BSc Hons Computing Systems

Location: **London**

Level of study: Undergraduate degree

Mode of study: Full-time

Duration: 3 years

UCAS Code: GL40

The BSc Hons Computing Systems course recognises that software development skills need to be complemented with people and process related skills. Consequently people, process and professional practice are important topics you will cover within the modules and will allow you to develop a broad base of skills appropriate to a software engineer.

Course information

Level of study: Undergraduate degree

Tuition fees 2020/21: UK/Home: £9,250 International: £11,250 (Per annum)

Entry requirements: Grades CCC at A-Level, or international equivalent. Grade 4 (previously grade C) in GCSE Maths and Grade 4 in GCSE English Language, or international equivalents.

English language requirements: IELTS 6.0 with no component less than 5.5, or equivalent Other English language tests are accepted, click here to find out more.

Mode of study: Full-time

Duration: 3 years

Assessment methods: Individual and group-based practical assignments and presentations, formative and summative class tests, laboratory log books and development of written reports

Scholarships or bursaries:

Student finance: Available

Starts: Jan, Sep,

Next application deadline: TBC

Response to Covid-19: Our focus is on providing a safe and welcoming learning environment for our students. We have taken every measure, in line with Government guidance, to ensure continued access to learning.

As part of our response to the coronavirus (COVID-19) pandemic, we plan to deliver this course combining face-to-face, on-campus learning, with online learning activities, continuing to follow Government guidance and social distancing measures as required. As restrictions ease, face-to-face opportunities will be increased as appropriate and it is safe for us to do so. Our plans are based on public health advice and robust risk assessments and will be regularly reviewed and updated in that context. More information about our response to Covid-19 and FAQs are available here.

About this course

The overall aim of the course is to provide a broadly based education in computing systems that will produce graduates equipped to apply best practice in software engineering to the development of a wide range of information systems in organisations. This will enable graduates to embark on a professional career in computing with specific vocational skills relevant to local industry needs. The course will also help meet industry's current shortage of high quality graduates in computing, particularly those with software development skills.

The BSc Hons in Computing Systems course recognises that software development skills need to be complemented

with people and process related skills. Consequently, people, process and professional practice are important topics within modules of the course and allow the development of a broad base of skills appropriate to a software engineer.

The research landscape within computing in recent years has seen topics come to the fore on security and the role of artificial intelligence in society both of which feature in the programme.

This programme is also available as BSc Computing Systems (with Diploma in Professional Practice), which includes the option for a year in industry as part of a 4-year programme.

Teaching methods

- You will be taught using a wide variety of teaching methods across the modules including lectures and seminars, totalling between **12-14 hours per week**.
- In addition to your time in class, you will also be expected to engage in approximately **25-35 hours of self-study time** per week.
- You'll be **taught by experienced lecturers** and academics who use their industry and research experience to demonstrate how to apply best practices in software engineering to the development of a wide range of information systems in organisations.
- You will have access to Blackboard, our **online learning environment**, where you can access module resources and reading lists that will assist your preparation for classes and self-study.

Assessment

Each module is assessed by coursework only.

A variety of assessment methods are used across the programme, including individual and group-based practical assignments and presentations, formative and summative class tests, laboratory logbooks and the development of written reports.

Professional accreditation

Graduates from this course have been successful in gaining full Membership (MBCS) of the British Computer Society, the Chartered Institute for IT.

Careers and postgraduate opportunities

Upon graduation, you will be eligible to embark on a professional career in computing or to undertake further study at Masters or PhD level.

Career routes include:

- Designing business-critical computer systems
- Providing consultancy on computing systems development
- Programmer
- Apps Developer
- IT Analyst
- Data Analyst

Related reading

Computing reading:

- What is human-computer interaction?

Academic requirements

- Grades CCC points at A-Level or international equivalent; plus
- Grade 4 (previously grade C) in GCSE English Language, or international equivalent; plus
- Grade 4 (previously grade C) in GCSE Mathematics, or international equivalent

For country-specific entry requirements, please visit the entry requirements page.

If you have any questions regarding your entry requirements, please contact us and one of our team will contact you to discuss your qualifications and options.

English language requirements

Applicants must satisfy our general entry requirements as well as meeting specific requirements.

