

Birmingham City University  
Technology Innovation Centre



# BSc (Hons) Information & Communications Technology



Formerly UCE Birmingham



# BSc (Hons) Information & Communications Technology

## Introduction

Information and Communications Technology (ICT) continues to revolutionise almost every aspect of both global business and our own daily lives, changing the way we work, communicate and interact. From individuals using devices connected to the internet via a wireless network to the operation of global enterprises, there is an ever increasing need for consumers and commercial organisations to have timely access to information, requiring data to be transferred, translated and exchanged through the integration of Information and Communications Technologies.

This course has been created to develop knowledge and skills in information transfer and data warehousing, network communications technology and network operating systems in a business context relevant to the ICT industry.

As a leading Cisco Academy Training Centre and a leading Microsoft Regional Academy, tic has designed this course to incorporate the latest vendor specific curriculum providing students with the opportunity to work towards professional qualifications, such as the Cisco Certified Network Associate (CCNA), and Microsoft Certified Systems Administrator (MCSA), as part of their undergraduate studies.

This exceptional partnership provides an opportunity for students to study alongside professionals in the computing, IT and networking industry and provides opportunity for additional qualifications and experience upon graduation.

## Course Aims

To provide graduates with the following skills and knowledge:

- The principal features of the ICT industry, including its major managerial, organisational, technical, practical and operational functions, designs and processes
- The fundamental concepts, principles and theories of the technologies that underpin information transfer and data communications
- The principal communication technologies that underpin system design, practice and application, as applied to commercial eCommerce services
- Design and implementation of ICT systems with emphasis on business requirements and technological considerations
- Basic computer programming and operational skills relevant to the development and management of ICT systems
- Business management and organisational theories and techniques applied to successful networking enterprise and the legal and regulatory systems within which they operate
- The organisational, teamwork and practical management approaches employed throughout a typical system design process cycle

## Career Prospects

Typical routes of employment that could lead from this programme include:

- IT professionals responsible for the planning, implementation, management and support of PC operating systems
- Web-service architect
- Enterprise solution developer
- Communication network analyst
- LAN/WAN/Internet works developer
- Network operating systems administrator
- Client-server database developer
- IT server support engineer
- ICT technical support or training

## Technology Innovation Centre

Courses at Birmingham City University's Technology Innovation Centre are designed with industry to produce highly employable graduates across a wide spectrum of Advanced Engineering, Design, Interactive Media and Information and Communications technologies.

Students will benefit from both the outstanding resources and facilities at our Millennium Point campus and our unique engagement with industry, which ensures that our courses equip students with up-to-date skills, relevant to the needs of employers. Located in Birmingham City Centre, **tic** students also enjoy all the facilities of a thriving international city, including culture and entertainment for all tastes and excellent local, regional and national transport links.

## Industrial Placement

Students are encouraged to further enhance their career prospects by including an industrial placement in their course. This takes place after the second year of study and extends the course duration to four years.

As well as providing the workplace experience sought by many employers, a placement provides an invaluable opportunity for students to further develop their practical expertise, earn money and try out a potential career path. The **tic** placements team supports students throughout the placement process.

## Learning approaches and Assessment

Students experience a wide variety of subjects and many different types of learning environments including lectures, tutorials, practicals and computer laboratories. Learning methods include the use of the latest networked computer systems and commercial standard software platforms. All courses incorporate a significant amount of project work to provide students with the opportunity to develop and apply their knowledge and are assessed through a combination of assignments, case studies, in-class tests, presentations and examinations.

## Accreditation

The BSc (Hons) Information and Communications Technology course is accredited by the Institution of Incorporated Engineers as satisfying academic requirements for IEng.

## Entry Requirements

Applicants will be expected to have successfully completed at least one of the following or an equivalent qualification:

- Five GCSEs/GCEs with at least two GCE 'A2' levels, or an AVCE double award. Maths, English Language and a Science subject to at least GCSE Grade C.
- An Edexcel National Certificate/Diploma in a relevant subject with a significant Merit profile. Maths, English Language and a Science subject to at least GCSE Grade C.
- A Degree Foundation Certificate, Access to HE Qualification, or equivalent, in a relevant subject.

