Programme Specification: Computer Science Foundation

UNIVERSITY OF WESTMINSTER

Course record information

Name and level of final award	• Bachelor of Science with Honours - Computer Science • Bachelor of Science with Honours - Software Engineering • Bachelor of Science with Honours - Business Computing • Bachelor of Science with Honours - Computer Games Development • Bachelor of Science with Honours - Data Science and Analytics • Bachelor of Science with Honours - Cyber Security and Forensics • Bachelor of Science with Honours - Creative Computing • Bachelor of Engineering with Honours - Software Engineering with Electronics The award is Bologna FQ-EHEA first cycle degree or diploma compatible
Name and level of intermediate awards	• Foundation Certificate (Fdn Cert) - Computer Science • Foundation Certificate (Fdn Cert) - Software Engineering • Foundation Certificate (Fdn Cert) - Business Computing • Foundation Certificate (Fdn Cert) - Computer Games Development • Foundation Certificate (Fdn Cert) - Data Science and Analytics • Foundation Certificate (Fdn Cert) - Cyber Security and Forensics • Foundation Certificate (Fdn Cert) - Creative Computing • Foundation Certificate (Fdn Cert) - Software Engineering with Electronics
Awarding body/institution	University of Westminster
Teaching institution	University of Westminster
Status of awarding body/institution	Recognised Body
Location of delivery	Primary: Central London
Language of delivery and assessment	English
QAA subject benchmarking group(s)	https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-computing.pdf?sfvrsn=ef2c881_10
Professional statutory or regulatory body	On completion of the full honours degree - British Computing Society (please see Page 5 for further details).

Westminster course title, mode of attendance and standard length	• BSc Computer Science FT, Full-time, September start - 4 years standard length • BEng Software Engineering FT, Full-time, September start - 4 years standard length • BSc Business Computing FT, Full-time, September start - 4 years standard length • BSc Computer Games Development FT, Full-time, September start - 4 years standard length • BSc Data Science and Analytics FT, Full-time, September start - 4 years standard length • BSc Cyber Security and Forensics FT, Full-time, September start - 4 years standard length • BEng Software Engineering with Electronics FT, Full-time, September start - 4 years standard length • BSc Creative Computing FT, Full-time, September start - 4 years standard length
Valid for cohorts	From 2025/6

Additional Course Information

This programme specification details only the foundation year (level 3) of the above 4-year courses. The final award is dependent on the student's chosen pathway, the programme specification for each award should be cross referenced for details on level 4-6.

Admissions requirements

There are standard minimum entry requirements for all undergraduate courses. Students are advised to check the standard requirements for the most up-to-date information. For most courses a decision will be made on the basis of your application form alone. However, for some courses the selection process may include an interview to demonstrate your strengths in addition to any formal entry requirements. More information can be found here: https://www.westminster.ac.uk/study/undergraduate/how-to-apply

Recognition of Prior Learning

Applicants with prior certificated or experiential learning at the same level of the qualification for which they wish to apply are advised to visit the following page for further information:

https://www.westminster.ac.uk/current-students/guides-and-policies/student-matters/recognition-of-prior-learning

Aims of the programme

This programme is part of a suite of undergraduate computer science and engineering courses which forms the foundation year (year 0) of an integrated four-year BSc/BEng degree in Computer Science, Software Engineering, Software Engineering with Electronics, Business Computing, Computer Games Design, Cyber Security and Forensics, Creative Computing and Data Science and Analytics.

The primary aim of the foundation year is to prepare students for further study at levels 4-6 on their chosen course by giving them a solid foundation in the knowledge and skills required to commence level 4 (year 1 undergraduate). It is recognised that students commencing study at foundation level will not have the requisite qualifications or standard required for admissions at level 4 or may be returning to study after a long break.

The Computer Sciences and Engineering Foundation course will produce students ready for level 4 who;

1. are well informed on, and have a secure comprehension of, appropriate aspects of computer science and computer systems engineering,
2. are proactive and confident independent learners;

3. can integrate information from a variety of disciplines;
4. possess practitioner and career-related skills;
5. have a clear view of future study and career opportunities open to them after graduation;
6. are acculturated into the discipline and practices of higher education.

EDI Statement

The principles of Equality, Diversity and Inclusivity lay at the heart of the Computer Science and Engineering Foundation Programme.

This programme offers an opportunity for students from non-traditional academic backgrounds, to access a Bachelors Level degree in the Computer Science and Software Engineering discipline.

