UNIVERSITY OF LEADING THE WAY WESTMINSTER

PROGRAMME SPECIFICATION

Course record information

Name and level of final awards:	**BEng Honours Computer Systems and Robotics** **BEng Honours Computer Systems and Robotics (with Industrial Placement)** **BEng Honours Electronic and Electrical Engineering** **BEng Honours Electronic and Electrical Engineering (with Industrial Placement)** **BEng Honours Electronic Engineering** **BEng Honours Electronic Engineering (with Industrial Placement)** These BEng degrees are Bologna FQ-EHEA first cycle degree or diploma compatible.
Name and level of intermediate awards:	BEng Computer Systems and Robotics BEng Computer Systems and Robotics (with Industrial Placement) BEng Electronic and Electrical Engineering BEng Electronic and Electrical Engineering (with Industrial Placement) BEng Electronic Engineering BEng Electronic Engineering (with Industrial Placement) Diploma of HE in Electronic System Engineering Certificate of HE in Electronic System Engineering
Awarding body/institution:	University of Westminster
Teaching Institution:	University of Westminster
Status of awarding body/institution:	Recognised Body
Location of delivery:	Central London, New Cavendish Street site
Language of delivery and assessment:	English
Mode, length of study and normal starting month:	Full time/Placement: 3/4 yrs. September start.

QAA subject benchmarking group(s):	Engineering

Professional statutory or regulatory body:	Institution of Engineering and Technology Partial CEng
Date of course validation/review:	2015
Date of programme specification approval:	2015
Valid for cohorts :	2016/17 Levels 4 and 5; 2017/18 Levels 4,5 and 6
Course Leader	
UCAS code and URL:	Computer Sys & Robotics: H650 H653 (with Foundation) Electronic & Electrical Eng: H600 H608 (with Foundation) Electronic Engineering: H610 H608 (with Foundation) westminster.ac.uk/courses/undergraduate

What are the minimum entry requirements for these programmes?

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.

westminster.ac.uk/courses/undergraduate/how-to-apply

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

What are the aims of these programmes?

The BEng Honours programmes in Computer Systems and Robotics, in Electronic and Electrical Engineering and in Electronic Engineering form an integrated suite of engineering degree courses aimed to provide an inspiring learning experience with a curriculum that is highly relevant to the needs of industry and leading to many employment opportunities.

The programmes place a strong emphasis on the ***design*** of electronic, electrical and robotic systems, based upon solid analytical foundations and the technical and interpersonal skills necessary to allow the graduate to adapt to future technological developments.

These are ***systems-oriented*** programmes. That is, they focus on how components are combined to form systems rather than the internal physical structure of the component devices. Of course, a working knowledge of the internal operation and characteristics of these components is provided in order to understand how they can be used and their limitations.

These programmes aim 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 Engineer (CEng);
- establish fundamental principles of electronics, mathematics and computing, and develop the connection between these and a broad range of engineering systems;
- develop the analytical skills necessary to characterise, model and design circuits and systems in both continuous and discrete time;
- 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 and 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.

The supplementary aims of the industrial placement mode of attendance are to provide graduates with relevant workplace experience and to launch their initial professional development with a view to becoming a Chartered Engineer.

BEng Honours Computer Systems and Robotics

The BEng Honours programme in Computer Systems and Robotics focuses on embedded computer systems and how these computers control autonomous electro-mechanical systems. Embedded computer systems are microcomputers embedded within an electro-mechanical or electronic object. These computers have to operate to real-time deadlines, usually having to respond in a matter of milliseconds. Electro-mechanical systems are often call autonomous robots, although they rarely look like the traditional 'robot'.

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

- develop the skills necessary to design and programme a mixture of sometimes heterogeneous processors operating to real-time deadlines;
- provide the know-how to implement analog and digital electronic circuits to interface actuators and sensors to embedded computer systems;
- develop the skills required to design signal conditioning sub-systems and control algorithms in autonomous robotic systems;
- provide a working knowledge of kinematics and electro-mechanical systems, including actuators, to enable the specification and design of autonomous robotic systems.

