UNIVERSITY OF
LEADING
THE WAY
WESTMINSTER

PROGRAMME SPECIFICATION

Course Record Information	
Name and level of **final** & intermediate Awards	**MEng Computer Systems Engineering** **MEng Computer Systems Engineering (Sandwich)** **BEng Honours Computer Systems Engineering** **BEng Honours Computer Systems Engineering (Sandwich)** BEng Computer Systems Engineering BEng Computer Systems Engineering (Sandwich) Diploma of HE in Computer Systems Engineering Certificate of HE in Computer Systems Engineering
Awarding Body	University of Westminster
Location of Delivery	University of Westminster, New Cavendish Street, Central London
Mode of Study	Full time
UW Course Codes	MEng: U09FUCYM BEng: U09FUCSE with Foundation U09FFCSE
JACS Code	H6
UCAS Code	MEng: H655 BEng: H650 with Foundation H653
QAA Subject Benchmarking Group	Engineering
Professional Body Accreditation	IET CEng
Date of initial course approval/last review	April 2006
Date of Programme Specification	Sept 2010

Admissions Requirements

Students who had their secondary education in the UK should have at least 5 GCSE passes at Grade C or equivalent including English Language and Mathematics. The University normally requires all undergraduate applicants who have not had their secondary education through the medium of English to attain the equivalent of IELTS 6.0, Cambridge Proficiency, or TOEFL 550 (paper)/80 (internet).

As well as these, applicants should meet one of the requirements listed below:

- **A-Level Entry**
  At least two subjects passed in the General Certificate of Education (GCE) at Advanced Level, one of which must be Mathematics. Usually grades equivalent to at least BBB for MEng entry and BBC for BEng entry are required.

- **Advanced Diploma Entry**
  The award of an Advanced Diploma in Engineering. Usually, a Grade B, plus relevant Additional Specialist Learning (ASL) at Grade B for MEng entry or Grade C for BEng entry, would be required. The ASL must include either the OCR Certificate in Mathematics for Engineering or A level mathematics

- **National Diploma Entry**
  The award of a BTEC National Diploma or Certificate in Engineering. Usually, diploma

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grades of DDM for MEng entry and DMM for BEng entry will be required.

- **Foundation Course Entry**
  The award of a Certificate or Diploma upon completion of an approved foundation or access course.
- **Other Entry**
  Candidates holding qualifications differing in detail but not in standard from the above (e.g. an approved Secondary Leaving Certificate such as the International Baccalaureate with acceptable grades in relevant subjects) may be considered eligible for admission to the Course.

Direct Entry to Level 5 (Year 2): Candidates who have successfully completed studies comparable in content and standard to the Level 4 of the Course, including a practical skills component, may be considered for direct entry to the second year of the Course.

Where possible, all applicants are interviewed and may be given an aptitude test.

Aims of the courses

These courses have a strong focus on the ***design***, of embedded systems based upon solid analytical foundations and the technical and interpersonal skills necessary to allow the graduate to adapt to future technological developments. The emphasis is upon the design and programming of a mixture of heterogeneous processors operating in a real-time environment.

They are built on a common foundation that aims to provide an experience of the analysis and design of embedded computer systems including a sound knowledge of discrete and continuous-time signal processing, digital systems, networks and real-time embedded computer systems.

These courses 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;
- 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 and model hardware and software 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 MEng Electronic Engineering course additionally aims to both broaden and deepen the students' experience sharpening their ability to balance complex and sometimes conflicting requirements and constraints in the design of real-time embedded systems, involving a blend of conventional and specialist processors underpinned with a sound knowledge of discrete and continuous-time signal processing.

The supplementary aims of the **sandwich mode** of attendance are to provide graduates with relevant workplace experience and to launch their initial professional development with a view to

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becoming a Chartered Engineer.	

Employment and Further Study Opportunities

These degrees provide the ideal educational base for entry to a career not only in the in the electronics industry but also in any application with an embedded processor. With an industry-wide shortage, high quality graduates are enjoying a choice of job opportunities with good salaries. This course provides a solid foundation for the design of a wide variety of embedded systems requiring a blend of hardware and software implementing signal processing techniques.

