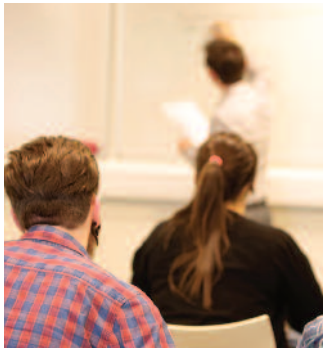
Biology, Mathematics & Education

CAO code: DN200 Option: Biological, Biomedical & Biomolecular Science (BBB)

The Teaching Council
An Chomhairle Mhúinteoireachta
APPROVED DEGREE



Students attending an Education module class.

"I have always had an interest in mathematics and a curiosity for the world around us. The DN200 Science course therefore really appealed to me as it allowed me to explore a diverse range of modules in first and second year before deciding on a degree path. I chose to specialise in Biology and Mathematics Education as I am passionate about teaching and love the idea of studying science and education in an integrated manner. I also enjoy getting involved around campus and have made some amazing friends through volunteering with the Science Society and the Maths Sparks programme. In fact, the wide range of opportunities, amazing facilities and level of engagement and support from the academic staff make coming to UCD the best decision I ever made."

Emily Lewanowksi-Breen, Student

Sample pathway to become a Biology and Mathematics teacher *

YEAR 1 — ENGAGE WITH THE PRINCIPLES

EDUCATION *Topics include:*
- Introduction to Mathematics Pedagogy

BIOLOGY *Topics include:*
- Biology in Action
- Life on Earth
- Cell Biology and Genetics

MATHEMATICS *Topics include:*
- Linear Algebra
- Calculus
- Statistical Modelling

SCIENCE
- Chemistry
- Physics
- One Small-Group Project
- Elective Modules

YEAR 2 — CHOOSE YOUR SUBJECTS

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

BIOLOGY *Topics include:*
- Principles of Plant Biology and Biotechnology
- Principles of Environmental Biology and Ecology
- Laboratory Skills
- Molecular Genetics and Biotechnology

MATHEMATICS *Topics include:*
- Calculus of Several Variables
- Mathematical Modelling
- Analysis

- Elective Modules

YEAR 3 — REFINE YOUR KNOWLEDGE

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

SCHOOL PLACEMENT
- Post-Primary Placement
- Peer-Assisted Tutoring
- Small Group Tutoring

BIOLOGY *Topics include:*
- Systems Ecology
- Functional Morphology
- Regulation of Gene Expression
- Microbiology
- Ecology
- Environmental Microbiology

MATHEMATICS *Topics include:*
- Algebraic Structures
- Probability Theory

YEAR 4 — PREPARE FOR PROFESSIONAL PRACTICE

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

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

MATHEMATICS *Topics include:*
- Differential Equations with Computer Algebra
- Geometry
- Complex Analysis
- History of Mathematics

BSc Biology, Mathematics & 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

Post-Primary School Teacher

QUALIFIED TO TEACH

Biology	Mathematics	Science
Leaving Certificate	*Leaving Certificate*	*Junior Certificate*

**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/biomathed

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