

Computer Science

CAO code: DN201

Sample pathway for a degree in Computer Science *

YEAR 1 ENGAGE WITH THE PRINCIPLES

<p>COMPUTER SCIENCE <i>Modules include:</i></p> <ul style="list-style-type: none"> ▶ Algorithmic Problem-Solving ▶ Computer Programming ▶ Introduction to Computer Architecture 	<ul style="list-style-type: none"> ▶ Formal Foundations ▶ Computer Science in Practice ▶ Software Engineering Project I ▶ Statistics with Python ▶ Introduction to Functional Programming 	<p>MATHEMATICS <i>Modules include:</i></p> <ul style="list-style-type: none"> ▶ Matrix Algebra ▶ Foundations of Mathematics for Computer Science 	<ul style="list-style-type: none"> ▶ One Elective module
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YEAR 2 BROADEN YOUR KNOWLEDGE

<p>COMPUTER SCIENCE – Modules include:</p> <ul style="list-style-type: none"> ▶ Data Structures & Algorithms ▶ Introduction to Java ▶ Discrete Mathematics for Computer Science ▶ Software Engineering Project II 		<ul style="list-style-type: none"> ▶ Linear Algebra II ▶ Databases and Information Systems I ▶ Digital Systems ▶ Introduction to Operating Systems 	<ul style="list-style-type: none"> ▶ Two Elective modules
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YEAR 3 FOCUS ON YOUR CHOSEN SUBJECT

<p>COMPUTER SCIENCE – Modules include:</p> <ul style="list-style-type: none"> ▶ Foundations of Computing ▶ Networks and Internet Systems ▶ Object-Oriented Programming 		<ul style="list-style-type: none"> ▶ Software Engineering Project III ▶ Introduction to Artificial Intelligence ▶ Program Construction I 	<ul style="list-style-type: none"> ▶ Computer Graphics I ▶ Web Development ▶ Programming for Big Data ▶ Computer Systems ▶ Algorithms for Graphs and Networks ▶ Industry Internship 	<ul style="list-style-type: none"> ▶ Two Elective modules
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YEAR 4 REFINE YOUR KNOWLEDGE

<p>COMPUTER SCIENCE – Modules include:</p> <ul style="list-style-type: none"> ▶ Computer Science Project ▶ Spatial Information Systems ▶ Distributed Systems ▶ Advances in Wireless Networking 			<ul style="list-style-type: none"> ▶ Cloud Computing ▶ Mobile App Development ▶ Computer & Network Security ▶ Human Computer Interaction ▶ Contemporary Software Development 	<ul style="list-style-type: none"> ▶ Programming for IOT ▶ Information Theory ▶ Multi-Agent Systems ▶ Performance of Computer Systems
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BSc (Honours) Computer Science

MSc (Taught)	Research	Industry	Conversion Courses
<ul style="list-style-type: none"> ▶ MSc Computer Science (Negotiated Learning) ▶ MSc Business Analytics ▶ MSc Cognitive Science 	<p>Many graduates pursue MSc and PhD studies as well as postdoctoral research in Ireland and abroad in diverse areas such as:</p> <ul style="list-style-type: none"> ▶ Artificial Intelligence ▶ Software and Systems Engineering ▶ Networks and Distributed Systems 	<ul style="list-style-type: none"> ▶ High-Tech Sector ▶ Financial Sector ▶ Consultancy ▶ Software Development ▶ Tech Start-ups ▶ Education (Third Level) 	<ul style="list-style-type: none"> ▶ UCD Michael Smurfit Graduate Business School postgraduate degrees, e.g., Master of Management

*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. Modules are subject to change each year.



Image by Niall Hayes © UCD

- Develop skills in object-oriented programming languages such as Java and Ruby, the latest Internet technologies, software engineering, mobile application development, database technology and operating systems
- Opportunities for industry internships

“ I chose to study Computer Science at UCD because of my avid interest in technology and the great opportunities it afforded me going forward. I have always been really passionate about technology, and always intended on pursuing a career within the field. Upon graduating I intend on pursuing a career in the technology consultancy field, exercising technical expertise within the business sector.

Ryan Kane, Graduate ”