Students on the Department's degree courses have gone on to work for the BBC and electronics giants such as BT, Nokia, British Aerospace and GEC, and to smaller private companies. Some have started up their own businesses in manufacturing or consultancy. Opportunities also exist for postgraduate study leading to PhD qualifications.

Learning Outcomes

Learning outcomes are statements on what successful students have achieved as the result of learning. They threshold statements of achievement and are linked to the knowledge, understanding and skills that a student will have gained on successfully completing a course.

Intermediate Learning Outcomes

Level 4: students will be able to:

read and create descriptions in words, mathematics or diagrams of simple electronics, software and mathematical concepts. They will build on their existing mathematical skills with techniques for the modelling of systems;

design, implement and test simple analog and digital circuits, programs in high-level and low-level languages, and mathematical models of signal processing and communication systems.

find information as directed, perform practical work given detailed instructions, work in groups with guidance from staff, and give short written and oral presentations on technical subjects.

Level 5: students will be able to:

be familiar with standard engineering and mathematical methods in the description, analysis and interfacing of larger and more complex systems;

to use standard tools and methods to analyse and put together larger systems, in the specific areas of signal processing, embedded systems, digital microelectronic and FPGA design, computer networks and object-oriented software.

work on structured group tasks, collaborating in the production of complex practical products and documentation.

General Learning Outcomes

Graduates will satisfy the following criteria:

Knowledge and Understanding: they will be able to demonstrate their knowledge and understanding of essential facts, concepts, theories and principles pertaining to computer systems engineering, and its underpinning science and mathematics. They will have an appreciation of the wider multidisciplinary engineering context and its underlying principles. They will appreciate the social, environmental, ethical, economic and commercial considerations affecting the exercise of their engineering judgement.

Intellectual Abilities: they will be able to apply appropriate quantitative science and engineering tools to the analysis of problems. They will be able to demonstrate creative and

innovative ability in the synthesis of solutions and in formulating designs. They will be able to comprehend the broad picture and thus work with an appropriate level of detail.

Practical skills: they will possess practical engineering skills acquired through, for example, work carried out in laboratories and workshops; in industry through supervised work experience; in individual and group project work; in design work; and in the development and use of computer software in design, analysis and control.

General transferable skills: they will have developed transferable skills that will be of value in a wide range of situations. These skills include problem solving, communication, and working with others, as well as the effective use of general IT facilities and information retrieval skills. They also include planning self-learning and improving performance, as the foundation for lifelong learning/CPD.

In addition, graduates with an MEng degree will be able to demonstrate:

The ability to develop, monitor and update a plan, to reflect a changing operating environment;

The ability to monitor and adjust a personal programme of work on an on-going basis, and to learn independently;

An understanding of different roles within a team, and the ability to exercise leadership;

The ability to learn new theories, concepts, methods, etc in unfamiliar situations.

Specific Learning Outcomes

1. Underpinning Science and Mathematics

Graduates will be able to demonstrate:

- Knowledge and understanding of scientific principles and methodology necessary to underpin their education in computer systems engineering, to enable appreciation of its scientific and engineering context, and to support their understanding of historical, current, and future developments and technologies;
- Knowledge and understanding of mathematical principles necessary to underpin their education in computer systems engineering and to enable them to apply mathematical methods, tools and notations proficiently in the analysis and solution of engineering problems;
- Ability to apply and integrate knowledge and understanding of other engineering disciplines to support study of their own engineering discipline.

In addition, graduates with an MEng degree will be able to demonstrate:

- A comprehensive understanding of the scientific principles of own specialisation and related disciplines;
- An awareness of developing technologies related to own specialisation;
- A comprehensive knowledge and understanding of mathematical and computer models relevant to the engineering discipline, and an appreciation of their limitations;
- An understanding of concepts from a range of areas including some outside engineering, and the ability to apply them effectively in engineering projects.