BEng Honours Electronic and Electrical Engineering

The BEng Honours in Electronic and Electrical Engineering focuses on the efficient utilisation of electrical energy in the conversion of electrical power to mechanical movement. Modern electrical machines depend upon solid-state power electronic circuits and embedded computer control systems for their operation. These are much more efficient than the older type of machine. Important applications include road and rail vehicle motive power, industrial robotics, intelligent buildings, etc.

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

- develop the skills necessary to design electronic circuits for the conversion between DC and AC electrical supplies;
- provide the know-how to utilise embedded computer systems, analog and digital electronic circuits to specify and design energy-efficient motive power systems;
- develop the skills required to design signal conditioning sub-systems and control algorithms for the control of electrical machines;
- provide a working knowledge of DC and AC machines to enable the specification and design of efficient variable speed and torque electrical machines for different applications.

BEng Honours Electronic Engineering

The BEng Honours in Electronic Engineering focuses on analog and digital electronic circuits and communication systems used in a wide variety of applications. It covers the design of modern communication systems, such as cellular telephone and data systems, wireless networks and long-distance data transmission. These systems are underpinned by signal processing algorithms and sophisticated communication protocols implemented in dedicated embedded computer systems and advanced analog and digital microelectronic circuits. The programme develops the skills necessary for the design of system-on-chip implementations, where an entire system is fabricated on a single microchip, for communications and many other applications.

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

- develop the skills necessary to design electronic and microelectronic analog and digital circuits;
- provide the know-how to utilise analog and digital electronic circuits and embedded computer systems to specify and design complete systems-on-chip for a wide variety of applications;
- develop the skills required to develop and implement signal processing algorithms for communication and control applications;
- provide a working knowledge of communication protocols to enable the specification and design of wireless communication 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 the learning outcomes broadly fall into four categories:

- The overall **Knowledge and Understanding** students will gain from the programme (KU).
- **Graduate Attributes** are characteristics that students will have developed during the duration of the programme (GA).
- **Professional and Personal Practice learning outcomes** are specific skills that students will be expected to have gained on successful completion of the programme (PPP).
- **Key Transferable Skills** that students will be expected to have gained on successful completion of the programme (KTS).

Level 4 learning outcomes – all BEng programmes

Upon completion of level 4, students will be able to:

LE4.1 apply fundamental concepts in electrical, electronic and software engineering and in mathematics to the analysis of simple circuits and systems (KU);

LE4.2 develop and build on their existing mathematical skills with techniques for the modelling of systems (KU);

LE4.3 given prescribed methods, design, implement, debug and test, simple analog and digital circuits, programs in high-level and low-level languages and mathematical models of signal processing and communication systems (KU, GA);

LE4.4 find information as directed and perform practical laboratory work from detailed instructions (GA, PPP);

LE4.5 work in groups with guidance from staff (GA, KTS);

LE4.6 communicate effectively through short written and oral presentations on technical subjects (GA, KTS).

Level 5 learning outcomes – BEng Honours Computer Systems and Robotics

Upon completion of Level 5, students will be able to:

LR5.1 demonstrate familiarity with standard engineering and mathematical methods in the description, analysis and interfacing of moderately complex electronic, computer and robotic systems (KU, PPP);

LR5.2 evaluate and compare standard mathematical and modelling tools and methods and select appropriately in order to analyse, design, implement, debug and test systems in the application areas of robotic systems, digital systems and analog circuits and systems (KU, PPP);

LR5.3 analyse, design and assemble embedded systems and create software for such systems using a programming language appropriate to the platform (KU, PPP);

LR5.4 elucidate and communicate complex technical information succinctly and accurately, by means of presentations, written reports, appropriate diagrams and discussion (KTS, GA);

LR5.5 gather, assimilate, analyse and evaluate technical information, with some guidance, and apply it appropriately to managing project work, adhering to prescribed requirements and deadlines (KTS, GA);

LR5.6 collaborate with others effectively in the production of complex practical solutions and documentation within the context of tackling structured group tasks, (GA, PPP, KTS);

LR5.7 explain knowledge of and demonstrate familiarity with the commercial, economic and social context of computer systems and robotics, including environmental and sustainability limitations, health and safety and risk-assessment issues as well as management techniques, ethical considerations (KU, GA).

