### Sample pathway to become a Physics and Mathematics teacher*

#### YEAR 1

**EDUCATION**
- Mathematics & Science Education & Communication

**ENGAGE WITH THE PRINCIPLES**

**PHYSICS**
- Foundations of Physics
- Frontiers of Physics

**SCIENCE**
- Biology
- Chemistry
- One Small-Group Project
- Elective Module

**EDUCATION**
- Education for Democracy
- Science and Mathematics Pedagogy

**CHOOSE YOUR SUBJECTS**

**PHYSICS**
- Quantum Mechanics
- Electromagnetism and Optics
- Fields, Waves and Light
- Methods for Physicists
- Thermal Physics

**EDUCATION**
- Collaborative Pedagogy in Mathematics Education
- Schools and Society

**MATHEMATICS**
- Linear Algebra
- Calculus
- Applications of Differential Equations
- Statistical Modelling

**MATHEMATICS**
- Vector Integral and Differential Calculus
- Calculus of Several Variables
- Analysis

**SCHOOL PLACEMENT**
- Post-Primary Placement
- Peer-Assisted Tutoring

**REFINE YOUR KNOWLEDGE**

**PHYSICS**
- Classical Mechanics and Relativity
- Quantum Mechanics
- Electromagnetism
- Nuclear Physics
- Laboratory Skills

**MATHEMATICS**
- Algebraic Structures
- Probability Theory

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

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

**MATHEMATICS**
- Particle Physics
- Group Theory
- Geometry
- Complex Analysis
- History of Mathematics

#### YEAR 2

**EDUCATION**
- Research Methods
- Professional Dissertation

**PREPARE FOR PROFESSIONAL PRACTICE**

**SCHOOL PLACEMENT**
- Year-Long Placement in Post-Primary School
- Continuous Professional Development Activities
- Further Development of Professional Practice Portfolio

**BSc Physics, Mathematics & Education**

**EDUCATION**
- Mathematics Leaving Certificate

**QUALIFIED TO TEACH**

**SCIENCE**
- Junior Certificate

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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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**MSc Mathematics and Science Education**

**EDUCATION**
- Mathematics Leaving Certificate

**QUALIFIED TO TEACH**

**PHYSICS**
- Leaving Certificate

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**www.ucd.ie/myucd/physmathed**

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**Jim Rossiter, Student**

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The Science DN200 course was a perfect option for me as it allowed me to study all the sciences in first year before concentrating on my chosen pathway of Physics, Maths & Education. I plan to further my studies to MSc level where I hope to qualify as a post-primary education teacher. Such is the flexibility of this course, however, that many other options are still available to me in both Maths and Physics. UCD offers many opportunities for students to get involved. I have been a member of UCD GAA club since first year and play with the Men’s Gaelic Football Team. It is a good way of getting a break from time spent studying.

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