The course design ensures that you will have a learning experience that is flexible, respects diversity, encourages active participation and considers students varying needs. For example, the course will encourage and enable you to tailor your learning according to your career ambitions, cultural identity and individual aspirations by allowing you to choose a final year project specialisation within the broad area of computer science, express your own unique evidenced based views of various societal and ethical issues, develop your own practical solutions to a given problem set and select option modules that will enable you to specialise or gain greater confidence in various application areas of computer science. Through this myriad of opportunities and choices the course will equip you with the technical and employability skills required to work in a changing and diverse world. Above all you should be reassured that the course team aims to eliminate all arbitrary barriers to your learning and to work with you to achieve your best outcome.

The learning methods employed by the BSc Computer Science course are underpinned by three key principles.

These are:

- Provision of a learning environment, both physical and digital, that is equitable, diverse and inclusive and which allows you to learn flexibly with materials that will be available to you in a number of learning context and at anytime such as mobile and home environments;
- Provision of a supportive and safe learning environment, based on mutual trust and respect, where students are empowered to act as partners in their transformative learning experiences;
- Provision of a forward-looking course curriculum that is work-place relevant, current and authentic.
- Practically, you will see this working in the following ways, for example:
- Teaching materials are, where possible, designed to be inclusive for all.
- The active development of mutual trust and respect between students and between staff and students;
- The celebration and encouragement of diversity through the core delivery of the course and extra-curricular activities;
- A curriculum that is current, global in outlook and targeted at application areas that address real-world challenges.
- Being a technical discipline, or formal Science, the discipline specific modules do not include scope for areas in which conflict between persons of protected characteristics can occur.
- By encouraging students to recognise that the Computer Science technology does not discriminate, this encourages students to likewise not discriminate between each other, furthermore they all actually have multiple things in common.

Employment and further study opportunities

University of Westminster graduates will be able to demonstrate the following five Graduate Attributes:

- Critical and creative thinkers
- Literate and effective communicator
- Entrepreneurial
- Global in outlook and engaged in communities
- Social, ethically and environmentally aware

University of Westminster courses capitalise on the benefits that London as a global city and as a major creative, intellectual and technology hub has to offer for the learning environment and experience of our students.

Successful Foundation students' progress to BEng/BSc programmes within the University of Westminster or other institutions of higher education and thus gain valuable degrees in their chosen areas of interest. Inclusion within the curriculum of activities which support the development of 'Graduate Attributes' is an acknowledgement that future long-term career success is dependent upon several generic factors which support discipline specific knowledge in creating effective professional practitioners. University of Westminster courses capitalise on the benefits that London as a global city and as a major creative, intellectual and technology hub has to offer for the learning environment and experience of our students.

What will you be expected to achieve?

Learning outcomes are statements on what successful students have achieved as the result of learning. These are threshold statements of achievement the learning outcomes broadly fall into four categories:

- The overall knowledge and understanding you will gain from your course (KU)
- Graduate attributes are characteristics that you will have developed during the duration of your course (GA)
- Professional and personal practice learning outcomes are specific skills that you will be expected to have gained on successful completion of the course (PPP)
- Key transferable skills that you will be expected to have gained on successful completion of the course. (KTS)

Level 3 course learning outcomes: upon completion of Level 3 you will be able to:

- L3.1 Recognize and employ appropriate mathematical, computational and scientific skills to solve simple but realistic problems in computer science and engineering (Foundation Mathematics, Programming, Information Systems and Data Representations) (KU PPP)
- L3.2 Demonstrate good understanding of fundamental facts, major concepts and theories associated with computer science, including understanding of technology related to computer systems and networks (Computer Systems and Networks, Programming) (KU PPP)
- L3.3 Identify, and use with due regard for quality and validity, a variety of information sources (Information Systems and Data Representations) (KTS)
- L3.4 Given prescribed methods, design, implement, debug and test simple programs in a high-level language (Critical Thinking for in a Changing World, Introduction to Academic Practice) (GA KTS)
- L3.5 Demonstrate competence in appropriate interpersonal and team-working skills (Critical Thinking in a Changing World and Introduction to Academic Practice) (PPP KTS)
- L3.6 Communicate clearly, ideas, concepts and numerical and technical information via appropriate means (Foundation Mathematics, Critical Thinking in a Changing World, Introduction to Academic Practice) (GA KTS)

How will you learn?

Learning methods

Self-directed and tutor-directed indepedent study forms a significant part of the learning experience. Computer laboratory based practicals will begin to develop the necessary 'hands-on' skills required of competent practitioners within the chosen discipline. Some students on the Foundation programme are returning to study after a period of time, and the Personal Tutorial System will provide additional opportunities for students to develop or enhance appropriate study skills and to gain the confidence required to make the transition to higher education.

