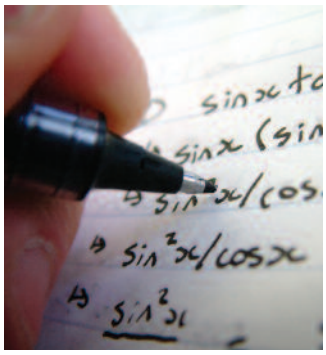
Mathematics

CAO code: DN200 Option: Mathematical, Physical & Geological Sciences (MPG)



- Master the language and concepts of modern mathematical thinking
- Develop a high level of competence in its applications

"Maths requires a lot of critical thinking and rigorous understanding, and the lecturers in UCD certainly encourage this. Lecturers here are very good at transmitting their enthusiasm for their subject to the students. What's really great about UCD is that the maths lecturers are approachable, and are both willing and keen to answer any questions you may have.

Caitríona Byrne, Student"

Sample pathway for a degree in Mathematics *

YEAR 1 — ENGAGE WITH THE PRINCIPLES

MATHEMATICS
Topics include:

- Calculus in the Mathematical and Physical Sciences
- Numbers & Functions
- Linear Algebra in the Mathematical and Physical Sciences
- Mathematical Analysis
- Introduction to Applications of Differential Equations
- Introduction to Statistical Modelling
- Two Elective modules
- One Small-Group Project

YEAR 2 — CHOOSE YOUR SUBJECTS

MATHEMATICS
Topics include:

- Linear Algebra 2
- Calculus of Several Variables
- Groups, Rings & Fields

APPLIED & COMPUTATIONAL MATHEMATICS (OPTIONAL)
Topics include:

- Computational Science
- Vector Integral and Differential Calculus
- Oscillations and Waves
- Classical Mechanics and Special Relativity

STATISTICS (OPTIONAL)
Topics include:

- Probability Theory
- Stochastic Models

- Two Elective modules

YEAR 3 — FOCUS ON YOUR CHOSEN SUBJECT

MATHEMATICS – *Topics include:*

- Galois Theory
- Functions of One Complex Variable
- Cryptography
- Number Theory
- Metric Spaces
- Algorithms
- Set Theory
- Mathematical Logic
- Two Elective modules

YEAR 4 — REFINE YOUR KNOWLEDGE

MATHEMATICS – *Topics include:*

- Differential Geometry
- Combinatorics
- Numerical Analysis
- Measure Theory
- Ring Theory
- Functional Analysis

BSc (Honours) Mathematics

MSc (Taught)

- MSc Mathematical Science
- MSc Actuarial Science

PhD

- Students can pursue a PhD in universities in Ireland or abroad

Industry

- Banking & Finance
- Mathematical Modelling
- Information and Communications Technology
- Actuarial Science

Conversion Courses

- Professional Master of Education (PME)
- Masters in Actuarial Science
- MSc Business Analytics
- MSc Quantitative Finance

**See pages 4 and 5 for information on the terminology used above. Potential combinations shown here are examples only and are not guaranteed by UCD. Topics are subject to change each year.*

www.ucd.ie/myucd/mathematics

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