UNIVERSITY OF LEADING THE WAY WESTMINSTER

PROGRAMME SPECIFICATION

Course record information

Name and level of final award	**BEng (Honours) Smart Computer Systems** **BEng (Honours) Smart Computer Systems with Industrial Experience** The BEng (Honours) Smart Computer Systems is a BEng (Hons) degree that is Bologna FQ-EHEA first cycle degree or diploma compatible.
Name and level of intermediate awards	Diploma of Higher Education in Smart Computer Systems Diploma of Higher Education in Smart Computer Systems with Industrial Experience Certificate of Higher Education in Smart Computer Systems
Awarding body/institution	University of Westminster
Teaching Institution	University of Westminster
Status of awarding body/institution	Recognised Body
Location of delivery	Central London
Language of delivery and assessment	English
Mode, length of study and normal starting month	Three years, full time, September start OR Four years, full time with Industrial Experience, September start.
QAA subject benchmarking group(s)	QAA subject benchmark for Computing British Computer Society guidelines on accreditation
Professional statutory or regulatory body	British Computer Society (BCS) Pending approval
Date of course validation/ Revalidation	2019
Date of programme specification approval	September 2019
Valid for cohorts	2020/21
Course Leader	Katerina Christofylaki
UCAS code and URL	westminster.ac.uk/courses/undergraduate

Westminster course code	BECON06F
HECoS code	100162
UKPASS code (PG only)	

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: westminster.ac.uk/courses/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: *westminster.ac.uk/recognition-of-prior-certified-learning*.

Aims of the course

The BEng Honours programme in Smart Computer Systems has been designed to equip students with the knowledge and skills as well as embracing the structure, design and efficient operation of the modern-day computer system engineering through a multitude of embedded platforms, peripheral devices, associated operational, supervisory and networking software. It has been designed to meet the demand from employers for graduates with hardware and software engineering skills and know-how. In particular, it is targeted towards the rapidly growing and changing technologies involving embedded systems, sensors, wireless networks and Internet-of-Things (IoT) ecosystems.

The supplementary aims of the industrial experience mode of attendance are to provide graduates with relevant workplace experience and to launch their initial professional development.

The programme aims to:

- provide an exciting, enjoyable and rewarding learning experience which will serve as a solid foundation for a professional engineering career leading eventually to registration as a Chartered IT Professional (CITP) and a Chartered Engineer (CEng);
- encourage initiative and confidence in approaching engineering problems and adoption of an investigative approach to their solution using a blend of analytical and practical skills;
- develop skills in presentation of technical work, the interpersonal and organisational requirements associated with carrying out an engineering project, and an appreciation of the industrial and social context of the technology;
- give an understanding of the role and responsibilities of the professional engineer to society (socially and ethically) and to the environment;
- engender the communication and interpersonal skills necessary for operation in a professional engineering environment and to provide an education that allows graduates to adapt the future changes in technology.

In addition to the aims listed above, this programme specifically aims to:

- equip students with knowledge and understanding of modern computer architectures and peripherals, real-time programming maintenance and design of computer systems;
- establish knowledge and understanding of the principles underpinning computer systems, smart/autonomous/intelligent systems, embedded systems, operating systems, real-time systems and the Internet-of-Things;
- develop the skills required for developing and adapting modern day computer systems, in software and hardware;
- empower students to apply this knowledge and skills to a range of practical situations to resolve business and engineering problems and to encourage a disciplined and professional attitude towards the development of such systems.

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 and they 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 4 course learning outcomes: upon completion of level 4 you will be able to:

L4.1 Apply software design principles and methodology to the design and implementation of software systems (KU, KTS, GA);

L4.2 Design, implement, debug and test, simple programs in high-level and low-level languages given prescribed methods (KU, PPP, GA);

L4.3 Represent in words, mathematics and diagrams electronic, software and mathematical concepts, and use these in the description and analysis of simple systems (KU, KTS);

L4.4 Demonstrate a knowledge and understanding of current technology in computer systems, communications, applications and techniques as taught (KU, GA);

L4.5 Analyse simple real-world problems and synthesise appropriate solutions using given engineering techniques including the gathering and assimilation of information as directed and apply it as instructed (KU, KTS, GA);

L4.6 Work and manage learning required for structured group tasks, given direction and guidance, collaborating in the production of practical products and documentation and keeping to set deadlines (GA, KTS);

L4.7 Communicate technical information correctly, by means of presentations, written reports, appropriate diagrams and discussion (KTS, GA).