Teaching methods

The learning and the teaching of the course relies on a mixture of face-to-face teaching and tutorial sessions using both didactic and student-centred styles. This strategy is appropriately supported with technology-enhanced learning where applicable to encourage mastery of the knowledge base. Much of the learning activities of the course rely on a blended approach which mixes classroom-based activities with on-line study material. Planned learning activities relate directly to the stated learning outcomes which have been defined to reflect both subject-related knowledge, intellectual and manual or practical skills along with an awareness of the professional and ethical contexts within which disciplines must operate. In addition to the formal programmed teaching & learning sessions, the School operates a series of research seminars and 'academic conversations' given by invited expert speakers or staff from within the university. Attendance at such events allows all students within the School the chance to learn about cutting-edge research and scientific developments.

Assessment methods

In order for students to demonstrate that they have met the course learning outcomes the foundation course offers a variety of assessment which aim to allow students to evidence their skills and knowledge via written and oral means. Typically, the diet of assessments for a module consists of two or three summative exercises. The assessment menu will consist of individual work including in class tests, reports, laboratory based exercises and data-based exercises. Suitably well-chosen integrative assignments will help to ensure continuity of learning across disciplines. All modules are assessed via coursework only. Attempting assessments is not just a means to determine attainment but also a learning opportunity. Thus, formative (practice) assessments, including 'mock' assessment and exercises, self-assessment tests and monitoring by tutors of continuous activities will help students to undertake their own evaluation of their command of the material and so adapt their learning strategy according to need.

Graduate Attribute	**Evident in Course Outcomes**
Critical and creative thinker	L3.1, L3.3, L3.4
Literate and effective communicator	L3.3, L3.5
Entrepreneurial	L3.5
Global in outlook and engaged in communities	L3.5, L3.6
Socially, ethically and environmentally aware	L3.2

Course Structure

This section shows the core and option modules available as part of the course and their credit value. Full-time Undergraduate students study 120 credits per year. Course structures can be subject to change each academic year following feedback from a variety of sources.

Modules are described as:

- **Core** modules are compulsory and must be undertaken by all students on the course.
- **Option** modules give you a choice of modules and are normally related to your subject area.
- **Electives**: are modules from across the either the whole University or your College. Such modules allow you to broaden your academic experience. For example, where electives are indicated you may choose to commence the study of a foreign language alongside your course modules (and take this through to the final year), thereby adding further value to your degree.
- Additional information may also be included above each level for example where you must choose one of two specific modules.

Modules

Level 3

Note the module 3COS004W Foundations Mathematics must be passed (cannot be condoned) to progress to level 4.

Module Code	Module Title	Status	UK credit	ECTS
3COSC006W	Computer Systems and Networks	Core	20	10
3ACHE004W	Critical Thinking in a Changing World	Core	20	10
3COSC004W	Foundation Mathematics	Core	20	10
3COSC007W	Information Systems and Data Representation	Core	20	10
3ACHE003W	Introduction to Academic Practice	Core	20	10
3COSC005W	Programming	Core	20	10

Please note: Not all option modules will necessarily be offered in any one year. In addition, timetabling and limited spaces may mean you cannot register for your first choice of option modules.

Professional body accreditation or other external references

While not applicable to Level 3, the foundation year is part of the following extended degree qualification of the following courses, which fulfil the educational requirements of the BCS for the CITP and partial CEng accreditation:

- BSc (Honours) Computer Science
- BEng (Honours) Software Engineering
- BSc (Honours) Computer Games Development
- BSc (Honours) Business Computing
- BSc (Honours) Data Science and Analytics

Due to a 5 year accreditation timeline, the following courses will be considered for accreditation in 2027:

- BSc (Honours) Cyber Security and Forensics
- BEng (Honours) Software Engineering with Electronics
- BSc (Honours) Creative Computing

The British Computer Society (BCS) professional accreditation ensures independent validation that the course meets high standards set by the profession. It also benchmarks the course against those of other institutions both nationally and internationally and supports the continued improvement of the course, highlighting areas of best practice across institutions. Being on an accredited course provides a pathway to professional registrations such as Chartered IT Professional (CITP), Chartered or Incorporated Engineer (CEng/IEng) and Registered IT Technician (RITTech).

Course management

Your course is managed through the School of Computer Science and Engineering within the College of Design, Creative and Digital Industries. The Course Leader and the teaching team will meet you in the induction programme and can help you with enrolment, registration, and orientation to the university, its processes and the culture of higher education. The Course Leader is responsible for development and management of the course in conjunction with the Head of School and the School Learning & Teaching co-ordinator.

