experience	15	No	No
BEE3043	Money and Banking 1	15	No	No
XXXXXX	Free Choice	15	No	No

Students must choose at least 60 credits of mathematics modules at Stage 3.

The free choice (electives) can include modules at level 2 and 3 from any College in the University subject to approval, pre-requisites, timetabling and availability.

Not all optional modules listed will be available each year; options are offered at the discretion of the School.

6. Programme Outcomes Linked to Teaching, Learning & Assessment Methods

On successfully completing the programme you will be able to:

Intended Learning Outcomes (ILOs) will be accommodated & facilitated by the following learning & teaching and evidenced by the following assessment methods:

A Specialised Subject Skills & Knowledge

demonstrate understanding of:
 1) the terminology and conventions used in mathematics;
 2) a range of fundamental concepts and techniques from calculus, vectors, analysis, algebra and probability;
 3) the breadth of topics that can be tackled by mathematics and the use of the key techniques in a range of applicable areas;
 4) a selection of more specialist optional topics from various branches of mathematics;
 5) the fundamentals of the use of modern technology in mathematics, for example computer algebra;
 6) some of the key ideas in the subsidiary subject including relevant technical language, current practices and contexts of operation.

Learning & Teaching Activities

Knowledge in (1-4) is primarily provided through formal lectures supported by regular problem sheets for students to tackle on their own. At Stages 1 and 2 lectures are reinforced by regular tutorial groups in which assistance with, and feedback on, problem sheets is given. At later Stages in the programmes students work on set problems by themselves and to seek help when required using the office hours of staff. Applications of mathematics (3) are introduced in various Stage 2 modules and more advanced applications are introduced in Stage 3 options. Modules at Stage 3 encompass a range of special topics in mathematics (4). Knowledge in (5) is provided through computer practical classes at Stage 1 and reinforced in some other modules in Stage 1 and at later stages.

Assessment Methods

Most knowledge is tested through a combination of written coursework and unseen formal examinations. Assessment of some modules involves essays, project reports, oral presentation or computer practicals.

B Academic Discipline Core Skills & Knowledge

1) think logically;
 2) understand and construct mathematical proofs;
 3) formulate, analyse and solve problems;
 4) organise tasks into a structured form;
 5) summarise and analyse data;
 6) transfer appropriate knowledge and methods from one topic within the subject to another;
 7) apply a range of mathematical ideas to unfamiliar problems and demonstrate good selection of choice in solution strategy;
 8) demonstrate a capacity for critical evaluation of arguments and evidence;
 9) present mathematical material clearly, logically and accurately, both in writing and orally;

Learning & Teaching Activities

All these skills are an essential part of the understanding of mathematics, are embedded throughout core elements of the programme and are intrinsic to good performance in the programme. They are developed through formal lectures, tutorials, coursework, computer practicals, use of IT and private study. Skills (7-9) in particular are reinforced in optional modules involving directed reading, seminars or project work at Stage 3. Skill (5) and (8) are developed in the subsidiary subject modules.

Assessment Methods

All these skills are tested indirectly in various core elements of the programme, with (6-9) contributing particularly to the more successful work. They are all assessed in part through written coursework and in part by unseen formal examinations. Skills (7-9) are directly assessed in some optional modules via oral presentation, essays or project reports.

C Personal / Transferable / Employment Skills & Knowledge

1) use a range of IT software including standard and mathematical word-processing applications and computer algebra software;
 2) communicate ideas effectively and clearly by appropriate means including oral presentation;
 3) manage time effectively;
 4) search and retrieve information from a variety of sources including libraries, databases and the web;
 5) work as part of a team;
 6) plan their career and personal development.

Learning & Teaching Activities

Skill (1) is developed from Stage 1 through use of the mathematical computing packages in core Stage 1 modules. Skills (1-2) are developed in various other core components of the programme e.g. oral presentations in Stage 1 tutorials, and the requirement for submission of word-processed coursework in some assignments in certain modules at Stages 1 and 2. Skill (3) is intrinsic to successful completion of the programme. Skills (4) and (5) are developed through the requirement to complete complete either a project or a specified alternative module at Stage 3. Skill (6) is reinforced through annual self-appraisals with personal tutors.

Assessment Methods

Skills (1-3) are indirectly assessed as part of coursework in core modules and effective use of skills (1-4) will generally enhance performance throughout the programme. Skills (1-5) are more directly assessed at Stage 3 through the requirement to complete either a project or a specified alternative module at Stage 3.

7. Programme Regulations

Credit

The programme consists of 360 credits with 120 credits taken at each stage. Normally not more than 75 credits would be allowed in any one term. In total, students normally take no more than 150 credits at level 1, and must take at least 90 credits at level 3. The pass mark for award of credit in an individual module is 40%.

Progression

You can progress to the next stage (or in the final year, to proceed to the award of an honours degree) once at least 90 credits have been passed in a stage, and provided that an average of at least 40% has been achieved over the 120 credits of assessment for that stage.

