

Computer Science, Mathematics & Education

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

Sample pathway to become a Computer Science and Mathematics teacher *

YEAR 1 ENGAGE WITH THE PRINCIPLES

<p>EDUCATION – Topics include:</p> <ul style="list-style-type: none"> ▶ Mathematics & Science Education & Communication 	<p>COMPUTER SCIENCE – Topics include:</p> <ul style="list-style-type: none"> ▶ Computer Programming I ▶ Computer Programming II 	<p>MATHEMATICS – Topics include:</p> <ul style="list-style-type: none"> ▶ Linear Algebra ▶ Calculus ▶ Applications of Differential Equations ▶ Statistical Modelling 	<ul style="list-style-type: none"> ▶ One Small-Group Project ▶ One Elective module
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YEAR 2 CHOOSE YOUR SUBJECTS

<p>EDUCATION – Topics include:</p> <ul style="list-style-type: none"> ▶ Education for Democracy ▶ Science and Mathematics Pedagogy 	<p>COMPUTER SCIENCE – Topics include:</p> <ul style="list-style-type: none"> ▶ Introduction to Java ▶ Introduction to Computer Architecture 	<p>MATHEMATICS – Topics include:</p> <ul style="list-style-type: none"> ▶ Calculus of Several Variables ▶ Groups, Rings and Fields ▶ Linear Algebra ▶ Computational Science ▶ Vector Calculus 	<ul style="list-style-type: none"> ▶ Two Elective modules
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YEAR 3 REFINE YOUR KNOWLEDGE

<p>EDUCATION – Topics include:</p> <ul style="list-style-type: none"> ▶ Collaborative Pedagogy in Mathematics Education ▶ Schools and Society 	<p>SCHOOL PLACEMENT – Topics include:</p> <ul style="list-style-type: none"> ▶ Post-Primary Placement ▶ Peer-Assisted Tutoring ▶ Small Group Tutoring 	<p>COMPUTER SCIENCE – Topics include:</p> <ul style="list-style-type: none"> ▶ Data Structures and Algorithms ▶ Databases and Information Systems ▶ Web Design ▶ Introduction to Operating Systems 	<p>MATHEMATICS – Topics include:</p> <ul style="list-style-type: none"> ▶ Probability Theory
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YEAR 4 PREPARE FOR PROFESSIONAL PRACTICE

<p>EDUCATION – Topics include:</p> <ul style="list-style-type: none"> ▶ Pedagogical Approaches to Mathematics ▶ Computer Science Pedagogy ▶ Psychology for Teaching and Learning 	<p>SCHOOL PLACEMENT – Topics include:</p> <ul style="list-style-type: none"> ▶ Year-Long Placement in Post-Primary School ▶ Classroom Teaching ▶ Broad Experience of Wider School Context 	<p>COMPUTER SCIENCE AND MATHEMATICS – Topics include:</p> <ul style="list-style-type: none"> ▶ Information Ethics ▶ Networks and Internet Systems ▶ Geometry ▶ Complex Analysis ▶ History of Mathematics
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BSc Computer Science, Mathematics & Education

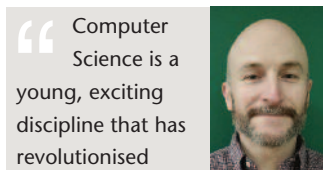
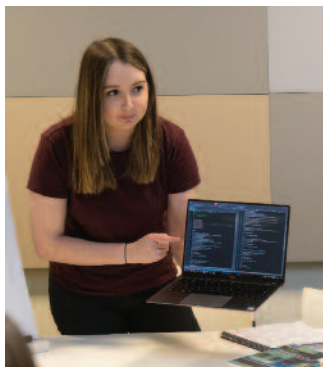
YEAR 5 PREPARE FOR PROFESSIONAL PRACTICE

<p>EDUCATION Topics include:</p> <ul style="list-style-type: none"> ▶ Research Methods ▶ Professional Dissertation 	<p>SCHOOL PLACEMENT</p> <ul style="list-style-type: none"> ▶ Year-Long Placement in Post-Primary School ▶ Continuous Professional Development Activities ▶ Further Development of Professional Practice Portfolio
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MSc Mathematics and Science Education

QUALIFIED TO TEACH

Computer Science Leaving Certificate	Mathematics Leaving Certificate
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Computer Science is a young, exciting discipline that has revolutionised society in only a few decades. Combining Computer Science with Mathematics results in a set of principles that all students can benefit from. Professionals in every walk of life from Art to Zoology can benefit from Computer Science and Mathematics knowledge. How we teach tomorrow's experts can help them benefit the lives of others. Those that can understand and apply computing and mathematical skills effectively, ethically, and safely will help shape society for generations to come. These are the reasons I find Computer Science and Mathematics Education so interesting and engaging. Our Computer Science, Mathematics & Education course provides a solid preparation to put you in the position of educating tomorrow's citizens, providing them with knowledge that will not only improve their lives, but help them improve the lives of others.

Dr Brett Becker, Faculty

*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.