The course is monitored each year by senior members of the College to ensure that it is running effectively and that issues that might affect the student experience have been appropriately addressed. Staff will consider the outcomes from Student Staff Exchange (SSE) meetings, evidence of student progression and achievement to evaluate the effectiveness of the course.

Academic regulations

The current Handbook of Academic Regulations is available at westminster.ac.uk/academic-regulations.

Course specific regulations apply to some courses.

Academic Support

Upon arrival, an induction programme will introduce you to the staff responsible for the course, the campus on which you will be studying, the Library and IT facilities, additional support available and to your Campus Registry. You will be provided with the Course Handbook, which provides detailed information about the course. Each course has a course leader or Director of Studies. All students enrolled on a full-time course and part time students registered for more than 60 credits a year have a personal tutor, who provides advice and guidance on academic matters. The University uses a Virtual Learning Environment called Blackboard where students access their course materials, and can communicate and collaborate with staff and other students. Further information on Blackboard can be found at https://www.westminster.ac.uk/current-students/studies/your-student-journey/when-you-arrive/blackboard

The Academic Learning Development Centre supports students in developing the skills required for higher education. As well as online resources in Blackboard, students have the opportunity to attend Study Skills workshops and one to one appointments. Further information on the Academic Learning Development Centre can be found at westminster.ac.uk/academic-learning-development.

Learning support includes four libraries, each holding a collection of resources related to the subjects taught at that site. Students1 can search the entire library collection online through the Library Search service to find and reserve printed books, and access electronic resources (databases, e-journals, e-books). Students can choose to study in the libraries, which have areas for silent and group study, desktop computers, laptops for loan, photocopying and printing services. They can also choose from several computer rooms at each campus where desktop computers are available with the general and specialist software that supports the courses taught in their College. Students can also securely connect their own laptops and mobile devices to the University wireless network.

Support Services

The University of Westminster Student and Academic Services department provide advice and guidance on accommodation, financial and legal matters, personal counselling, health and disability issues, careers, specialist advice for international students and the chaplaincy providing multi-faith guidance. Further information on the advice available to students can be found at https://www.westminster.ac.uk/student-advice

The University of Westminster Students' Union also provides a range of facilities to support students during their time at the University. Further information on UWSU can be found at https://www.westminster.ac.uk/students-union

How do we ensure the quality of our courses and continuous improvement?

The course was initially approved by a University Validation Panel. University Panels normally include internal peers from the University, academic(s) from another university. a representative from industry and a Student Advisor.

The course is also monitored each year by the College to ensure it is running effectively and that issues which might affect the student experience have been appropriately addressed. Staff will consider evidence about the course, including the evidence of student surveys, student progression and achievement and reports from external examiners, in order to evaluate the effectiveness of the course and make changes where necessary.

A Course revalidation takes place periodically to ensure that the curriculum is up-to-date and that the skills gained on the course continue to be relevant to employers. Students meet with revalidation panels to provide feedback on their experiences. Student feedback from previous years is also part of the evidence used to assess how the course has been running.

How do we act on student feedback?

Student feedback is important to the University and student views are taken seriously. Student feedback is gathered in a variety of ways.

- Through student engagement activities at Course/Module level, students have the opportunity to express their voice in the running of their course. Course representatives are elected to expressly represent the views of their peers. The University and the Students' Union work together to provide a full induction to the role of the course representatives.

- There are also School Representatives appointed jointly by the University and the Students' Union who meet with senior School staff to discuss wider issues affecting student experience across the School. Student representatives are also represented on key College and University committees.;
- All students are invited to complete a questionnaire before the end of each module. The feedback from this will inform the module leader on the effectiveness of the module and highlight areas that could be enhanced.
- Final year Undergraduate students will be asked to complete the National Student Survey which helps to inform the national university league tables.

This programme specification provides a concise summary of the main features of the course and the learning outcomes that a student might reasonably be expected to achieve and demonstrate, if they take full advantage of the learning opportunities that are provided. This specification is supplemented by the Course Handbook, Module proforma and Module Handbooks provided to students.

Additional Details

The course outcomes described earlier are addressed in the below modules

Learning Outcome	Modules where addressed
L3.1	Foundation Mathematics, Programming, Information Systems and Data Representations
L3.2	Computer Systems and Networks, Programming
L3.3	Information Systems and Data Representations, 3ACHE004W
L3.4	Programming, Information Systems and Data Representations
L3.5	Critical Thinking in a Changing World, Introduction to Academic Practice
L3.6	Foundation Mathematics, Critical Thinking in a Changing World, Introduction to Academic Practice

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