Level 5 course learning outcomes: upon completion of level 5 you will be able to demonstrate:

L5.1 Apply mathematical laws & knowledge of current technology, applications, standards and techniques, to specify, select and configure sensors and computer system interfaces (KU, PPP, GA);

L5.2 Demonstrate an awareness of the industrial and social context of computer system engineering (KU, GA);

L5.3 Analyse and apply given real-world requirements and synthesise appropriate solutions from standard engineering techniques (GA, KTS);

L5.4 Adopt a structured approach to an engineering problem, thus making decisions selecting from well-defined methods, design, implement, debug and test systems, computer networks and programs (PPP, KU, GA);

L5.5 Gather and assimilate information, with some guidance, and apply it appropriately and then communicate complex technical information succinctly and accurately, by means of presentations, written reports, appropriate diagrams and discussion (KTS, GA);

L5.6 Work on structured group tasks, collaborating in the production of complex practical products and documentation (PPP, GA);

L5.7 Explain knowledge of and demonstrate familiarity with the commercial, economic and social context of engineering, including environmental and sustainability limitations, health and safety and risk-assessment issues as well as management techniques and ethical considerations (KU, GA).

Level 6 course learning outcomes: upon completion of level 6 you will be able to demonstrate:

L6.1 Gather and assimilate information independently specific to a given engineering problem, choose and formulate cost and effectiveness of a given set of solutions, and then select and implement the most viable solution based on specific constraints, including environmental and sustainability limitations, health and safety and risk-assessment issues (GA, PPP);

L6.2 Critically analyse solutions for the design of real-time and embedded systems along with IoT, to user requirements in the context of industry codes-of-practice, social, environmental and ethical implications (GA, KTS);

L6.3 Apply a strong understanding of the mechanisms and design of modern day embedded systems and their relation to contemporary architectures to the selection and configuration of computer systems (KU, GA);

L6.4 Design, develop, interface and provide the necessary software and/or hardware solutions for a given computer system and be able to critically evaluate the resultant solution in conjunction with published solutions (KU, KTS, GA);

L6.5 Critically assess published material, solutions and to formulate arguments and solutions to problems and then effectively communicate the complex technical information succinctly and accurately, by means of presentations, written reports, appropriate diagrams and discussion (PPP, KTS, GA);

L6.6 Deploy engineering and computing skills with fluency, applying practical engineering skills, combining theory and experience, and use of other relevant knowledge and skills including project-management, time-scheduling and ethical considerations (GA, PPP, KTS).

The learning and the teaching of the course

How will you learn?

The principal aim of your course is to equip you for professional life, or higher study, relevant to your current programme of study. Your course is a collection of learning opportunities and teaching and learning methods are directly related to the aims and learning outcomes identified above. The course consists of a number of modules at each level. These are the building blocks of your course. Each module consists of a number of learning activities over a number of weeks designed to help you achieve the knowledge and skills related to a particular subject area.
The fundamental principle underlying the learning process and teaching methods used on this course is “learning through practice”. That is, in order to learn and understand the engineering skills and techniques required, students need to acquire skills through doing. This learning-through-practice approach applies to both practical skills, which you will learn through project and laboratory work as well as to analytical skills, which you will learn by applying taught principles to problem-solving tasks often involving the use of appropriate software tools for simulation and design.

In order to be effective, we tailor our teaching methods to both the diversity of the subject matter as well as the diversity of students’ optimal learning preferences. The range of teaching methods you will experience includes:

- Lecture / seminar sessions
- Projects (group and individual)
- Laboratories and computer-aided engineering
- Problem sheets, investigations and design
- Online learning

The above techniques will be far more effective if they are coupled with independent study time where you will take more control of your own learning and give you the framework that will help you to keep on learning without supervision.

