MATHEMATICAL SCIENCES - CK407

Overview

Regulations and Programme Requirements

Students enter the Mathematical Sciences programmes through CK407 (Mathematical Sciences) Area of Study. In Second Year, two Single Honours BSc Degree Programmes are available to eligible students: Mathematical Sciences, and Financial Mathematics and Actuarial Science (FMAS). In addition, eligible students entering CK407 may pursue a Joint Honours BSc Degree in Mathematical Sciences and Physics.

Notes:

1. *Individual degree programmes in CK407 involve a number of electives courses. The final set of electives and 'project-related' modules offered is subject to the availability of adequate staff resources and therefore may need to be a subset of those indicated. Within the FMAS degree programme, priority will always be given to maintaining coverage of syllabi of the Institute and Faculty of Actuaries. Students should consult with School staff for guidance on their selections and the implications thereof.*
2. *The BSc Single Honours Degree in Financial Mathematics and Actuarial Science does not seek to provide a professional training programme for the examinations of the Faculty and Institute of Actuaries. Graduates who wish to pursue an actuarial career may qualify for exemption from some of the professional actuarial examinations, depending on their performance and choice of electives, and will have the necessary preparation to undertake the remaining examinations.*

Eligibility for Entry to Second Year Programmes

Students from the Mathematical Sciences Area of Study (CK407) who pass First Science may opt to enter the Single Honours Mathematical Sciences programme or the Single Honours programme in Financial Mathematics and Actuarial Science.

Students from the Mathematical Sciences Area of Study (CK407) who take the Physics modules PY1052 and PY1053 in First Science, and who pass First Science, will be eligible to enter the Joint Honours programme in Mathematical Sciences and Physics.

BSc Degree Outlets

BSc Single Honours

- Financial Mathematics and Actuarial Science, (https://ucc-ie-public.courseleaf.com/programmes/bscmfm/)
- Mathematical Sciences (https://ucc-ie-public.courseleaf.com/programmes/bscmsh/)

BSc Joint Honours

- Mathematical Sciences and Physics (https://ucc-ie-public.courseleaf.com/programmes/bscpj/)

Notes

1. Students in the Mathematical Sciences Area of Study (CK407) wishing to proceed to the Joint Honours programmes in Mathematical Science and Physics must take the modules PY1052 and PY1053 in First Science.
2. Students who, for special reasons, wish to take modules not specifically allowed by the regulations, must make an application to the College.
3. Individual elective modules may occasionally not be offered in some calendar years.
4. Choice of electives in Year 1 will have a direct bearing on eligibility for recommendations for exemptions from professional actuarial examinations for which an FMAS graduate may be eligible. Students are strongly encouraged to discuss this matter with actuarial staff members before finalising their electives.

BSc Ordinary Degree - NFQ Level 7, Major Award

Students who pass Third Year may choose not to proceed to Fourth Year and may opt instead to be conferred with a BSc Ordinary Degree (https://ucc-ie-public.courseleaf.com/programmes/bscpas/).

Programme Requirements

For information about modules, module choice, options and credit weightings, please go to Programme Requirements (p. 1).

Programme Requirements

First Science Area of Study

Code	Title	Credits
Year 1		
Students take **60** credits as follows – all listed core modules (**40** credits) and **20** credits of elective modules:		
Core Modules		
AM1052	Introduction to Mechanics	5
AM1053	Introduction to Mathematical Modelling	5
AM1054	Mathematical Software	5
MA1057	Introduction to Abstract Algebra	5
MA1058	Introduction to Linear Algebra	5
MA1059	Calculus	5
MA1060	Introduction to Analysis	5
ST1051	Introduction to Probability and Statistics	5
Elective Modules		
Students take modules to the value of **20** credits from the following (subject to corequisites):		20
AC1107	Investment in Capital Assets (5)	
AC1108	Introduction to Valuation and Risk (5)	
BL1006	Habitats and Ecosystems (5)	
CM1006	Introduction to Chemistry for Physicists and Mathematicians (10)	
CS1061	Programming in C (5)	
CS1065	Computer Applications Programming (5)	
CS1069	Introduction to Internet Technologies (5)	
MS2013	Geometry (5)	
PA1003	Principles of Market Analysis (10)	
PY1052	Introductory Physics I (10)	
PY1053	Introductory Physics II (10)	
ST1050	Statistical Programming in R (5)	
Year 2		
Select one of the following outlets:		
BSc Single Honours		

Financial Mathematics and Actuarial Science (https://ucc-ie-public.courseleaf.com/programmes/bscmfm/)

Mathematical Sciences (https://ucc-ie-public.courseleaf.com/programmes/bscmsh/)

BSc Joint Honours

Mathematical Sciences and Physics (https://ucc-ie-public.courseleaf.com/programmes/bscpj/)

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