

BSC (HONS) COMPUTER SCIENCE

Programme Requirements

Code	Title	Credits
Year 1		
<i>Single Honours</i>		
Students take 60 credits as follows – all listed core modules (50 credits) and 10 credits of elective modules:		
<i>Core Modules</i>		
CS1106	Introduction to Relational Databases	5
CS1110	Computer Hardware Organization	5
CS1111	Systems Organisation	5
CS1112	Foundations of Computer Science I	5
CS1113	Foundations of Computer Science II	5
CS1115	Web Development 1	5
CS1116	Web Development 2	5
CS1117	Introduction to Programming	15
<i>Elective Modules</i>		
Students take modules to the value of 10 credits from the following list. Only electives without timetable conflicts with core modules may be chosen.		
CH1001	Chinese Language (Mandarin) I	
CS1130 & CS1131	Irish Language for Computer Science I and Irish Language for Computer Science II	
EC1202 & EC1203	Economic Reasoning for Business and Macroeconomic Context and Business	
FR0105	Introduction to French : Complete Beginners	
FR1005	French for Near Beginners	
FR1105 & FR1107	Threshold French and French for Reading Purposes I	
GE0005 & GE0008	German Language (CEFR-Level A2.1) and German Language (CEFR-Level A2.2)	
HS0028	Spanish Language (Beginner Level)	
HS1009	Spanish Language (Post Leaving Certificate)	
IT1102	Non-Beginners' Written and Spoken Italian	
IT1109	Introduction to Written and Spoken Italian	
MA1001 & MA1002	Calculus for Science Part 1 and Calculus for Science Part 2	
MA1059 & MA1060	Calculus and Introduction to Analysis	
Year 2		
Students take 60 credits as follows – all listed core modules (50 credits) and 10 credits of elective modules:		
<i>Core Modules</i>		
CS2208	Information Storage and Management I	5
CS2209	Information Storage and Management II	5
CS2505	Network Computing	5
CS2507	Computer Architecture	5
CS2513	Intermediate Programming	5
CS2514	Introduction to Java	5
CS2515	Algorithms and Data Structures I	5

CS2516	Algorithms and Data Structures II	5
CS2518	Operating Systems	5
CS3204	Cloud Infrastructure and Services	5
<i>Elective Modules</i>		
Students take modules to the value of 10 credits from the following:		
<i>Computer Science</i>		
CS2502	Logic Design (5)	
CS2511	Usability Engineering (5)	
<i>Languages</i>		
HS0128	Spanish Language (Improver [01] Level) (10)	
HS1009	Spanish Language (Post Leaving Certificate) (10)	
FR1105 & FR1107	Threshold French and French for Reading Purposes I ¹	
or FR2105 & FR2107	Towards Vantage French (5) and French for our World: Learning Together in Autonomy	
<i>Mathematics</i>		
MA1057 & MA1058	Introduction to Abstract Algebra and Introduction to Linear Algebra	
Year 3		
Students take 60 credits as follows: 45 credits core module and 15 credits elective modules		
<i>Core Modules</i>		
CS3500	Software Engineering	5
CS3515	Hands-On Machine Learning	5
CS3511	Ethical Hacking and Web Security	5
CS3305	Team Software Project	10
CS3306	Workplace Technology and Skills	10
CS3300	Work Placement	10
or CS3301	Work Placement	
<i>Electives</i>		
Students take electives to the value of 15 credits from the following. Not all electives need be offered every year.		
CS3318	Advanced Programming with Java (Students take electives to the value of *15* credits from the following. Not all electives need be offered every year.)	5
CS3506	Networks and Data Communications	5
CS3509	Theory of Computation	5
CS3514	C-Programming for Microcontrollers	5
Year 4		
Students take 60 credits as follows - all listed core modules (15 credits) and 45 credits of elective modules:		
<i>Core Modules</i>		
CS4501	Computer Science Project	15
<i>Elective Modules</i>		
Students take modules to the value of 45 credits from the following: ² 45		
CS4092	Special Topics in Computing I (5)	
CS4093	Special Topics in Computing II (5)	
CS4150	Principles of Compilation (5)	
CS4402	Parallel and Grid Computing (5)	
CS4405	Multimedia Compression and Delivery (5)	
CS4414	Mobile and Wireless Networks (5)	
CS4507	Advanced Software Engineering (5)	

CS4614	Cryptography and Security Protocols (5)
CS4618	Artificial Intelligence I (5) ³
CS4619	Artificial Intelligence II (5) ³
CS4626	Constraint Programming and Optimisation (5)
CS4628	Internet of Things (5)
CS4704	Algorithms and Data Structures for Analytics (5)
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Total Credits	245

¹ Modules FR1105 and FR1107 are only available to students who have not already taken French in First Year.

² Note that not all elective modules will be offered each year.

³ In order to register for CS4619, you must register for CS4618 as it is a co-requisite.