You will undertake a mandatory work-based learning component which follows the University’s Employability Strategy with the aim of engendering: impact of engineering designs, factors affecting products and engineering, engineering ethics, professional Code of Conduct & applied professionalism, finance and accounting, marketing and project management. This will be developed through real-life project briefs or case studies, normally provided by an organisation, giving you the opportunity to engage with employers and use your knowledge and skills to solve a real-life industrial problem.

Also, should students wish, there is the option of taking a year in industry (work placement) as part of the course which will give you the opportunity to practice and enhance your learning experience.

Lecturers provide online written and verbal feedback on students' work throughout the course and feedback may be given individually or to the class collectively.

Overall, this course builds on a select number of tightly interrelated themes; knowledge and skills feed across from one topic to another creating a holistic, synoptic learning experience.

How will you be assessed?

The modules in comprising this course share a common assessment strategy. As well as ensuring that students have met the learning outcomes per module, assessment will, where possible and appropriate, be:

- formative (helping students to learn – evaluation of current knowledge);
- rigorous (for correct and efficient solutions);
- challenging (requiring deep understanding and analytical ability);
- workplace relevant (tasks directly relating to industry and skills valued by employers);

A wide variety of assessment methods are used, including such diverse elements as:

<table>
<tr><th></th><th>Some formative elements of the assessment</th></tr>
<tr><td>• In-class tests</td><td>providing self-appraisal of technical expertise as well as valuable pointers to good exam technique</td></tr>
<tr><td>• Group work</td><td>developing team working skills</td></tr>
<tr><td>• Laboratories</td><td>developing essential practical skills</td></tr>
<tr><td>• Viva-voce examinations</td><td rowspan="3">developing oral and written communication skills</td></tr>
<tr><td>• Written reports</td></tr>
<tr><td>• Presentations and posters</td></tr>
<tr><td>• Computer-based quizzes and exercises</td><td rowspan="3">developing computer-based engineering skills</td></tr>
<tr><td>• Design and implementation of hardware and software</td></tr>
<tr><td>• Analysis, testing and modification of existing hardware or software</td></tr>
<tr><td>• Formal examinations</td><td>summative</td></tr>
</table>

Employment and further study opportunities

The course offers a short-term work-based learning experience by providing you with an opportunity to work on a real-life problem which is normally set by an external organisation as a small-scale project.
This project forms a part of the assessment in a designated module called 5ELEN008W Professional Engineering Practice. This module provides the structure for your learning and receiving support from the module team. You will work on the project on your own and/or as part of a small team within and outside the class. During this time, you may also get a chance to interact with the organisation that has set the project. The quality of the work that you produce for the project get assessed as part of the module's assessment.
This experience will allow you to put theory into practice by applying your knowledge and skills gained from various modules to address a real-life situation, usually within the context of a business-related problem. Furthermore, this experience will help you develop subject-specific technical skills as well as certain employability skills such as leadership, organisation and commercial awareness.

In addition. this course gives you with the opportunity to take a year in industry (work placement) after completing the second year of your study and gain work experience, increasing your chances of employability after graduation. You will be offered help and support to find and secure placement opportunities through various workshops and events organised by the Career Development Centre and the course team. Typically you will be assigned into roles involving tasks related to software and/or hardware computer engineering.

As a graduate of University of Westminster, you shall be expected 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.

Today's employers are looking for graduates who combine together a good degree, technical and programming expertise as well as the right interpersonal and team working skills relevant to the workplace.
The BEng Smart Computer Systems provides:

- Career development skills, embedded in all levels;
- Opportunities for part-time work, placements and work-related learning activities;
- Staff continue to widen and strengthen the University's links with employers in all sectors, involving them in curriculum design and encouraging their participation in other aspects of the University's career education and guidance provision.

In brief, our graduates will be distinctive in being:

- **Critical and creative thinkers:** be active problem-solvers who use a range of approaches to plan and implement a course of action in the field of computer networks

and security, actively seeking to make connections across the field and make informed decisions and adapt their understanding in unfamiliar settings.