2. Engineering Analysis

Graduates will be able to demonstrate:

- Understanding of engineering principles and the ability to apply them to analyse key engineering processes;
- Ability to identify, classify and describe the performance of systems and components

through the use of analytical methods and modelling techniques;

- Ability to apply quantitative methods and computer software relevant to computer systems in order to solve engineering problems;
- Understanding of and ability to apply a systems approach to engineering problems.

In addition, graduates with an MEng degree will be able to demonstrate:

- Ability to use fundamental knowledge to investigate new and emerging technologies;
- Ability to apply mathematical and computer-based models for solving problems in engineering, and the ability to assess the limitations of particular cases;
- Ability to extract data pertinent to an unfamiliar problem, and apply in its solution using computer based engineering tools when appropriate.

3. Design

Graduates will have the knowledge, understanding and skills to:

- Investigate and define a problem and identify constraints including environmental and sustainability limitations, health and safety and risk assessment issues;
- Understand customer and user needs and the importance of considerations such as aesthetics;
- Identify and manage cost drivers;
- Use creativity to establish innovative solutions;
- Ensure fitness for purpose for all aspects of the problem including production, operation, maintenance and disposal;
- Manage the design process and evaluate outcomes.

In addition, graduates with an MEng degree will be able to demonstrate:

- Wide knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations;
- Ability to generate an innovative design for products, systems, components or processes to fulfil new needs.

4. Economic, Social, and Environmental Context

Graduates will be able to demonstrate:

- Knowledge and understanding of commercial and economic context of engineering processes;
- Knowledge of management techniques which may be used to achieve engineering objectives within that context;
- Understanding of the requirement for engineering activities to promote sustainable development;
- Awareness of the framework of relevant legal requirements governing engineering activities, including personnel, health, safety, and risk (including environmental risk) issues;
- Understanding of the need for a high level of professional and ethical conduct in engineering.

5. Engineering Practice

Graduates will be able to demonstrate practical application of engineering skills, combining theory and experience, and use of other relevant knowledge and skills.

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This includes:

- Knowledge of characteristics of protocols, equipment, processes, and products in the electronic and embedded system industries;
- Workshop and laboratory skills;
- Understanding of contexts in which engineering knowledge can be applied including operations and management, technology development, etc;
- Understanding use of technical literature and other information sources;
- Awareness of nature of intellectual property and contractual issues;
- Understanding of appropriate codes of practice and industry standards;
- Awareness of quality issues;
- Ability to work with technical uncertainty.

In addition, graduates with an MEng degree will be able to demonstrate:

- A thorough understanding of current practice and its limitations, and some appreciation of likely new developments;
- Extensive knowledge and understanding of a wide range of engineering materials and components;
- Ability to apply engineering techniques taking account of a range of commercial and industrial constraints.

Teaching, Learning and Assessment Methods

Teaching and Learning Methods

The fundamental principle underlying the teaching methods used on these courses 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.

The following teaching methods are used

- 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. This may be individual or for the whole class.

Most of the mathematics in these courses is taught within the engineering modules which use it. This means that students learn the mathematical theory and how it is applied at the same time, so as to make it more obviously relevant.

Unlike some programmes with a wide choice of separate modules, these courses build on tightly interrelated themes. They have been designed to fit together, and it is vital that knowledge and skills feed across from one subject to another. Staff teaching the modules have experience across a range of engineering areas, and will expect students to develop the same without compartmentalising ideas.

Assessment Strategy

These modules 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);

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- rigorous (not easily copied, or otherwise 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

- In-class tests (making up the majority of coursework marks)
- Group work
- Laboratories
- Viva-voce examinations
- Formal examinations
- Written reports
- Presentations and posters
- Computer-based quizzes and exercises
- Design and implementation of hardware and software
- Analysis, testing and modification of existing hardware or software
- Participation in class activities such as question-and-answer sessions

Course Structure

This section shows the core and option modules available as part of the **MEng** and **BEng** courses and their credit value. Undergraduate students normally study 120 credits per year. Modules marked * are project-based.

