



NEW START4U CIC  
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12-14 Riley Square,  
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# **BSc Hons Computing Systems (with Diploma in Professional Practice)**

**Location:** London

**Level of study:** Undergraduate degree

**Mode of study:** Full-time

**Duration:** 4 years

The BSc Hons Computing Systems (with Diploma in Professional Practice) 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

**Fees:** To find out about current fees and student finance contact us

**Entry requirements:** Grades CCC at A Level, or international equivalent. Grade C in GCSE Mathematics and Grade C in GCSE English Language, or international equivalents.

**English language requirements:** IELTS 6.0 with no component less than 5.5, or equivalent

**Mode of study:** Full-time

**Duration:** 4 years

**Assessment methods:** Coursework and exams

**Scholarships or bursaries:**

**Student finance:** Available

**Starts:** Jan, Sep,

**Next application deadline:** TBC

## **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



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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 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.

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 intent of Work Based Learning (WBL) is significantly reflected in the programme learning outcomes. During year 3 of this programme, students will have the option to undertake a placement year module, Professional Practice –

Computing. This module will provide an opportunity for students to develop knowledge and expertise that can be utilised in their final year studies, and in particular their final year project.

Students will also have opportunities to gain employability skills, reflect upon the applicability of their subjectspecific skills, and gain insight into the graduate job market. Students who successfully complete the module are eligible for the award of Diploma in Professional Practice (DPP) or Diploma in Professional Practice International (DPPI) for international placements. Hence, the inclusion of placement year in this programme places strong emphasis on developing industry specific practical skills so that the learners are readily employable.

### **Teaching methods**

You will be taught using a wide variety of teaching methods across the modules including lectures, seminars, tutorials and computer labs, totaling 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 practice 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 a combination of coursework and examination, or 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 log books, exams and 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.



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## **Careers and postgraduate opportunities**

Career routes include:

- Designing business-critical computer systems
- Providing consultancy on computing systems development

## **Entry requirements**

Applicants should have:

- Grades CCC at A Level, or international equivalent; plus
- Grade C in GCSE English Language, or international equivalent; plus
- Grade C in GCSE Mathematics, or international equivalent

Upon graduation you will be eligible to embark on a professional career in computing or to undertake further study at

Masters or PhD level.

For those without formal entry qualifications, applications will be considered on the basis of experiential learning. Applicants may provide evidence of their ability to undertake the programme through the accreditation of prior experiential learning (APEL) or prior certificated learning (APCL) through the University's APL procedure.

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 one score of 5.0, you may be eligible to study on our Pre-Sessional Standard programme.



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

## **Modules**

All modules are core.

### **Year 1**

#### **Mathematics for Computing – 20 credits**

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. 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 – 20 credits**

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 – 20 credits**

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 – 20 credits**

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 largescale, 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 – 20 credits**

This module introduces the database technologies that support the storage, update and retrieval of large quantities on information in computer systems. We examine the need for structured storage and discuss



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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 need for other types of the databases and their roles in supporting big data platform.

### **Human Computer Interaction – 20 credits**

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 – 20 credits**

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 – 20 credits**

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

### **Artificial Intelligence – 20 credits**

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 real world problem more "intelligently", and ultimately to build intelligent artefacts.

### **Systems Development – 20 credits**

This module promotes knowledge and skills necessary for understanding and deployment of 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 – 20 credits**

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



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on network, design, planning, and management. Issues such as performance, detection of faults and security management are emphasised.

### **Dynamic Web Authoring – 20 credits**

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**

#### **Professional Practice – Computing – 60 credits**

This module aims to provide the student with a work based learning environment in which they can apply the knowledge gained during their academic studies. The module also provides an opportunity for students to develop knowledge and expertise that can be utilised in their final year studies, and in particular their final year project.

This module enables students who have secured a placement job to complete a period of appropriate work experience in a supportive environment. Students will have opportunities to gain employability skills, reflect upon the applicability of their subject specific skills, and gain insight into the graduate job market. Students who successfully complete the module are eligible for the award of Diploma in Professional Practice (DPP) or Diploma in Professional Practice International (DPPI).

### **Year 4**

#### **Project and Process Management – 20 credits**

This module presents 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.

#### **Mobile Technology – 20 credits**

This module addresses and develops understanding and knowledge of key and emerging concepts associated with mobile technologies, and fosters related mobile application software design and development principles. Mobile information access has almost become pervasive, with the consequence that it creates the need for adaptation of traditional Software Engineering techniques and practices to meet the demands and constraints of the rapidly developing mobile ecosystem.

Accordingly, there is a need for graduates to have a solid understanding of the latest mobile operating system technologies and thinking within this area, as well as an understanding of the design and development tools and techniques associated with mobile operating system platforms, this module will prepare you for this.

#### **Web Applications Development – 20 credits**



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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.

### **Embedded Systems Design – 20 credits**

This module introduces the student to embedded micro controller system design with particular reference to real time systems. It is presented through lectures, tutorials and practical and is assessed using both written examination and continuous assessment methods.

### **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.

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 a 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.