Level 5 learning outcomes – BEng Honours Electronic and Electrical Engineering

Upon completion of Level 5, students will be able to:

LL5.1 demonstrate familiarity with standard engineering and mathematical methods in the description, analysis and interfacing of moderately complex electrical, electronic and computer systems (KU, PPP);

LL5.2 evaluate and compare standard mathematical and modelling tools and methods and select appropriately in order to analyse, design, implement, debug and test systems in the application areas of electrical machines, digital systems and analog circuits and systems (KU, PPP);

LL5.3 analyse, design and assemble embedded systems and create software for such systems using a programming language appropriate to the platform (KU, PPP);

LL5.4 elucidate and communicate complex technical information succinctly and accurately, by means of presentations, written reports, appropriate diagrams and discussion (KTS, GA);

LL5.5 gather, assimilate, analyse and evaluate technical information, with some guidance, and apply it appropriately to managing project work, adhering to prescribed requirements and deadlines (KTS, GA);

LL5.6 collaborate with others effectively in the production of complex practical solutions and documentation within the context of tackling structured group tasks (GA, PPP, KTS);

LL5.7 explain knowledge of and demonstrate familiarity with the commercial, economic and social context of electronic and electrical engineering, including environmental and sustainability limitations, health and safety and risk-assessment issues as well as management techniques, ethical considerations (KU, GA).

Level 5 learning outcomes – BEng Honours Electronic Engineering

Upon completion of Level 5, students will be able to:

LE5.1 demonstrate familiarity with standard engineering and mathematical methods in the description, analysis and interfacing of moderately complex communication, electronic and computer systems (KU, PPP);

LE5.2 evaluate and compare standard mathematical and modelling tools and methods and select appropriately in order to analyse, design, implement, debug and test systems in the application areas of communication systems, digital systems and analog circuits and systems (KU, PPP);

LE5.3 analyse, design and assemble embedded systems and create software for such systems using a programming language appropriate to the platform (KU, PPP);

LE5.4 elucidate and communicate complex technical information succinctly and accurately, by means of presentations, written reports, appropriate diagrams and discussion (KTS, GA);

LE5.5 gather, assimilate, analyse and evaluate technical information, with some guidance, and apply it appropriately to managing project work, adhering to prescribed requirements and deadlines (KTS, GA);

LE5.6 collaborate with others effectively in the production of complex practical solutions and documentation within the context of tackling structured group tasks (GA, PPP, KTS);

LE5.7 explain knowledge of and demonstrate familiarity with the commercial, economic and social context of electronic engineering, including environmental and sustainability limitations, health and safety and risk-assessment issues as well as management techniques, ethical considerations (KU, GA).

Level 6 learning outcomes – BEng Honours Computer Systems and Robotics

Upon completion of Level 6, students will be able to:

LR6.1 apply advanced mathematical methods, principles and tools in the analysis of, and solution to, typical challenges in the field of modern embedded computer and robotic systems (KU, GA);

LR6.2 analyse and model embedded computer and robotic systems, subsystems and components in order to identify, classify and describe their performance (KU, GA);

LR6.3 appraise and apply modelling and simulation tools to synthesise solutions to problems in the fields of embedded computer and robotic systems (KU, PPP);

LR6.4 evaluate an engineering problem, including customer and user requirements in addition to technical constraints, in order to formulate feasible solutions while managing cost drivers (GA, KTS);

LR6.5 devise innovative approaches to all aspects of an engineering solution ensuring fitness for purpose and objectively evaluate outcomes in the fields of computer and robotic systems (GA, PPP);

LR6.6 deploy engineering skills with fluency, combining theory with practical experience, and using other relevant knowledge and skills including project-management, time-scheduling, environmental and ethical considerations (GA, PPP, KTS).