Credit Level 4

Code	Title	Status	Value
EECT405	Digital Systems	Core	15
EECT401	Computer Systems Project	Core	15
EECN410	Engineering Programming	Core	15
EEEL420	Electronics	Core	15
EEEL400	Engineering Principles	Core	15
EEEL405	Linear Systems Analysis	Core	15
EECN406	Communications and Networks	Core	15
EEEL415 EBSY400 1EAPP04	Engineering Science and Mathematics OR Communication and Learning Skills OR English for Academic Purposes (overseas only)	Core	15

Award of Certificate of Higher Education available

Credit Level 5

Code	Title	Status	Value
EECT520	Event-Driven and GUI Programming	Core	15
EECT510	Embedded Microprocessor System Project *	Core	15
EECN510	Network Software Engineering	Core	15
EECT505	Microelectronic and FPGA System Design Project *	Core	15
EECT525	Professional Engineering Practice	Core	15
EECT515	Operating Systems	Core	15
EEEL500	Signal and System Analysis	Core	15
EECN500	Network Engineering	Core	15

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Award of Diploma of Higher Education available

Credit Level 6 (BEng)

Code	Title	Status	Value
EECT630	Algorithm Realisation	Core	15
EECN610	Distributed Systems and Network Software	Core	15
EECT625	Industrial Management	Core	15
EECT698	Individual Project *	Core	30
EECT635	Operating System's Structure	Core	15
EECT600	Real-Time and Embedded Systems	Core	15
EECT610	Embedded Processor Architectures	Core	15

Award of BEng available. Award of BEng (Hons) available.

Credit Level 6 (MEng)

Code	Title	Status	Value
EEEL600	Advanced System Analysis and Design	Core	15
EECN610	Distributed Systems and Network Software	Core	15
EECT625	Industrial Management	Core	15
EECT697	Individual Project *	Core	30
EECT635	Operating System's Structure	Core	15
EECT600	Real-Time and Embedded Systems	Core	15
EECT610	Embedded Processor Architectures	Core	15

Award of BEng available.
Award of BEng (Hons) available.

Credit Level 7 (MEng)

Code	Title	Status	Value
EECT799	Industrial Group Project *	Core	40
EEEL700	Multirate Signal Processing	Core	20
EECT705	Video & Image Processing	Core	20
EECT710	SoC and FPGA Design Project	Core	20
	Plus **one option module** from below:		
EECT700	Embedded Media Processing	Option	20
EEEL705	DSP & Communication Processor Design	Option	20
EEEL715	Mobile & Wireless Communication Systems	Option	20
EEEL720	Wireless System Design	Option	20

Award of MEng available.

Assessment of Modules (Levels 4-6)

A *pass* in a module is achieved when the overall mark is at least 40% and the marks for separate aspects of assessment are individually at least 30% (for coursework/exam aspects) or at least 35% (for group-work/individual-work aspects).

At Level 4 only, a student who has failed certain elements of assessment may be awarded *condoned credit* in a module where he/she has achieved:

(a) an overall module mark of greater than or equal to 30% but less than 40%;

(b) an overall mark of 40% or greater but not reached the required standard in one or more

aspect of assessment.

Where a student is awarded condoned credit, the recorded module mark will be capped at 40%. To be awarded a condoned credit the failed elements of assessment must have been attempted at *both* the first and referred opportunity.

Where a student is awarded condoned credit in a module but subsequently achieves an overall pass at a re-attempt, credit may contribute only once to an award.

Condoned credit cannot be awarded for modules at levels 5 or 6.

Assessment of Modules (Level 7)

Assessment at Level 7 is both criterion-based and aggregate-based. For each module, the student must both obtain the threshold mark in each aspect of assessment and achieve *all* the learning outcomes of the module.

