Applied Mathematics and Mathematics Education

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

APPROVED DEGREE

Sample pathway to become an Applied Mathematics and Mathematics teacher *

YEAR 1 — ENGAGE WITH THE PRINCIPLES

EDUCATION *Topics include:*
- Teaching and Learning Mathematics

APPLIED MATHEMATICS *Topics include:*
- Applied Mathematics: Mechanics and Methods
- Applications of Differential Equations

MATHEMATICS *Topics include:*
- Linear Algebra
- Numbers and Functions
- Calculus
- Mathematical Analysis
- Statistical Modelling

- One Small-Group Project
- Elective Modules

YEAR 2 — CHOOSE YOUR SUBJECTS

EDUCATION *Topics include:*
- Education Issues and Ideas
- Science and Mathematics Pedagogy

APPLIED MATHEMATICS *Topics include:*
- Computational Science
- Vector, Integral and Differential Calculus
- Oscillations in Mechanical Systems
- Classical Mechanics and Special Relativity

MATHEMATICS *Topics include:*
- Calculus of Several Variables
- Groups, Rings and Fields
- Linear Algebra

- Elective Modules

YEAR 3 — REFINE YOUR KNOWLEDGE

EDUCATION *Topics include:*
- Collaborative Pedagogy in Mathematics Education
- Schools and Society

SCHOOL PLACEMENT
- Post-Primary Placement
- University – Peer-Assisted Tutoring

APPLIED MATHEMATICS *Topics include:*
- Analytical Mechanics
- Fluid Mechanics

MATHEMATICS *Topics include:*
- Probability Theory
- Financial Maths
- Geometry
- History of Mathematics

YEAR 4 — PREPARE FOR PROFESSIONAL PRACTICE

EDUCATION *Topics include:*
- Pedagogical Approaches to Mathematics and Science
- Curriculum and Assessment
- Psychology for Teaching and Learning

SCHOOL PLACEMENT
- Year-Long Placement in Post-Primary School
- Classroom Teaching
- Broad Experience of Wider School Context

APPLIED MATHEMATICS AND MATHEMATICS *Topics include:*
- Mathematical Biology
- Differential Equations with Computer Algebra

BSc Mathematics, Applied Mathematics and Education

YEAR 5 — PREPARE FOR PROFESSIONAL PRACTICE

EDUCATION *Topics include:*
- Research Methods
- Professional Dissertation

SCHOOL PLACEMENT
- Year-Long Placement in Post-Primary School
- Experience Both Teaching and Non-Teaching Activities
- Further Development of Professional Practice Portfolio

MSc Mathematics and Science Education

QUALIFIED TO TEACH

Post-Primary School Teacher

Applied Mathematics *Leaving Certificate*

Mathematics *Leaving Certificate*

**See page 42 for more information on subject choices. Potential combinations shown here are examples only and are not guaranteed by UCD. Topics are subject to change each year.*

Practical class and teaching mathematics

"This degree offers you the opportunity to explore and experience the two worlds of science and education in an integrated manner without compromising one for the other."

Dr Maria Meehan, Staff

Dr Maria Meehan
UCD School of Mathematics and Statistics

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