The general entry requirements are any of the following:

- IELTS 6.0 with no band score less than 5.5, or equivalent
- HKDSE English Language – Grade 4 overall with no less than 3 in any of the 4 sub-skills
- Indian Standard XII English – Minimum of 70% (in Central Board of Secondary Education (CBSE) or Indian Certificate in Secondary Education (ICSE) only)
- WAEC – C6

If you do not have the required IELTS, you may be eligible to study on our **Pre-Sessional** programmes.

- If you have IELTS 5.5, with a maximum score of 5.0, you may be eligible to study on our Pre-Sessional Standard programme.

- If you have IELTS 5.0, with a maximum score of 4.5, you may be eligible to study on our Pre-Sessional Plus programme.

Modules

All modules are core and 20 credits unless specified.

Year 1

Mathematics for Computing

This module provides an introduction to core areas of discrete mathematics such as logic, set theory and probability, that form the foundation of computer science and that are required in other modules within the Computing Systems course at Ulster. Each concept is introduced at an abstract level, before being applied to areas of computing such as logic circuits and data analysis.

Software Development I

This module introduces programming to students who are assumed to have no previous programming experience.

You are introduced to key terms in object-oriented (e.g. classes, objects) and software development concepts. This reinforces the view that students must become object users before they can design their own. Objects and their representation will be discussed, concentrating on primitive data types and the terms and techniques used in OOP.

Professionalism and Entrepreneurship

Computer-related professionals need to be aware of a wider range of issues that go beyond the mere technical knowledge necessary to practice their chosen discipline. They should have knowledge of government legislation affecting their work, along with a series of transferable skills that facilitate the successful completion of their course of study and the seeking of employment upon course completion. This module is designed to make future computing professionals aware of the nature of the professional working environment, as well as to increase your awareness of the issues raised by the spread of computer and communication technologies into all aspects of life.

Systems Architecture

Differences in the internal structure and organisation of a computer lead to significant differences in performance and functionality, giving rise to an extraordinary range of computing devices, from hand-held computers to large-scale, high-performance machines.

This module addresses the various options involved in designing a computer system, the range of design considerations, and the trade-offs involved in the design process.

Database Systems

This module introduces the database technologies that support the storage, update and retrieval of large quantities of information in computer systems. We examine the need for structured storage and discuss modelling, representation and retrieval techniques to avoid data redundancy while ensuring consistency and integrity. In this

module, students will study the design, construction and use of such databases, as well as the understanding of the need for other types of databases and their roles in supporting big data platforms.

Human Computer Interaction

Human-Computer Interaction is an important topic given that there is a number of novel and emerging user interfaces being developed. More than ever, there are also user demands and expectations for intuitive and usable user interfaces. This module will address these important topics and provide a foundation for user experience researchers and interactive designers.

Year 2

Systems Security

The principal aim of this module is to provide an understanding of computing systems security concerns and how they can be addressed and mitigated so that security considerations are taken into account and embedded in organisations and IT projects planning and management.

Software Development II

Software Development is a crucial module is further developing student's understanding of programming fundamentals. Using contemporary examples, this module provides students with in-depth coverage of data structures and algorithms within the scope of object-oriented programming.

Artificial Intelligence

This module presents you with the opportunity to learn how to develop AI models for the important processes, resources and structures that together make up intelligent agents.

AI has become an essential part of the technology industry, providing the heavy lifting for many of the most difficult problems in computer science. Therefore, there is a need to provide you with the necessary knowledge and skills required to understand the core areas of AI, to solve the real-world problems more "intelligently", and ultimately to build intelligent artefacts.

Systems Development

This module promotes knowledge and skills necessary for understanding and deployment Agile development, traditional development and solution procurement. This model will focus on robust modelling, design, testing and implementation both in Agile and traditional contexts.

Networks and Communications

An expositional module on the topics of Networks and Communications to educate Computing you on the fundamental principles, latest trends, and commercial needs in the sector. This module is essential to understand the current industrial needs and to hone the central insight required of graduates.

Networks – The ubiquitous use of LANs, the Internet and cloud computing/virtualisation requires an understanding of the underlying communication protocols and the issues involved in their management. In this module, the emphasis will be on network, design, planning, and management. Issues such as performance, detection of faults and security

management are emphasised.

