

Higher Diploma

Applied Computing Technology

Computing for the Knowledge Economy

UNIVERSITY COLLEGE CORK

UCC was founded in 1845 and is internationally acclaimed as one of Ireland's leading research institutions. The University occupies a unique place in the history of computing because Boolean algebra, which provides the mathematical basis for computer design, was named after George Boole, UCC's first Professor of Mathematics. UCC's Department of Computer Science is internationally recognised for its research leadership in several areas.

OVERVIEW OF PROGRAMME

The **Higher Diploma in Applied Science (Applied Computing Technology)** is a conversion course open to all graduates from non-computing disciplines and other applicants, with suitable experience who wish to up-skill. This course will prepare students for a productive career in applying computing technology in today's knowledge economy.

The course provides students with an understanding of the principles of Internet-based computer systems and will equip students with a range of core IT skills including:

- web design;
- web server configuration;
- managing and manipulating multimedia content;
- interfacing with databases;
- working with common office software.

In addition the course may qualify participants who obtain a sufficiently high standard for further study in Computer Science.



New IT Building opening summer 2009

College of
Science, **E**ngineering & **F**ood **S**cience



ELIGIBILITY

Formal Eligibility: Graduates of any Discipline (other than those who have already undertaken an equivalent programme) or those with an equivalent professional qualification are eligible to apply. The programme is intended for graduates who do not have Computer Science as a degree subject and who wish to gain workplace-relevant IT skills.

PROGRAMME STRUCTURE

The Higher Diploma is a full-time programme running for one academic year from the date of first registration. Students take 30 credits in teaching Period 1 and 30 credits in Period 2, totaling 60 credits of taught modules.

The modules taken are as follows:

- CS5003 Databases (5 credits)
- CS5004 Systems Organisation (5 credits)
- CS5005 Systems Environment (5 credits)
- CS5006 Introduction to Computer Applications (5 credits)
- CS5008 Internet Computing (5 credits)
- CS5009 Multimedia (5 credits)
- CS5016 Web Technologies 1 (10 credits)
- CS5017 Web Technologies 2 (10 credits)

and either

- CS5007 Computer Applications and VB.NET (5 credits), and
- CS5010 IT Management (5 credits)

or

- CS5015 Object-oriented software development (10 credits)

CS5003 Databases (5 credits)

Databases and database management systems. Data models. The relational model. Database processing using the SQL relational language. Programmed access to databases. Security and sharing of data. Directories and dictionaries.

CS5004 Systems Organisation (5 credits)

Memory, processors, I/O, the fetch, decode, execute cycle. Binary number system. Boolean algebra. Instruction sets. Program compilation and execution.

CS5005 Systems Environment (5 credits)

Operating system concepts, processing, I/O, storage. File systems and directory structures. System configuration and security, including anti-virus software. User account management. Essentials of system administration. Open-source systems software. The UNIX environment, including shell-scripting. The Windows environment.

CS5006 Introduction to Computer Applications (5 credits)

Categorisation of application software by function: business applications; scientific and engineering applications; personal applications; entertainment applications. Enterprise-wide software vs informationworker software. Software purchase; licensing; open-source software. Customised vs off-the-shelf software. General-purpose applications for text document preparation and preparation of graphical presentations; spreadsheet applications.

CS5007 Computer Applications and vB.NET (5 credits)

Microsoft Office high-end features relating to: content-rich document preparation and production; building complex spreadsheet models; linking spreadsheets; using OLE. Microsoft Access. Automating Microsoft Office features. Building macros. Visual Basic & VB.NET to enhance Microsoft Office productivity.

CS5008 Internet Computing (5 credits)

Networking basics: history, components, packet switching, performance, architecture. Application layer protocols, including HTTP and peer-to-peer file sharing. Naming, including domain name system. Transport protocols, including TCP. Network security essentials.

CS5009 Multimedia (5 credits)

Introduction to media types: text, audio, graphic, video, animated images ; audio editing techniques; graphic editing techniques; video editing techniques; use of authoring software package to facilitate media integration and creation of animation effects.

CS5010 IT Management (5 credits)

This module will introduce students to the role of the information technology (IT) function in organisations. Key topics include software project management, optimum deployment of skills and personnel, software and hardware procurement, risk management strategies, system security, legal and quality-standard compliance issues.

CS5016 Web Technologies 1 (10 credits)

Web page design, HTML, Cascading Style Sheets, Case Studies in important Web Applications such as Facebook and Flickr, Architecture of E-Commerce applications, Introduction to server-side programming in PHP

CS5017 Web Technologies 2 (10 credits)

Advanced server-side programming in PHP. Client-side programming in JavaScript, Connection to backend data bases, Web Server Deployment (HTTPS, htaccess), Web Security Issues, Presentation and infrastructural aspects of Content Management Systems (CMS), Moodle, Brief survey of other paradigms and technologies for Web Systems (e.g., CGI, ASP, JSP and EJB)

February '10

The Higher Diploma receives substantial support from Government under a major initiative to meet future IT skills needs, with EU students paying significantly reduced fees.



Further Information/ Application Procedure

Department of Computer Science:

<http://www.cs.ucc.ie/courses/pgprogrammes.php>

Postgraduate Admissions Office

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Email: postgrad@ucc.ie Web: <http://www.ucc.ie/postgraduate>

Fees: <http://www.ucc.ie/academic/postgraduate/calendar/general/index.html>