

# INTRA Programme

## B.Eng Information & Communications Engineering



### INTRA Programme

The Objective of this four-year, full-time degree is to produce graduates who have:

- An understanding of basic sciences and mathematics appropriate to developing a career in Information & Communications Engineering.
- Competence in Telecommunications system analysis and design
- Creative and innovative approaches to problem solving.
- Excellent written and oral communications skills
- An excellent knowledge of the business environment related to the Information & Communications Industry
- A detailed knowledge of:
  - Digital & analog signal theory
  - Modulation, noise and information theory
  - Signal Processing
  - Radio Systems design
  - Telecommunication systems analysis, design and implementation
  - Telecommunication software design
  - Packet and circuit switched network operation and design
  - Communications systems protocol and application interfaces
  - Optical transmission and switching design

### Programme Outline

The main themes of the B.Eng Information and Communications Engineering are:

- Fundamentals of Engineering
- RF System & Radio Network Design
- Telecommunications Systems Design
- Signal Processing
- Communication Principles of Data Networks
- Telecommunications Projects

### Work Areas

Students of the B.Eng Information and Communications Engineering have the ability to work in diverse areas within the Engineering industry including:

- Public Network Design & Operation
- Design of Network for Financial Services
- Technical Marketing
- Telecommunications Consultancy
- Private Network Design & Operation
- Systems Design (Hardware & Software)
- Research & Development Engineering
- Telecommunications Software Development

### Relevant Work Experience

DCU's co-operative education programme "INTRA" (INtegrated TRAIning) is a mandatory feature of the B.Eng Information & Communications Engineering. Students 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.Eng INFORMATION & COMMUNICATIONS ENGINEERING

Electronic Fundamentals	Data Communications	Electromagnetism	I N T E R A	Digital Signal Processing
Physics	Telecommunications System Analysis	Signals		Communications Networks
Digital Electronics	Telecommunications Software Laboratory	Real-Time Design		Communications Theory
Electronic Engineering Design	Electromagnetism	RF Propagation		Telecommunications System Design
Engineering Mathematics	Signals & Systems	Object-oriented Programming		Optical Systems
Software Engineering	Software Engineering	Computation		Cellular and Microwave System Design
Electromagnetism	Digital Circuits & Systems			PROJECT
Chemistry	Accounting			
	Mathematics			