A typical tariff point offer is 220 to 240 with AS qualifications used towards the tariff where appropriate.

Mature applicants who are able to demonstrate proficiency in Mathematics and written English will be considered for entry at Foundation Level.

## Course Length

Full Time:	3 years
Sandwich:	4 years
Part Time:	3 years for entry with appropriate HNC or equivalent, 5 years if no exemptions apply. See Part Time grid for details.

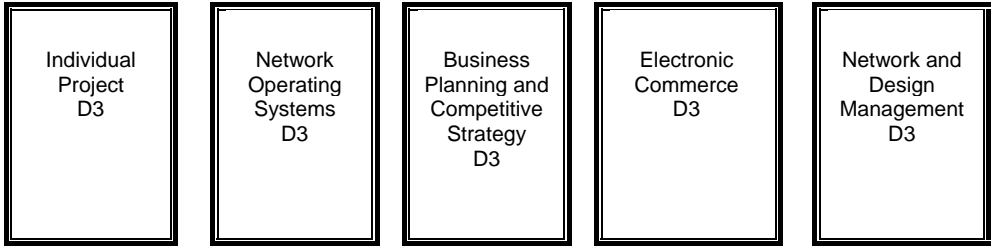
## For further Information

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# Module Grid – Full Time

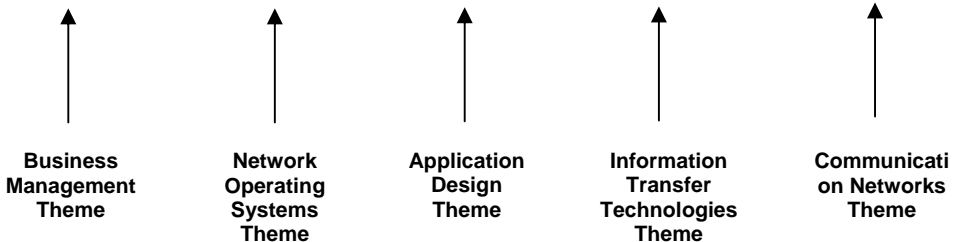
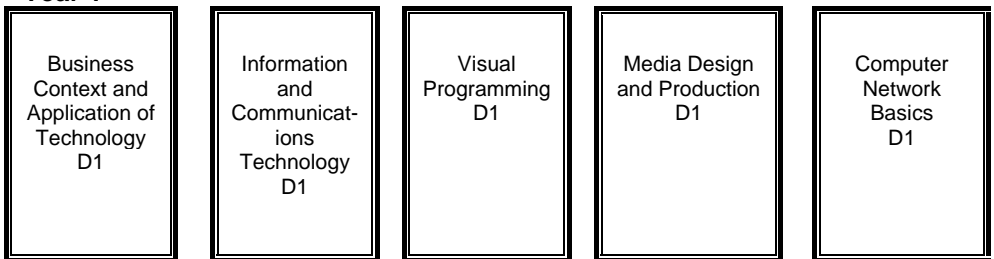
## Year 3



## Year 2



## Year 1



## Module Grid – Part Time

### Year 5

Project	Network Design & Management D3	Network Operating Systems D3
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### Summer

Market Led Enterprise D2
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### Year 4

Electronic Commerce D3	Business Planning & Competitive Strategy D3	Switched LANS & WANS D2
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### Year 3

Database Systems D2	eBusiness Solutions D2	Client Server Operating Systems D2
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-----Normal HNC Entry-----

### Year 2

Market Led Enterprise D2	Visual Programming D1	ICT D1
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### Year 1

BCAT D1	Multimedia Design & Production D1	Computer Network Basics D1
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## **Brief Module Description**

### **Year 1**

#### **Business Context and Application of Technology D1**

A contextualised introduction to industry and business concepts within a technology intensive business environment and development of core business skills including research, group work, planning, report writing and presentations.

#### **Information and Communication Technology D1**

Data representation, hardware & software fundamentals, security, system administration, networking. Safe working practices, logic circuits, data capture - bar-codes, MICR, operating systems installation & configuration, data transmission.

