

**BSc Honours Software Engineering
with Foundation**
Gerald Kiberu

My course has been interesting and challenging. I have developed an understanding of the research methods that can be applied in computing. This should help me towards a successful career.



Other related areas/courses you might be interested in:
Electronic Engineering (p132)

Computer Science BSc Honours

This degree will give you the right IT skills and knowledge to be able to shape the future of businesses and organisations. The broadly-based course covers the areas of computer science, software development and information systems, providing an excellent basis for a rapidly changing environment. The key aspects of this course are its flexibility and the ability for the students to build customised courses within the broad area of computer science. Students will be able to follow recommended pathways in a range of computing areas.

Course content

Year 1 (Credit Level 4)

The course shares this year with BEng Software Engineering and BEng Mobile and Web Computing. On completing this year you may change to either of these two courses.

Subjects of study include: Computer Organisation • English Language Skills • Information Modelling • Mathematics for Computing • Programming Methodology • Software Engineering Principles • Web Technology

Year 2 (Credit Level 5)

Subjects of study include: Database Fundamentals • Object-Oriented Development • Professional Practice • Project Management • Web Programming • plus two options from one of the following pathways: Business Information Systems • Business Intelligence • Multimedia, Network and Security

Sandwich placement year

The course offers you the opportunity to take a 12-month placement between Year 2 and Year 3 (Credit Levels 5 and 6). This will give you the practical skills to accompany your theoretical knowledge, and bring you a competitive edge in the job market.

Year 3 (Credit Level 6)

Subjects of study include: Project • between two and six options from one of the following pathways: Artificial Intelligence • Business Information Systems • Multimedia, Network and Security • Other Options

Length of course

Three-year, full-time; four-year, full-time sandwich; four-year, full-time with Foundation

UCAS codes

G402; with Foundation G401

Location

Both Central London (Cavendish) and Harrow

Teaching and assessment

The course combines lectures, tutorials, and practical sessions in the computer labs. All modules include course work assessment and some include exams.

Associated careers

You will have tangible skills in system analysis, design and development, as well as knowledge in areas such as computer networks and security, artificial intelligence, and multimedia and general computing. You will become adaptable and flexible to suit the needs of employment in any general computing-related environment.

For information about the Foundation year see p113.

Typical offer for September 2009

Qualification type	Grade/points
A Levels	CCD/AB
International Baccalaureate	28 points
BTEC National Diploma/Certificate	MWM/DD
Advanced Diploma	Grade C in IT or Engineering and relevant ASL at Grade C

See also entry requirements on p48.

For further information about Computer Science and Software Engineering courses visit the School of Electronic Engineering, Computer Science and Informatics website at www.westminster.ac.uk/computing

Mobile and Web Computing MEng/BEng Honours

Increasingly powerful mobile devices and widespread low-cost mobile broadband have led to a rapid increase in sophisticated mobile applications and services. This course provides the specialist skills and knowledge required for developing mobile, embedded, and web applications. It is ideal for those seeking to enter this new and exciting area of computing. The course will also give you an excellent grounding in software engineering and web development that will lead to many opportunities in the areas of information technology and business computing.

Course content

The course explores the latest principals and practice in mobile and web computing. You will study mobile and wireless application architectures and development frameworks, and develop the programming and design skills needed to build distributed mobile and web applications. The course uses the latest tools and techniques, giving you excellent transferable skills that are in strong demand.

You can complete the course in three years to be awarded a BEng qualification or, subject to progression criteria, complete an integrated Masters programme with the award of an MEng degree after four years. A sandwich year is also available.

Year 1 (Credit Level 4)

The course shares this year with the BEng Honours Software Engineering and the BSc Honours Computing. On completing the year you may change to either of these two courses.

Subjects of study include: Computer Organisation • Information Modelling • Mathematics for Computing • Programming Methodology • Software Engineering Principles • Web Technology

Year 2 (Credit Level 5)

Subjects of study include: C# .NET Enterprise Development • Database Systems • Human Computer Interaction • Introduction to Mobile Computing • Mobile Application Development • Network Application Development • Object-Oriented Design • Professional Practice • Project Management • Web Programming

Sandwich placement year

The course offers you the opportunity to take a 12-month placement between Year 2 and Year 3 (Credit Levels 5 and 6). This will give you the practical skills to accompany your theoretical knowledge, and bring you a competitive edge in the job market.

Year 3 (Credit Level 6)

Subjects of study include: Advanced Web Technologies • Mobile and Wireless Systems Architecture • Native Application Development • Project • Real-Time and Embedded Systems • Semantic Web • Service-Oriented Architecture

Options, choose one from: Computer Security and Forensics • Database Management • Network Software Design

Year 4 (Credit Level 7) MEng

Subjects of study include: Advanced .NET development • Mobile IP and Architecture • Mobile Web • MS Compact and Micro-frameworks • Native Mobile Development • Project • Service-Oriented Architectures • Web Engineering

Length of course

MEng: Four-year, full-time;
five-year, full-time sandwich;
five-year, full-time with Foundation
BEng: Three-year, full-time;
four-year, full-time sandwich;
four-year, full-time with Foundation

UCAS codes

MEng: GH4P; BEng: GHK6;
with Foundation GH4Q

Location

Central London (Cavendish)

Teaching and assessment

The course is practice based, and includes project and group work. It combines lecture, tutorial and practical laboratory elements. Formal exams are supported by continuous assessment.

Associated careers

You will typically be part of a team building mobile and stationary web-based systems and services for business, commercial and enterprise applications. The degree will give you the flexible skills for a number of career pathways within the information technology area. Your actual role in a team may be designer, programmer, systems analyst or project manager.

For information about the Foundation year see p113.

