Ollscoil Chathair
Bhaile Átha Cliath
Dublin City University

BSc Financial Mathematics – INTRA Programme

Objective

The Objective of this four year, full-time degree is to produce graduates with the ability to apply mathematical methods to problems in the financial sector. The application of such techniques has revolutionised many areas of this industry over the last forty years.

Programme Summary

The course is of four years' duration and falls naturally into two halves. In the first four semesters (i.e. Years 1 and 2), the aim of the programme is to provide the student with a broad introduction to the main branches of modern mathematics and its applications, enabling students to make informed choices regarding their choice of specialist topics in the latter half of the course. In the second half (Years 3 and 4), the course concentrates on those areas of mathematics that may be applied to problems in finance, insurance and banking, and in particular to financial mathematics.

Relevant Work Experience

Students in the degree have the opportunity of gaining experience as an employee in a commercial environment through DCU's work experience programme INTRA (INtegrated TRAining). INTRA is a central feature of education at DCU and an integral part of most undergraduate and some postgraduate degree programmes. Students who are particularly interested in pursuing a financial career often take their work placement with a major financial institution. Students from the BSc Financial Mathematics are required to complete an eight-month INTRA placement at the end of the third academic year, from February to September inclusive.

Work Areas

- Investment and Commercial Banking
- Financial Analysis and Trading
- Business and Actuarial Consultancy
- Statistical Analysis
- Software Development
- Insurance and Reinsurance Companies
- Data Analytics

Students are available for interview from October onwards. For more information, contact:

INTRA Unit, Student Support & Development,
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Year 1	Year 2	Year 3	Year 4
Semester 1	**Semester 1**	**Semester 1**	**Semester 1**
Computing for Mathematics	Statistics I	Financial Economics I	Probability and Finance I and II
Calculus	Calculus of Several Variables	Stochastic Modelling	Simulation for Finance
Introductionto Economics	Analysis II	Financial Mathematics	Numerical Solution of P.D.E.s
Linear Mathematics	Numerical Methods	Partial Differential Equations	**Semester 2**
The Mathematical Experience	Linear Algebra	**Optional**	Fixed Income
Semester 2	**Semester 2**	Project-based Skills	Securities
Computing for Mathematics	Statistics II	**Semester 2**	Stochastic Finance
Analysis I	Complex Analysis		Computational Finance
Introduction to Economics II	Introduction of Differential Equations		**Optional**
Linear Mathematics II	Mathematics of Finance: An Introduction		Times Series
Probability I	Probability II		Financial Engineering
	Accounting I		

INTRA