



BSc (Honours) Computer Systems

The Internet of Things is here and it's growing rapidly. Smart, connected devices are already transforming our world.

Undergraduate

This programme is delivered full-time over four academic years.

Contact us

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The BSc (Hons) in Computer Systems programme is a software development degree that shares the core modules found in the BSc (Hons) in Software Development programme. The Computer Systems programme differs in that it focuses on a number of key areas including computer networking, embedded systems and the Internet of Things (IoT).

Embedded systems have become widespread in industry and can be found in almost all modern consumer devices from washing machines to cars. The Internet of Things (IoT) is starting to play a significant role in industry and at home. With growth and advancements in the field of electronics and wireless communications, devices around us are able to communicate in

a better way than ever before leading to new possibilities and opportunities.

Computer systems engineering is a growing market in today's computer industry. Graduates of this programme will be equipped with the necessary knowledge and engineering skills to work as a software engineer in the rapidly growing area of embedded systems and IoT.

The programme has a significant work placement element where students are placed with selected employers for up to 9 months starting in January of year three.

 **CORK
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Department of Computer Science

The Department of Computer Science at Cork Institute of Technology is one of the largest Computer Science departments in Ireland. We offer a range of modern undergraduate programmes and a host of opportunities at master's degree and at PhD level. Our industry engaged programmes match the needs of our economy and have an excellent reputation for producing the most employable computer science graduates. These highly skilled graduates are in huge demand and contribute significantly to the development of the region. As technology plays a greater role in our society the growth in the demand for these graduates will continue year after year. Detailed programme descriptors can be viewed under the Computer Science link at <http://courses.cit.ie>.

BSc (Honours) Software Development Programme Schedule

Click on each hyperlink below to view module descriptors. Please visit <http://cs.cit.ie/cs> for further information.

Year 1 - Semester 1	CR	Year 1 - Semester 2	CR
Programming Fundamentals (SOFT6018)	5	Modular Programming (SOFT6017)	5
Web Develop Fundamentals (SOFT6007)	5	Introduction to Databases (COMP6041)	5
Computer Architecture (COMH6002)	5	Operating Systems in Practice (COMP6042)	5
Computer Security Principles (COMP6035)	5	Networking Fundamentals (COMP6027)	5
Maths for Computer Science (MATH6055)	5	Discrete Mathematics (MATH6004)	5
Creativity, Innovation & Teamwork (CMOD6001)	5	Physical Computing (COMP6043)	5
Year 2 - Semester 1	CR	Year 2 - Semester 2	CR
Object Oriented Principles (SOFT7004)	5	Object Oriented Programming (COMP7013)	5
Routing & Switching Concepts (COMP7032)	5	NoSQL Data Architectures (COMP7037)	5
Operating Systems (SOFT7006)	5	C Programming (SOFT7019)	5
Requirements Engineering (SOFT7007)	5	OO Analysis and Design (SOFT7005)	5
Linear Data Structures & Algorithms (COMP7035)	5	Virtualisation Technologies (COMP7041)	5
Linux Administration (COMP7036) (E)	5	Probability & Statistics (STAT7007)	5
Year 3 - Semester 1	CR	Year 3 - Semester 2	CR
Distributed Systems Programming (SOFT8023)	5	Work Placement/Internship (PLAC7009)	30
Group Project (SOFT7003)	5		
Programming Microcontrollers (SOFT7029)	5		
Agile Processes (COMP7039)	5		
Embedded Systems Networking (COMP8044)	5		
Programming for Data Analytics (SOFT8032) (E)	5		
Year 4 - Semester 1	CR	Year 4 - Semester 2	CR
Scalable Microservices (SOFT8025)	5	Embedded Systems Programming (SOFT8037)	5
Project Research Phase (INTR8016)	5	Project Implementation Phase (INTR8015)	10
Embedded Systems Tools & Models (COMP8049)	5	Nonlinear Data Structures & Algorithms (COMP7038)	5
Software-Defined Networking (COMP8052)	5	Real Time Systems (COMP8026)	5
Embedded Software Security (COMP8053)	5	Advanced OS & Virtualisation (COMP8051) (E)	5
Front-end Frameworks (SOFT8034) (E)	5		

CR = ECTS Credit, (E) = Example elective module. Work Placement is normally paid and organised by the department.