Typical offer for September 2009

Qualification type	Grade/points
A Levels	MEng: BBB BEng: CCC
International Baccalaureate	MEng: 32 points BEng: 30 points
BTEC National Diploma	MEng: DDM BEng: MMM
Advanced Diploma	MEng: Grade B in IT or Engineering and relevant ASL at Grade B BEng: Grade B in IT or Engineering and relevant ASL at Grade C

See also entry requirements on p48.

Software Engineering MEng/BEng Honours

This course studies the best ways to design, build, maintain and evaluate software systems. It makes use of many of the technical aspects of computer science, especially programming, and aims to develop the professional attitudes, interpersonal and technical skills you will need in the software engineering industry.

The course provides a solid foundation in software engineering theory and practice to develop professional software systems. As a BEng course its emphasis is on fundamental principles, design, acquisition of practical skills and evaluation of technologies. Having completed three years to be awarded a BEng qualification, students can chose (subject to progression criteria) to complete an integrated masters programme with the award of an MEng degree after four years. A sandwich year is also available.

Course content

The course covers software development, various programming languages, technologies and applications including Java, C, UNIX, UML, Graphics, Networks, Concurrent Systems, Databases, Web and Mobile Computing.

You will share your first semester with students on the BEng Honours Mobile and Web Computing, BSc Computer Science, and BSc Business Information Systems courses, which means that you can transfer in Year 1 (Credit Level 4), and specialise in Year 3 (Credit Level 6).

Year 1 (Credit Level 4)

Subjects of study include: Computer Organisation • Information Modelling • Mathematics for Computing • Programming Methodology • Software Engineering Principles • Web Technology

Year 2 (Credit Level 5)

Subjects of study include: Algorithms and Data Structures • Computer Graphics • Database Systems • Enterprise Application Development with .NET • Event-Driven Programming • HCI • Mobile Computing Principles • Network Application Development • Object-Oriented Development • Operating Systems • Professional Practice • Project Management • System Software and Tools • Web Programming

Sandwich placement year

The course offers you the opportunity to take a 12-month placement between Years 2 and 3 (Credit Levels 5 and 6). This experience will give you the practical skills to accompany your theoretical knowledge, and bring you a competitive edge in the job market.

Year 3 (Credit Level 6)

Subjects of study include: Advanced Web Technologies • Computer Forensics • Computer Security • Concurrent Programming • Formal Specification • Functional Programming • Platform Building and Native Application • Programming Language Translation • Project (double module) • Real-Time and Embedded Systems • Requirements Engineering • Service-Oriented Architecture • Software Quality, Performance and Testing

Year 4 (Credit Level 7) (MEng degree only)

Subjects of study include: Advanced Algorithms and Complexity • Computer Vision and Image Processing • Developing Technologies • Distributed Computer Systems • E-Application Development • Formal Methods • Industrial Group Project (double module) • Mobile Web • Software Systems Design and Development • Web Engineering

Length of course

Three-year, full-time; four-year, full-time sandwich; four-year, full-time with Foundation; up to eight years part-time

UCAS codes

MEng: G603
BEng: G600;
with Foundation G601

Location

Central London (Cavendish)

Teaching and assessment

The course is practice based, and includes substantial amounts of project and group work. It combines lecture, tutorial and practical laboratory elements. Formal exams are supported by continuous assessment.

Associated careers

You will possess knowledge of a range of technical subjects, and the ability to synthesize this knowledge to produce practical solutions to engineering requirements in a large number of application areas. You will typically be part of a team building software applications for business and industry.

For information about the Foundation year see p113.

Typical offer for September 2009

Qualification type	Grade/points
A Levels	MEng: BBB BEng: CCC
International Baccalaureate	MEng: 32 points BEng: 30 points
BTEC National Diploma	MEng: DDM BEng: MMM
Advanced Diploma	MEng: Grade B in IT or Engineering and relevant ASL at Grade B BEng: Grade B in IT or Engineering and relevant ASL at Grade C

See also entry requirements on p48.

Computing Foundation

If your results are just below the entry qualifications for our degrees, or you have an equivalent non-standard background, then this course is designed to improve your knowledge and skills to progress to any of the degree courses offered by the School. The course represents the Foundation year (Credit Level 3) of the modular scheme, and is an integral part of an extended range of BSc Honours degree courses in computer science. It provides an informal and adult environment in which you can acquire the confidence and skills to study effectively at degree level.

Course content

The course will provide you with an introduction to all major areas of computing together with the necessary mathematical background. Emphasis is placed on the development of your analytical and practical skills necessary to start one of our degree courses. Hands-on experience will enable you to become competent in the use of computers in a range of business and industrial applications.

Subjects of study include: Computer Programming • Computer Science • Games Design Project • Mathematics • Professional and Transferable Skills • Spreadsheets and Databases • Webpage Design

Length of course

One-year full-time, as the first year (Credit Level 3) of a full-time four- or five-year (sandwich) degree programme

UCAS codes

See individual course entries

Location

Both Central London (Cavendish) and Harrow

Teaching and assessment

You will study eight modules. Most modules include lectures provided each week. Tutorial seminar classes are also offered each week to provide a stimulating environment for you to work through examples and case studies, experiment with hands-on solutions in the labs, engage in group discussions, and gain immediate feedback and support from tutors. Course work is often based around written reports, laboratory practical tests, in-class theory tests, participation in group discussions, and individual and group project work. Some modules may include end of module exams.

Associated careers

Completion of this Foundation year course will allow you to progress on to one of the named computing degrees.

Typical offer for September 2009

Qualification type	Grade/points
A Levels	DEE/CD
International Baccalaureate	24 points
BTEC National Diploma/Certificate	MPP/MM
Advanced Diploma	Grade D in a relevant subject eg IT or Engineering

See also entry requirements on p48.