Dynamic Web Authoring

Computer programming is a fundamental skill expected of computing graduates. This module will introduce you to the foundational concepts of programming relating to web authoring that will be used as building blocks in future modules. You will also develop and enhance your problem-solving skills and data analytics skills as an integral part of the module.

Year 3

Project and Process Management

This module presents the modern process and project management (that is the application of knowledge, skills, tools and techniques to project activities to meet process and project requirements) principles and techniques as a means to help deliver successful software development projects and process improvement.

This module also provides the knowledge and skills necessary to embark on organisational change and improvements.

Data Analytics

In the era of 'Big Data' and the need for statistical literacy, this module provides students with the necessary theory and practical foundations for undertaking real-world data analytics.

This module introduces students to the concepts and best practices for handling data and undertaking data analytics and data science. It also provides students with the practical experience of writing computer programs to carry out exploratory data analytics, inferential statistics and data visualisation

Web Applications Development

This module provides the opportunity for you to appreciate the capabilities of a full stack developer through the addition of server-side programming. The module puts into practice the client-server model through practical implementation of problem-based scenarios and the design and development of a mini-project.

Cloud Native Development

This module aims to explore a range of modern development and deployment concepts in the context of scalable and high-performance computing services.

Within this module concepts such as cloud architectures, hosted technologies, scalable solutions and infrastructure will be explored. Additionally, advanced programming/development concepts facilitating high-performance solution development will be examined.

Computing Systems Project (40 credits)

You are required to undertake a major project during the final year of the course. The project module allows a selected topic area to be investigated in-depth and for a solution to be developed in response. Within the project, you are expected to integrate and apply material from other modules in the course.

The module allows you to develop a comprehensive approach to all aspects of working on a large project and exercise the stages of an entire development cycle. The project also encourages an entrepreneurial mindset and professional

approach. The module offers you an opportunity to develop a realistic and meaningful piece of work during your final year.

The course information displayed on this page is correct for the academic year 2021/22. We aim to run the course as advertised however, changes may be necessary due to updates to the curriculum (due to academic or industry developments), student demand or UK compliance reasons.

Tuition fees for 2021/22

- **UK/Home students**: £9,250 per annum

This course is eligible for student finance through Student Finance England.

- **International students**: £11,250 per annum

Tuition fees for 2022/23

- **UK/Home students**: £9,250 per annum

This course is eligible for student finance through Student Finance England.

- **International students**: £11,500 per annum

Please note that the fees outlined are for your tuition only and do not include the cost of any course books that you may choose to purchase, stationery, accommodation etc. As an Ulster University London and Birmingham branch campus student you will also have access to our on-campus libraries and a range of e-learning resources.

The modules you will study may require you to purchase additional course textbooks and you should be prepared to buy some additional texts, we recommend allowing an additional £180 per year for the duration of your course.

What does my tuition pay for?

- Your teaching in class – this includes seminars, lectures and tutorials
- Access to facilities including computers, Wi-Fi, printers, lockers, multi-faith rooms, quiet study space and social areas. To learn more about available facilities please visit our London or Birmingham branch campus pages
- Our library service – both on-campus and an extensive online catalogue of resources
- Careers and Employability Service which provides help with CVs, applications and interview preparation through workshops, drop-ins and 1-2-1 appointments
- The ACE Team (Academic Community of Excellence) who are here to support you with your studies and assignments

- Students Activities Association (SAA) – who organise events on campus, discounted sightseeing trips and help students create and run societies

Scholarships and discounts

For self-funding students, we also offer a range of academic scholarships and fee discounts.

How to find out more

To find out more about this course, we recommend that you complete our enquiry form and one of our team will contact you to discuss your options.

How to apply

You can apply to study the BSc Hons Computing Systems via the following methods.

Apply via UCAS

If you apply through UCAS, you will need to include the relevant codes below in your application.

UCAS course code: GL40

Institute code: U20

Campus code: V

APPLY FOR JANUARY 2022

Daytime classes	
London	Apply for January 2022

If you're not sure or have any questions about studying with us, please contact us and one of our team will be able to help.