- **Literate and effective communicators:** be competent in the key technologies associated with the field of computer networks and security

- **Entrepreneurial:** be aware of industrial standards and trends, show openness to new ideas and be resilient and adaptable to changes within the context of computer network security.

- **Global in outlook and community engaged:** recognise the potential impact of economic, social and cultural differences when working, both locally and internationally.

- **Socially, environmentally and ethically aware:** understand sustainability as a dynamic concept, respect the fundamental principle of ethical practice based on honesty and integrity and recognise the finite nature of resources.

In order to develop student's graduate attributes for employment, the course builds around three themes: software/hardware programming, wireless connectivity and networking and smart technologies. Students will be exposed to a number of programming opportunities for a multitude of platforms and operating systems; will acquire excellent knowledge of networking, client/server programming, socket programming and be knowledgeable of the latest developments of Internet of Things (IoT) ecosystems, wireless networks and smart technologies such as robotics, machine learning and artificial intelligence.

Upon completion of the course you will become a high quality graduate able to work as: a computer engineer, a system/embedded system engineer, software engineer, and computer network engineer. The demand for computer engineers is growing due to a surge in electronic records, wireless technology, data processing and information security. Computer engineers are responsible for developing, testing and evaluating software either for computer systems and/or software for controlling and connecting various devices and machines that are different from traditional computers.

Also, systems engineers monitor the performance of systems, control a variety of processes and continually assess all stages of operations to ensure that a problem is solved and may work in virtually any industry, from software development and robotics to other parts of engineering.

Like software engineers, embedded engineers code, debug, test and write corresponding documentation, work largely with hardware, and often need to develop or configure a custom based operating system unique to hardware and even memory.

Graduates shall also be capable and prepared for continuing their education for postgraduate studies.

	Graduate Attributes	Level 4 course LOs	Programming Methodology I	Programming Methodology II	Computer Organisation & Digital Systems	Applied Mathematics	Microcontroller project	Communication Principles
KU, KTS	Critical and creative thinkers	L4.1 Apply software design principles and methodology to the design and implementation of software systems	✓	✓			✓	
KU, PPP	Critical and creative thinkers	L4.2 Design, implement, debug and test, simple programs in high-level and low-level languages given prescribed methods	✓	✓			✓	
KU KTS		L4.3 Represent in words, mathematics and diagrams electronic, software and mathematical concepts, and use these in the description and analysis of simple systems	✓	✓	✓	✓	✓	✓
KU PPP	Critical and creative thinkers, Entrepreneurial	L4.4 Demonstrate a knowledge and understanding of current technology in computer systems, communications, applications and techniques as taught			✓		✓	✓
KU, KTS	Socially and ethically aware	L4.5 Analyse simple real-world problems and synthesise appropriate solutions using given engineering techniques including the gathering and assimilation of information as directed and apply it as instructed		✓	✓		✓	✓
KTS	Literate and effective communicators	L4.6 Work and manage learning required for structured group tasks, given direction and guidance, collaborating in the production of practical products and documentation and keeping to set deadlines	✓	✓			✓	✓
KTS	Literate and effective communicators	L4.7 Communicate technical information correctly, by means of presentations, written reports, appropriate diagrams and discussion					✓	

	Graduate Attributes	Level 5 course LOs	Sensors & Interfaces	Network Software Engineering	Embedded system project	Robotic Principles	Professional Engineering Practice
KU, PPP	Critical and creative thinkers	L5.1 Apply mathematical laws & knowledge of current technology, applications, standards and techniques, to specify, select and configure sensors and computer system interfaces	✓	✓	✓	✓	✓
KU	Entrepreneurial, socially and environmentally aware	L5.2 Demonstrate an awareness of the industrial and social context of computer system engineering	✓		✓	✓	✓
KTS	Entrepreneurial, socially and ethically aware, global outlook and community engaged	L5.3 Analyse and apply given real-world requirements and synthesise appropriate solutions from standard engineering techniques	✓	✓	✓	✓	✓
KU, PPP	Critical and creative thinkers, be ethically and environmentally aware	L5.4 Adopt a structured approach to an engineering problem, thus making decisions selecting from well-defined methods, design, implement, debug and test systems, computer networks and programs	✓	✓	✓	✓	
KTS	be literate and effective communicators, be environmentally and ethically aware	L5.5 Gather and assimilate information, with some guidance, and apply it appropriately and then communicate complex technical information succinctly and accurately, by means of presentations, written reports, appropriate diagrams and discussion	✓		✓	✓	✓
PPP	Literate and effective communicators	L5.6 Work on structured group tasks, collaborating in the production of complex practical products and documentation		✓	✓	✓	✓