Level 6 learning outcomes – BEng Honours Electronic and Electrical Engineering

Upon completion of Level 6, students will be able to:

LL6.1 apply advanced mathematical methods, principles and tools in the analysis of, and solution to, typical challenges in the field of modern electronic and electrical engineering (KU, GA);

LL6.2 analyse and model electronic and motor drive systems, subsystems and components in order to identify, classify and describe their performance (KU, GA);

LL6.3 appraise and apply modelling and simulation tools to synthesise solutions to engineering problems in the fields of electronic and electrical engineering (KU, PPP);

LL6.4 evaluate an engineering problem, including customer and user requirements in addition to technical constraints, in order to formulate feasible solutions while managing cost drivers (GA, KTS);

LL6.5 devise innovative approaches to all aspects of an engineering solution, ensuring fitness for purpose and objectively evaluate outcomes in the fields of electronic and electrical engineering (GA, PPP);

LL6.6 deploy engineering skills with fluency, combining theory with practical experience, and using other relevant knowledge and skills including project-management, time-scheduling, environmental and ethical considerations (GA, PPP, KTS).

Level 6 learning outcomes – BEng Honours Electronic Engineering

Upon completion of Level 6, students will be able to:

LE6.1 apply advanced mathematical methods, principles and tools in the analysis of, and solution to, typical challenges in the field of modern electronic and communication engineering (KU, GA);

LE6.2 analyse and model electronic and communication systems, subsystems and components in order to identify, classify and describe their performance (KU, GA);

LE6.3 appraise and apply modelling and simulation tools to synthesise solutions to engineering problems in the fields of electronic and communication engineering (KU, PPP);

LE6.4 evaluate an engineering problem, including customer and user requirements in addition to technical constraints, in order to formulate feasible solutions while managing cost drivers (GA, KTS);

LE6.5 devise innovative approaches to all aspects of an engineering solution, ensuring fitness for purpose and objectively evaluate outcomes in the fields of electronic and communication engineering (GA, PPP);

LE6.6 deploy engineering skills with fluency, combining theory with practical experience, and using other relevant knowledge and skills including project-management, time-scheduling, environmental and ethical considerations (GA, PPP, KTS).

How will you learn?

The fundamental principle underlying the learning process and teaching methods used on this course is “learning by doing”. That is, in order to learn and understand the engineering skills and techniques required, students cannot just be told them or read about them - they need to practise them.

This learning-by-doing 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 advanced 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 such diverse elements as:

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

- On-line learning

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

Some of the specialist mathematics in engineering can be challenging. For this reason, it is often taught within the engineering modules which rely on it. This means that students learn both the purpose and application of the mathematical techniques at the same time as the techniques themselves, making them more obviously relevant and therefore easier to master.

Unlike some programmes offering a wide choice of disparate modules, this course builds on a select number of tightly interrelated themes which have been designed to interleave elegantly. Knowledge and skills feed across from one topic to another creating a holistic, synoptic learning experience, thereby avoiding the danger of "compartmentalising" ideas.

How will you be assessed?

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

- formative (helping students to learn);
- rigorous (not easily copied or passed without appropriate knowledge and skill);
- challenging (requiring understanding, not just memorising of facts or mathematical tricks);
- workplace relevant (the sort of tasks engineers might be judged on by an employer);
- interesting (relevant to the application of the subject).

Modules may have between one or two aspects of assessment making up the total mark. There are minimum marks for each aspect. This means, for example, that students cannot make up for a very poor exam mark by getting an excellent coursework mark nor can they depend on a good group mark, due to the efforts of other group members, to compensate for a very poor individual mark.

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

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.

These programmes aim to create graduates who are well prepared for entry into a career in not only the engineering industries but also in any field requiring engineering skills. With an industry-wide shortage, high quality engineering graduates are enjoying a choice of job opportunities with good salaries.

