

The **Objective** of this four-year, full-time degree is to produce qualified computing professionals who:

- Have a capacity to adapt, change and keep abreast of new developments
- Have a sound understanding of computer hardware, software engineering and computer programming
- Have a sound understanding of the techniques of systems analysis and design and of applied quantitative methods
- Are thoroughly familiar with the use of computer technology in various administrative systems, in manufacturing systems and in management decision making
- Have a sufficient understanding of the ideas underlying areas such as artificial intelligence, robotics and computer integrated manufacturing

### Programme Summary

Following a common first year, the B.Sc in Computer Applications has two streams or specialisms:

#### Information Systems

- Application design and programming
- Business computing
- Systems analysis and project management

#### Software Engineering

- Systems analysis
- Design and formal specification
- Object oriented analysis and design

#### Work Areas

Students from the B.Sc in Computer Applications will have the ability to work in many computing roles, some of which are listed here:

- Programmer
- Systems Management
- Modifying existing packages and producing new ones
- Computerizing service records on statistical systems
- Analysing computer systems
- Training personnel in the use of new programmes
- Preparing workshops for users
- Developing database systems
- 4GL programming

**Relevant Work Experience** through DCU's work experience programme *INTRA* (INtegrated TRAINing) is a central feature of education at DCU and an integral part of most undergraduate and some postgraduate degree programmes. **Students from the B.Sc in Computer Applications are required to complete a six month *INTRA* placement at the end of third year, from April to September inclusive.**

#### Student Availability

Students are available for interview from early October. Please post vacancies on the *INTRA on line* web site at [www.intra.dcu.ie](http://www.intra.dcu.ie), or send details to:

INTRA Unit, Student Affairs,  
Dublin City University,  
Glasnevin, Dublin 9, Ireland.  
Phone: 00 353 1 700 5033 Fax: 00353 1 700 5505  
Web: [www.intra.dcu.ie](http://www.intra.dcu.ie)

# B.Sc Computer Applications

YEAR 1

**Core:**

Maths  
Computer Programming  
Computer Architecture  
Web Design

**Options (2)**

Physics                      Electronics  
Accounting                  Languages  
Topics in Computing  
Introduction to Marketing

YEAR 2

**INFORMATION SYSTEMS STREAM**

**Core:**

Logic	Statistics
Appl. Programming	Probability
Networks & Internet	Bus. Org
Org. Info Systems	Systems Analysis
Intro to Databases	Intro to Op Systems
Human Factors in Computing	Analytical Info. Sys.

**SOFTWARE ENGINEERING STREAM**

**Core:**

Linear Algebra	Logic
Advanced Computer Architectures	Assembly Language Programming
Data Structures & Algorithms	Probability
Languages & Computability	Systems Analysis
OO Design & Implementation	Intro to Op Systems
Intro to Networks & Internet	Intro to Databases

YEAR 3

**Core: 3rd YEAR PROJECT plus:**

Intro to Artificial Intelligence  
Project & Process Management  
Database Deployment  
OO Analysis & Design  
Sampling Theory/Survey Design  
Information System Strategy

**Optional Modules: Year Abroad**

**Core: 3rd YEAR PROJECT plus:**

Intro to Artificial Intelligence  
Computer Networks 2  
Database Deployment  
Algorithms & Complexity  
OO Analysis & Design  
Operating Systems Design & Implementation

**Optional Modules: Year Abroad**

**I N T R A**

YEAR 4

**Core: Technical Communication Skills**

**Selection from:** Database 1: Relational Theory & Multidatabase, Database 2: Protocols & Systems, Software Patterns & Metrics, OO Models, Artificial Intelligence, Operations Research, Operations Research/Management Science, Computer Graphics 1, Computer Graphics 2, Multimedia Information Retrieval, Multimedia Technology, Business Process Management, Software Process Improvement, Speech Processing 1, Logistics Management, Speech Processing 2

**Core: Software Patterns & Metrics; OO Models; Technical Communication Skills**

**Selection from:** Security Protocols, Cryptography, Database 1: Relational Theory & Multidatabase, Database 2: Protocols & Systems, Compiler Construction, Artificial Intelligence, Operations Research, Operations Research/Management Science, Digital Signal Processing 1, Computer Graphics 1, Computer Graphics 2, Multimedia Information Retrieval, Multimedia Technology, Speech Processing 1, Concurrent Programming, Distributed Programming, Real Time Embedded, Speech Processing 2

**F I N A L Y E A R P R O J E C T**