KU	Literate and effective communicators and be socially, ethically and environmentally aware	L5.7 Explain knowledge of and demonstrate familiarity with the commercial, economic and social context of engineering, including environmental and sustainability limitations, health and safety and risk-assessment issues as well as management techniques and ethical considerations			✓		✓

	Graduate Attributes	**Level 6 course LOs**	**Individual project**	**Internet-of-Things**	**Real Time Embedded Systems**
PPP	Critical and creative thinkers, entrepreneurial and environmentally aware	L6.1 Gather and assimilate information independently specific to a given engineering problem, choose and formulate cost and effectiveness of a given set of solutions, and then select and implement the most viable solution based on specific constraints, including environmental and sustainability limitations, health and safety and risk-assessment issues	✓	✓	✓
KTS	Entrepreneurial, socially, ethically and environmentally aware	L6.2 Critically analyse solutions for the design of real-time and embedded systems along with IoT, to user requirements in the context of industry codes-of-practice, social, environmental and ethical implications	✓	✓	✓
KU	Critical and creative thinkers, literate and effective communicators	L6.3 Apply a strong understanding of the mechanisms and design of modern-day embedded systems and their relation to contemporary architectures to the selection and configuration of computer systems	✓	✓	✓
KU, KTS	Critical and creative thinkers, socially, ethically and environmentally aware with a global outlook	L6.4 Design, develop, interface and provide the necessary software and/or hardware solutions for a given computer system and be able to critically evaluate the resultant solution in conjunction with published solutions	✓	✓	✓

KTS, PPP	Critical and creative thinkers, literate and effective communicators	L6.5 Critically assess published material, solutions and to formulate arguments and solutions to problems and then effectively communicate the complex technical information succinctly and accurately, by means of presentations, written reports, appropriate diagrams and discussion	✓	✓	✓
KTS, PPP	Entrepreneurial, critical thinkers	L6.6 Deploy engineering and computing skills with fluency, applying practical engineering skills, combining theory and experience, and use of other relevant knowledge and skills including project-management, time-scheduling and ethical considerations	✓	✓	✓

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.

Credit Level 4				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
4NTCM004W	Programming Methodology I	Core	20	10
4NTCM005W	Programming Methodology II	Core	20	10
4ELEN002W	Computer Organisation & Digital Systems	Core	20	10
4ELEN010W	Applied Mathematics	Core	20	10
4ELEN007W	Microcontroller project	Core	20	10
4NTCM003W	Communication Principl**es**	Core	20	10
Award of Certificate of Higher Education available				
Credit Level 5				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
5ELEN010W	Sensors & Interfaces	Core	20	10
5ELEN004W	Embedded systems project	Core	20	10
5NTCM003W	Network Software Engineering	Core	20	10
NEW	Robotic Principles	Core	20	10
5ELEN008W	Professional Engineering Practice	Core	20	10
5ELEN006W	Operating Systems	Option	20	10
5NTCM002W	Threats & Countermeasures	Option	20	10
5DATA002W	Machine Learning & Data Mining	Option	20	10
Award of Diploma of Higher Education available				
*5ELEN014W	*Industrial Placement Year	Core		
Credit Level 6				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
6ELEN012W	Individual project	Core	40	20
NEW	Internet-of-Things	Core	20	10
6ELEN008W	Real Time Embedded Systems	Core	20	10
6NTCM001W	Applied Distributed System Programming	Option	20	10
6ELEN013W	Operating Systems & Drivers	Option	20	10
NEW	Applied Robotics	Option	20	10
6NTCM002W	Enterprise networks	Option	20	10
NEW	Applied AI	Option	20	10
Award of BEng available **Award of BEng Honours available** ***When 5ELEN014W is taken award of BEng /BEng Honours with Industrial Experience available**				

One Westminster Elective module may also be chosen as an alternative to an option at level 5 and level 6.