Today's employers are looking for graduates with both good degrees and skills relevant to the workplace, i.e. employability skills. The University of Westminster is committed to developing employable graduates by ensuring that:

- Career development skills are embedded in all courses
- Opportunities for part-time work, placements and work-related learning activities are widely available to students
- 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

Students on the Department's degree courses have gone on to work for the BBC and BSkyB as well as electronics and technology giants such as BT, Nokia, British Aerospace, Philips and Mitsubishi, and to smaller private companies. Some have gone on to work in the financial district in the City of London while others have started up their own businesses in manufacturing or consultancy. Opportunities also exist for postgraduate study leading to PhD qualifications.

Course structure

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

Note that the first year (Level 4) is common to all the BEng programmes so it is possible to transfer between these programmes at the end of the first year. Furthermore, pre-requisites permitting, it is also possible to transfer between these programmes upon completion of Level 5 study.

Credit Level 4 – all BEng programmes				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
4ELEN008W	Signals, Systems and Communications	Core	20	10
4ELEN005W	Mathematics and Engineering Principles	Core	20	10
4ELEN002W	Digital Systems	Core	20	10

4ELEN001W	Analog Electronics	Core	20	10
4ELEN006W	Engineering Programming	Core	20	10
4ELEN007W	Embedded Systems Project	Core	20	10
Award of Certificate of Higher Education available				
Credit Level 5 – BEng Honours Computer Systems and Robotics				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
5ELEN001W	Analog System Engineering	Core	20	10
5ELEN002W	Digital System Design and Implementation	Core	20	10
5ELEN008W	Professional Engineering Practice and Industrial Management	Core	20	10
5ELEN004W	Robotic Systems Project	Core	20	10
5ELEN009W	Robotics Principles	Core	20	10
	Plus **one option module** from:			
5ELEN012W	Signals and Communication Engineering	Option	20	10
5ELEN003W	Electrical Engineering Principles	Option	20	10
Award of Diploma of Higher Education available				
Credit Level 5 – BEng Honours Electronic and Electrical Engineering				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
5ELEN001W	Analog System Engineering	Core	20	10
5ELEN002W	Digital System Design and Implementation	Core	20	10
5ELEN008W	Professional Engineering Practice and Industrial Management	Core	20	10
5ELEN004W	Robotic Systems Project	Core	20	10
5ELEN003W	Electrical Engineering Principles	Core	20	10
	Plus **one option module** from:			
5ELEN012W	Signals and Communication Engineering	Option	20	10
5ELEN009W	Robotics Principles	Option	20	10
Award of Diploma of Higher Education available				
Credit Level 5 – BEng Honours Electronic Engineering				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
5ELEN012W	Signals and Communication Engineering	Core	20	10
5ELEN002W	Digital System Design and Implementation	Core	20	10
5ELEN008W	Professional Engineering Practice and Industrial Management	Core	20	10
5ELEN004W	Robotic Systems Project	Core	20	10
5ELEN001W	Analog System Engineering	Core	20	10
	Plus **one option module** from:			
5ELEN009W	Robotics Principles	Option	20	10
5ELEN003W	Electrical Engineering Principles	Option	20	10
Award of Diploma of Higher Education available				

Credit Level P– all BEng programmes				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
PPPPPPPPW	**Industrial Placement Year**	**Option**	**20**	**10**
Credit Level 6 – BEng Honours Computer Systems and Robotics				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
6ELEN002W	Individual Project**	Core	40	20
6ELEN010W	Applied Robotics	Core	20	10
	Plus **three option modules** from:			
6ELEN001W	Analog Microelectronics	Option	20	10
6ELEN011W	Algorithm and System Implementation	Option	20	10
6ELEN008W	Embedded and Real Time System Architectures	Option	20	10
6ELEN006W	Digital Signal Processing Design	Option	20	10
Award of BEng available **Award of BEng Honours available.**				
Credit Level 6 – BEng Honours Electronic and Electrical Engineering				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
6ELEN002W	Individual Project**	Core	40	20
6ELEN014W	Power Electronics and Drive Systems	Core	20	10
	Plus **three option modules** from:			
6ELEN001W	Analog Microelectronics	Option	20	10
6ELEN011W	Algorithm and System Implementation	Option	20	10
6ELEN008W	Embedded and Real Time System Architectures	Option	20	10
6ELEN006W	Digital Signal Processing Design	Option	20	10
Award of BEng available **Award of BEng Honours available.**				
Credit Level 6 – BEng Honours Electronic Engineering				
Module code	**Module title**	**Status**	**UK credit**	**ECTS**
6ELEN002W	Individual Project**	Core	40	20
6ELEN001W	Analog Microelectronics	Core	20	10
	Plus **three option modules** from:			
6ELEN004W	Communication Systems	Option	20	10
6ELEN011W	Algorithm and System Implementation	Option	20	10
6ELEN008W	Embedded and Real Time System Architectures	Option	20	10
6ELEN006W	Digital Signal Processing Design	Option	20	10
Award of BEng available **Award of BEng Honours available.**				

