BSc(Hons) in Computer Science

Aims and Rationale of the Programme

This degree programme is ideal for those who are looking to acquire professional as well as academic computing skills and knowledge. With a solid background in computing, students will be in an excellent position to progress onto more specialised fields later on. This programme of study will help students to understand how computer systems are developed and teaches them software engineering techniques, including training in how to design and build computer systems, networks and databases. Students will also develop personal and professional skills to help them to communicate effectively and make a positive contribution in a mixed ability working environment.

Additionally opportunities exist for registered students to also take the industrial examinations of Cisco CCNA.

Year One

- Computer Programming I
- Systems Building I
- Computer and Communication Systems I
- Logical Foundations
- Analytical Methods in Computing

Year Two

- Organisation Project Development & Management
- Computer Programming II
- Advanced Programming
- Operating Systems
- Computing Algorithms & Modelling
- Formal Methods

Final Year

- Individual Project
- Web Application Technologies
- Programming Distributed Components
- HCI & Interaction Design

the UNIVERSITY of GREENWICH

NYC NEW YORK COLLEGE

Entry Requirements

High School Certificate (Grade 15/20) or equivalent
A minimum of TOEFL score of 213 (computer based test), IELTS 6.0, or a recognized equivalent (for example, successful completion of a programme of studies at HE of FE taught in English).

Attendance

3 years Full-time
(Part-time option available).

Assessment

Exams, assignments and project work.

Careers

Employment in the IT industry in a multitude of positions relating to software project management, computing systems development, integration, management, consultancy and support, and internet and e-commerce applications.

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Core Course Descriptions

Year 1

Computer Programming 1

This course will provide students with a solid foundation of fundamental programming and program design skills. The course presents the fundamental principles of computing using a standard object-oriented programming language (such as Java),

System Building 1

This course aims to provide an overview of the major components, conceptual, physical and human, in a software systems building environment and the understanding of the inter-connections between these components, assisting in developing the students' ability to use system building tools and techniques in order to construct systems.

Logical Foundations

This course contains the logic and mathematical ideas needed to underpin a rigorous approach to computing with emphasis on developing precise thinking, looking at modelling data and processes, introducing some reasoning techniques and investigating the use of statistics.

Analytical Methods in Computing

This course aims to extend the knowledge of the Logical Foundations course and give an introduction to discrete and continuous techniques, providing understanding over the nature of functions and their use in computing, understanding of the use of algorithms and the use vectors and matrices in a variety of applications.

Year 2

Organization Project Development & Management

The aims of this course are to encourage students developing a wide range of personal, professional and academic skills to support them in both industrial placement and their final year project with a view to enhancing the eventual employability of the graduate.

Computer Programming II

This course will allow students to attain advanced programming techniques, providing them the opportunity to gain advanced skills in object-oriented programming and to practice the use of object-oriented design and programming.

Advanced Programming

This course aims to deepen the skills and knowledge gained in topics like componentisation, concurrent programming, use of design patterns, dealing with dynamic data structures and programming in a distributed environment.

Operating Systems

This course aims to provide a theoretical background of operating system architectures with a focus on the implementation and management of memory, storage, devices, processes, file systems and users.

Computing Algorithms & Modelling

This course introduces the student to a wide range of algorithms and their use in solving a variety of problems by formulating appropriate models. This course also introduces various principles of reliable programming towards the solutions of practical problems.

Formal Methods

The aim of this course is to provide the acquired understanding, knowledge and skills in the use of the concepts, techniques and tools of formal, mathematical and logical formulations, in order to enhance the students' appreciation of foundational elements of other courses in the corresponding Programme.

Year 3

Project

This course aims to provide the student with the opportunity to research, specify, design, implement and test a software product to an appropriate level of professional competence.

HCI and Interaction Design

This unit is designed to provide the student with an in-depth knowledge of how users interact with products and how we can design and build better user interfaces.

Web Application Technologies

This course aims to enable the students to develop skills needed for the design, development and maintenance of b2c and b2b web applications. It also aims to provide the students with practical experience of a wide range of web technologies in a realistic and complex application. It also introduces the student to the legal, professional, social and ethical issues involved in the development of usable and accessible web applications.

Programming Distributed Components

The aim of the course is to demonstrate and critically evaluate component design, distributed component design and distributed component frameworks. Also to examine current approaches to software engineering, including the use and reuse of software components and to give students advanced practical skills in using key technologies for developing software applications.