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

Professional Body Accreditation or other external references

The course is intended to fulfil the educational requirements of the British Computer Society (BCS) to fulfil the educational requirements registration as a Chartered IT Professional (CITP) and partial Chartered Engineer (CEng). Accreditation from Professional Bodies is being sought but pending.

The course has been designed with reference to:

QAA Subject Benchmark for Computing

QAA Guidelines for Preparing Programme Specifications

SEEC Credit Level Descriptors for Further and Higher Education

Academic regulations

The current Handbook of Academic Regulations is available at:
westminster.ac.uk/academicregulations

However, this course may have specific regulations to comply with professional body accreditation which should be read in conjunction with Section 17 Framework for Undergraduate Courses of the Handbook of Academic Regulations. Any course specific regulations will be outlined in the course handbook provided to students on enrolment.

How will you be supported in your studies?

Course Management

The BSc (Honours) Computer Network Security is under the School of Computer Science and Engineering and the management structure supporting the course is as follows:

- Katerina Christofylaki, the Course Leader is responsible for day to day running and overall management of the course and development of the curriculum;
- Philip Trwoga, Head of School holds academic responsibility for the course and other courses within the School;
- Jonathan Stockdale, Pro Vice-Chancellor and Head of the College of Design, Creative and Digital Industries, holds overall responsibility for the course, and for the other courses run by the College.

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 westminster.ac.uk/blackboard.

You will be allocated a personal tutor at the beginning of your studies who will support you throughout your student journey easing the transition into Higher Education through to higher levels of study.

Academic and Personal tutoring involves fostering academic partnerships, with mutual expectations, between tutors and students. Tutors will provide proactive, personalised academic and pastoral support to help your academic, personal and professional development. We see students as co-creators in this academic partnership taking responsibility for their own development by fully engaging with tutoring arrangements to optimize their learning experience.

As such, you will have scheduled mandatory, individual meetings with your tutor who will provide you with regular feedback on your academic progress. Tutors can also advise you on the educational coherence of your module choice, assessment procedures, regulations and University structures, and educational support needs advising on appropriate provision available.

You will also have continuous pastoral support throughout your time at University and can see your tutor either by appointment or in designated office hours. Your tutor can provide a link to specialist support available through University Services and refer you for more specialised pastoral guidance as appropriate to the School Senior Tutor, Disability Services, Counselling Services, Registry and/or other Services for Students. It is important that you seek and ask for advice earlier rather than later.

More information is available from the Student Hub on Personal Tutoring which can be found at: https://www.westminster.ac.uk/current-students/support-and-services/personal-tutors

Learning Support

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. Students[1] 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.

Careers Support

From the very start of your studies, the Careers and Employability Services department is committed to supporting your career progression by offering a wide range of developmental opportunities, combined with up to date, tailored careers information, advice and guidance.
Our experienced careers staff are able to work with you to reflect on your career goals and plan how to get the most from your time at the University of Westminster, to access a range of work based learning opportunities including work experience, part-time jobs, volunteering

and mentoring, before supporting your transition into employment with personalised job hunting, CV, application and interview advice.
The University uses an online management system called Engage, which offers access to a variety of events and activities led by employers and careers and employability staff, extensive part-time, work experience and graduate vacancy lists, comprehensive careers information and advice and one to one careers appointments. These services are also available to you for up to 3 years after you graduate.

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 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 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 in 2015**.** The panel included internal peers from the University, academic(s) from another university and a representative from industry. This helps to ensure the comparability of the course to those offered in other universities and the relevance to employers.

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.

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. Student 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 student representatives.

- There are also School Staff Student Exchange meetings that enable wider discussions 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.