



Ollscoil Chathair
Bhaile Átha Cliath
Dublin City University



BSc Computer Applications, Software Engineering – INTRA Programme (DC121)

Objective

The objective of the BSc Computer Applications, Software Engineering degree is to provide students with a sound understanding of computer hardware, software engineering and computer programming. It provides students with the techniques necessary to conduct systems analysis, to design systems, and to apply quantitative methods in computing. Students have an understanding of the ideas and theories underlying areas such as artificial intelligence, computer security, data analytics and multimedia technology and have the ability to adapt to, and keep abreast of, the latest technologies and developments in computing.

Programme Outline

The first year is devoted to gaining a strong competence in computer programming and to acquiring essential mathematical and problem-solving skills. In subsequent years students take modules in Artificial Intelligence, Web Design, Computer Graphics, Operating Systems and Networks. This gives them the necessary skills to create software and to invent new ways of using it. Examples include web applications, computer games, mobile applications and the software that drives all electronic devices.

Students of the BSc Computer Applications, Software Engineering study these seven broad areas of computing:

- Artificial Intelligence
- Web Design

- Concurrent and Distributed Programming
- Multimedia Technology
- Software Programming
- Data Warehouses and Data Mining
- Cryptography

There is a strong emphasis on practical and team work. Major projects are completed in years three and four and the final year projects are showcased to industry personnel at the Computing and Engineering Expo which takes place annually in May.

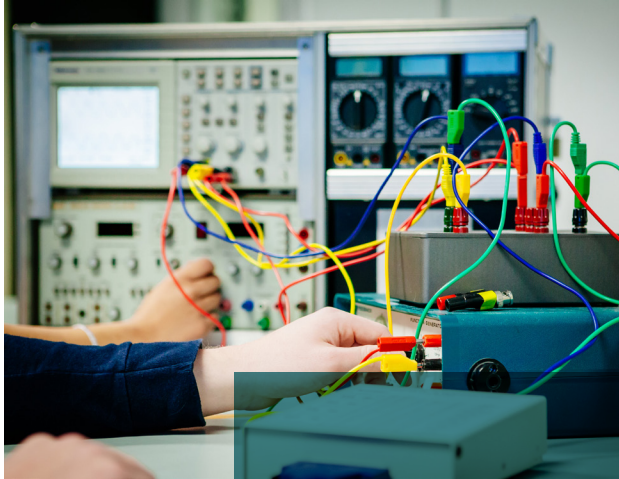
INTRA Internship

INTRA Internship Relevant work experience through DCU INTRA (INtegrated TRAINing) Internships is a mandatory element of the BSc Computer Applications, Software Engineering degree. Students are required to complete a 6 month INTRA internship at the end of third year, from April to September.

They have the ability to work in many computing roles including:

- Software Developer
- Systems Architecture and Management
- Localisation and Testing
- Website and App Development
- Systems Analysis
- Database Systems Development
- Desktop Support
- IT Security





Students are available for interview from late October onwards and their internship runs from April to September. For more information, contact:

INTRA Unit, Student Support & Development,
DCU, Glasnevin, Dublin 9. Ireland.

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 [in/dcu-intra-office](https://www.linkedin.com/company/intra-dcu)

Year 1	Year 2	Year 3	Year 4
Computer Systems	Logic	Business Information	Core Modules
Web Design	Systems Analysis	Computer Networks II	Final Year Project
Digital Innovation Management and Enterprise	Operating Systems	Advanced Algorithms and AI Search	Compiler Construction
Computing Programming I and II	Introduction to Databases	Computability and Complexity	Software Engineering: Principles and Methods
Networks and Internet	Advanced Computer Architectures	Operating Systems Design and Implementation	Optional Modules
Introduction to Operating Systems	Probability and Statistics	Year 3 Project	Cryptology and Security Protocols
Problem Solving, Creativity and Critical Thinking	Software Testing	Human Computer Interaction	Concurrent and Distributed Programming
IT Mathematics	Data Structures and Algorithms	Communication Skills	Computer Graphics and Image Processing
	Object Orientated Programming	IT Architecture	Search Technologies
	Computer Architecture and Assembly Level Language	Semester 1 or 2 Abroad	Data Warehousing and Data Mining
	Linear Algebra	INTRA	Operations Research
			Statistical Machine Translation
			Uaneen Module