#### **Visual Programming D1**

System concepts, programming fundamentals and software design. Exploration of GUI creation. System and class design, debugging and testing, writing of software documentation. Investigation into .NET framework both full and compact.

#### **Media Design and Production D1**

Digital imaging, post production treatment, authoring theory, authoring websites, authoring multimedia CDs

#### **Computer Network Basics D1**

LAN/WAN terminology, OSI, media, devices, standards, TCP/IP and addressing. Router configuration, routing protocols, access control lists, TCP/IP and Router operating systems.

### **Year 2**

#### **Market-led Enterprise D2**

Business enterprise and careers, marketing planning, business environment and resource analysis, objective setting and basic strategy. Work planning. Financial planning: market-based budgets, risk analysis, financial forecasts and statements. Project planning.

#### **Client/Server Operating Systems D2**

Configure, install and manage operating systems, manage disks, manage file systems, configure TCP/IP, unattended operating system installation, answer files, workgroups and domains, account management, server resources, server performance, manage printing, group policy, system performance, back-up and disaster recovery.

## **eBusiness Solutions D2**

eXtensible Markup Language (XML), CSS, DTD/schema, XML/ HTML comparison, write & deploy XML documents, style with XSL, DOM/SAX.

Web services, service oriented architecture (SOA), interfacing, SOAP, WSDL, configuring web services, UDDI, security.

## **Database Systems D2**

Data analysis, database design & implementation, query languages. Multimedia database management, structure and querying systems. Web-database technology.

## **Switched LANS and WANS D2**

VLSM, RIPv2, OSPF, EIGRP, VLANs, STP, VTP and switch configuration. ISDN/BRI, Frame Relay/PRI, Implementing LANs and WANs, DHCP, NAT/PAT, PPP, DDR, network management, optical and security.

## **Year 3**

### **Individual Project D3**

To provide opportunity to develop in-depth knowledge and skills in an area relevant to the course including the ability to manage activities and resources, and to generate, implement and report on solutions to meet project objectives.

### **Network Operating Systems D3**

Windows server network infrastructure, routing, DHCP, domain name system(DNS), securing internet protocol, remote access clients, monitoring network access, advanced disaster recovery, IPSec & certificates, network access, SQL database management server.

### **Business Planning and Competitive Strategy D3**

Marketing strategy, financial and business planning; evolution and growth; internationalisation.

### **Electronic Commerce D3**

Electronic commerce global economics, e-commercial systems. Internet business strategy. Technology of Internet commerce. On-line transactions. Business models. Virtual store design.

### **Network and Design Management D3**

Network operating systems, network management, network management protocols, network monitoring and management platforms. Queuing theory, network design, simulation and modelling.

## Disclaimers

Birmingham City University's Disability Service aims to enable students with disabilities or learning support needs to make the most of their time at university. We regard disclosure of a disability as a positive thing and think it is important that students feel they can tell us about any disability they may have so we can try to support their individual needs.

If students have not made us aware of their disability or they feel they may have a disability please contact the Disability Service on 0121 331 5128, or email [disability@bcu.ac.uk](mailto:disability@bcu.ac.uk)

This information is intended as a general guide to the University's (Faculty's) courses and facilities and forms no part of any contract between students and the University. Although reasonable steps are taken to provide the courses as described, the University cannot guarantee the provision of any course or facility. Any course may be altered or withdrawn owing to circumstances beyond the University's control. It is strongly recommended that prospective students contact the (relevant) faculty to obtain the most up-to-date course information. For full terms and conditions please log on to [www.bcu.ac.uk/misc/legal.html](http://www.bcu.ac.uk/misc/legal.html)

Birmingham City University promotes equality of opportunity in respect of every aspect of its provision. University policy and practice will seek to provide an environment that is free from discrimination against students, staff and others. The University and its staff will ensure that all prospective students are treated solely on the basis of their merits, abilities and potential.

The University will seek to prevent discrimination on the grounds of race, colour, ethnic origin, nationality, religious belief, gender, sexual orientation, disability, age, marital status, family circumstances, citizenship, social and economic status, or any other irrelevant individual differences.

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Programme



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**Qualification awarded by Birmingham City University**