

# Chemistry, Mathematics & Education

CAO code: DN200 Option: Chemistry & Chemical Sciences (CCS)

## Sample pathway to become a Chemistry and Mathematics teacher \*

YEAR  
1

### ENGAGE WITH THE PRINCIPLES

#### EDUCATION

Topics include:

- ▶ Introduction to Mathematics Pedagogy

#### CHEMISTRY

Topics include:

- ▶ Introductory Chemistry
- ▶ Organic Chemistry and Chemical Biology

#### MATHEMATICS

Topics include:

- ▶ Linear Algebra
- ▶ Calculus
- ▶ Statistical Modelling

#### SCIENCE

- ▶ Biology
- ▶ Physics

- ▶ One Small-Group Project
- ▶ Elective Modules

YEAR  
2

### CHOOSE YOUR SUBJECTS

#### EDUCATION

Topics include:

- ▶ Education Issues and Ideas
- ▶ Science and Mathematics Pedagogy

#### CHEMISTRY

Topics include:

- ▶ Physical Chemistry
- ▶ Organic Chemistry
- ▶ Inorganic Chemistry

#### 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 Teaching

#### CHEMISTRY

Topics include:

- ▶ Instrumental Analysis
- ▶ Mechanism and Stereochemistry
- ▶ Main Group Chemistry and Bonding
- ▶ Chemical Thermodynamics
- ▶ Carbonyl Chemistry and Synthesis
- ▶ Organometallic and Solid State Chemistry

#### MATHEMATICS

Topics include:

- ▶ Algebraic Structures
- ▶ Probability Theory
- ▶ Geometry

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 Chemistry, 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

Chemistry  
Leaving Certificate

Mathematics  
Leaving Certificate

Science  
Junior Certificate



Group work in an active learning environment classroom

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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.

Associate Professor Maria Meehan, Staff

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\*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.

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