Note: not all option modules will necessarily be offered in any one academic year.

****All students are required to undertake the Individual Project in an area that is related to their degree specialisation.**

Professional Body Accreditation and other external references

These programmes are intended to fulfil the educational requirements of the Engineering Council for Chartered Engineer (CEng) when presented with an accredited MSc (or equivalent further learning). In addition, the programme is intended to fulfil the educational requirements for registration as an Incorporated Engineer (IEng).

The course has been designed with reference to:

The Accreditation of Higher Engineering Programmes UK Standard for Professional Engineering Competence Third edition (AHEP3), Engineering Council, 2014

QAA Subject Benchmark for Engineering

Also:

QAA Guidelines for Preparing Programme Specifications

SEEC Credit Level Descriptors for Further and Higher Education

IET Academic Accreditation Information Pack, 2015

IET Guidance on how to meet the Learning Outcome requirements for Accreditation, 2015

Academic regulations

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

How will you be supported in your studies?

Course Management

This course is managed by staff from the Department of Engineering in the Faculty of Science and Technology. The Course Team consists of lecturers on individual modules, the Head of Department and technical support staff. The day-to-day running of each course is the responsibility of the Course Leader, while the strategic direction of the courses and the allocation of staff is the responsibility of the Head of the Department. The Dean of the Faculty of Science and Technology takes overall responsibility for all departments within it.

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 Faculty Registry Office. 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

Learning Support

The Academic Learning Development Centre supports students in developing the skills required for higher education. As well as online resources on Blackboard, students have the opportunity to attend Study Skills workshops and one to one appointments.

Learning support includes four libraries, each holding a collection of resources related to the subjects taught at that site. Students 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 at their Faculty. Students can also securely connect their own laptops and mobile devices to the University wireless network.

Support Services

The University of Westminster Student Affairs 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. The University of Westminster Students' Union also provides a range of facilities to support students during their time at the University.

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 Faculty 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 outcomes from Course Committees, evidence of student progression and achievement and the reports from external examiners, to evaluate the effectiveness of the course. Each Faculty puts into place an action plan. This may for example include making changes on the way the module is taught, assessed or even how the course is structured in order to improve the course, in such cases an approval process is in place.

A Course review 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 review panels to provide feedback on their experiences. Student feedback from previous years e.g. from Course Committees 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 Course Committees students have the opportunity to express their voice in the running of their course. Student representatives are elected to Committee to expressly represent the views of their peer. The University and the Students' Union work together to provide a full induction to the role of the student representatives.
- Each Faculty also has its own Faculty Student Forum with student representatives; this enables wider discussions across the Faculty. Student representatives are also represented on key Faculty 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.
- The University also has an annual Student Experience Survey which seeks the opinions of students about their course and University experience. Final year Undergraduate students will be asked to complete the National Student Survey which helps to inform the national university league tables.

Please note: 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 s/he takes full advantage of the learning opportunities that are provided. This specification should be read in conjunction with the Course Handbook provided to students and Module Handbooks, which provide more detailed information on the specific learning outcomes, content, teaching, learning and assessment methods for each module.