Condonement is the process that allows you to pass a 'stage' should you fail to achieve the required number of credits in any stage. You are required to achieve 120 credits in each stage of the programme. You must have achieved an average mark of at least 40% across the 120 credits of assessment including the marks for any failed and condoned modules. You will not be allowed reassessment in the condoned credit. Up to 30 credits of failure can be condoned in a stage. However, you must pass the modules marked with a 'Yes' in the 'non-condonable' column in the tables above. The pass mark for these modules is 40%.

Assessment and Awards

Assessment at stage one does not contribute to the summative classification of the award. The award will normally be based on the degree mark formed from the credit-weighted average marks for stages 2 and 3 combined in the ratio 1:2 respectively.

Classification

The marking of modules and the classification of awards broadly corresponds to the following percentage marks:

Class I 70% +

Class II Division I 60-69%

Class II Division II 50-59%

Class III 40-49%

Full details of [assessment regulations for UG programmes](#) can be found in the Teaching Quality Assurance Manual (TQA) on the University of Exeter website.

[Generic marking criteria](#) are also published here.

Please see the [Teaching and Quality Assurance Manual](#) for further guidance.

8. College Support for Students and Students' Learning

In accordance with University policy a system of personal tutors is in place for all students on this programme. A University-wide statement on such provision is included in the University's TQA Manual. As a student enrolled on this programme you will receive the personal and academic support of the Programme Coordinator and will have regular scheduled meetings with your Personal Tutor; you may request additional meetings as and when required. The role of personal tutors is to provide you with advice and support for the duration of the programme and extends to providing you with details of how to obtain support and guidance on personal difficulties such as accommodation, financial difficulties and sickness. You can also make an appointment to see individual teaching staff. Information Technology (IT) Services provide a wide range of services throughout the Exeter campuses including open access computer rooms, some of which are available 24 hours, 7 days a week. Help may be obtained through the Helpdesk, and most study bedrooms in halls and flats are linked to the University's campus network.

Additionally, the College has its own dedicated IT support staff, helpdesk and computer facilities which are linked to the wider network, but which also provide access to some specialised software packages. Email is an important channel of communication between staff and students in the College and an extensive range of web-based information (see <https://intranet.exeter.ac.uk/emps/>) is maintained for the use of students, including a comprehensive and annually revised student handbook.

The Harrison Learning Resource Centre is generally open during building open hours. The Centre is available for quiet study, with four separate rooms that can be booked for meetings and group work. Amongst its facilities, the Learning Resource Centre has a number of desks, four meeting rooms with large LCD screens, and free use of a photocopier. Also available are core set texts from your module reading lists, and undergraduate and MSc projects from the past two years. Online Module study resources provide materials for modules that you are registered for, in addition to some useful subject and IT resources. Generic study support resources, library and research skills, past exam papers, and the 'Academic Honesty and Plagiarism' module are also available through the student portal (<http://vle.exeter.ac.uk>)

Student/Staff Liaison Committee enables students & staff to jointly participate in the management and review of the teaching and learning provision.

10. Admission Criteria

All applications are considered individually on merit. The University is committed to an equal opportunities policy with respect to gender, age, race, sexual orientation and/or disability when dealing with applications. It is also committed to widening access to higher education to students from a diverse range of backgrounds and experience.

Candidates must satisfy the general admissions requirements of the University of Exeter.

Applicants are normally invited to attend an Admissions Day, which will include the opportunity to talk with and question members of the academic staff.

Candidates must satisfy the entrance requirements for this programme. These are published in full in the University of Exeter Undergraduate Prospectus (see <http://www.ex.ac.uk/undergraduate/>). In addition to candidates offering GCE AS and A2, those offering International Baccalaureate, and appropriate VCE A-levels will also be considered, as well as mature candidates with evidence of appropriate alternative qualifications. Direct entry to Stage 2 of the programmes will also be considered for candidates who have successfully completed study equivalent to the core material in the first stage of the programmes.

11. Regulation of Assessment and Academic Standards

Each academic programme in the University is subject to an agreed College assessment and marking strategy, underpinned by institution-wide assessment procedures.

The security of assessment and academic standards is further supported through the appointment of External Examiners for each programme. External Examiners have access to draft papers, course work and examination scripts. They are required to attend the Board of Examiners and to provide an annual report. Annual External Examiner reports are monitored at both College and University level. Their responsibilities are described in the University's code of practice. See the University's TQA Manual for details.

External Examiner reports for all programme are available to you on the University website

12. Indicators of Quality and Standards

Certain programmes are subject to accreditation and/or review by professional and statutory regulatory bodies (PSRBs).

14	Awarding Institution	University of Exeter	
15	Lead College / Teaching Institution	College of Engineering, Mathematics and Physical Sciences	
16	Partner College / Institution	University of Exeter Business School	
17	Programme accredited/validated by	N/A	
18	Final Award(s)	BSc (Hons)	
19	UCAS Code (UG programmes)	G1N3	
20	NQF Level of Final Awards(s):	6	
21	Credit (CATS and ECTS)	360 credits (180 ECTS)	
22	QAA Subject Benchmarking Group (UG and PGT programmes)	Mathematics, Statistics and Operational Research; Accounting; Economics; General Business and Management	
23	Origin Date	January 14th 2013	Last Date of Revision: July 16th 2013