The learning modules have two aspects of assessment: the deliverables of the Independent Learning Package (ILP) and a viva voce examination. In order to *pass* a learning module at Level 7 the student must:

(a) obtain a mark of at least 50% in the ILP deliverables;
AND
(b) obtain a mark of at least 50% in the viva voce examination;
AND
(c) demonstrate achievement in **each** and **every** learning outcome either through the ILP deliverables or during the viva voce examination.

Progression Requirements

The University has regulations that govern the progression through the course.

In order to progress to Level 5, a student must obtain a minimum of 90 credits passed (i.e. not condoned) at Level 4 or above with an average of at least 40% across 120 credits.

In order to progress to Level 6 of the BEng course, a student must obtain a minimum of 195 credits at Level 4 or above, including a minimum of 75 credits at Level 5 or above.

In order to progress to Level 6 of the MEng course (or transfer from Level 5 of the BEng to Level 6 of the MEng course), a student must normally obtain a minimum of 120 credits at Level 5. In addition, the average mark obtained from the best modules worth 120 credits at Level 5 must normally be at least 60%.

In order to progress from Level 6 to Level 7 of the MEng course, a student must obtain a minimum of 120 credits at Level 6.

A student cannot normally attempt any module at the next level until they have fulfilled the progression requirement to that level. In addition, specific prerequisites and co-requisites have to be achieved in order to study each individual module at Credit Levels 5, 6 and 7.

MEng Award

In respect of the modules described in this course scheme, to qualify for the award of **MEng Computer Systems Engineering** a student must:

(a) have obtained at least 480 credits including:

(i) a minimum of 120 credits at Level 4 or higher, of which no more than 15 shall be condoned; and

(ii) a minimum of 120 credits at Level 5 or higher, and

(iii) a minimum of 120 credits at Level 6 or higher, including the Individual Project, and

[Note: for IET accreditation, the Individual Project credits must be obtained without retake.]

(iv) a minimum of 120 credits at Level 7 or higher, including the Industrial Group Project.

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(b) have attempted modules worth no more than 470 credits at Levels 5, 6 and 7. (An attempt includes a first attempt and any subsequent retake of any module but does not include reassessment without attendance.)

An overall average mark for Levels 6 and 7 is calculated with a weighting of 40% for the best modules worth 120 credits at Level 6 and a weighting of 60% for the best modules worth 120 credits at Level 7. The MEng may be awarded with **Distinction** if this overall mark is at least 70% *else* with **Merit** if this overall mark is at least 60% *else* an MEng degree if this overall mark is at least 50%.

A student enrolled on the MEng course who fails to fulfil the requirements to be awarded an MEng degree (or who wishes) may instead be considered for the award of BEng (Honours) degree or BEng degree in accordance with the regulations for those courses. In such cases, credits and marks awarded for Level 6 MEng modules may substitute for Level-6 BEng modules. Other substitutions of Level 7 modules for Level-6 BEng modules may be made at the discretion of the Conferment Board.

BEng Honours Award

In respect of the modules described in this course scheme, to qualify for the award of **BEng Honours Computer Systems Engineering** a student must:

(a) have obtained at least 360 credits including:

(i) a minimum of 120 credits at Level 4 or higher, of which no more than 15 shall be condoned; and

(ii) a minimum of 120 credits at Level 5 or higher, and

(iii) a minimum of 120 credits at Level 6 or higher, including the final-year Individual Project, and

[Note: for IET accreditation, the Individual Project credits must be obtained without retake.]

(b) have attempted modules worth no more than 330 credits at Levels 5 and 6. (An attempt includes a first attempt and any subsequent retake of any module but does not include reassessment without attendance.)

Honours Classification: The class of degree will normally be determined as follows:

First Class: An average of 70% or higher in the best modules worth 120 credits at Level 6, with an average of at least 60% in the best modules worth 120 credits remaining at Levels 5 and 6.

Upper Second Class: An average of 60% or higher in the best modules worth 120 credits at Level 6, with an average of at least 50% in the best modules worth 120 credits remaining at Levels 5 and 6.

Lower Second Class: An average of 50% or higher in the best modules worth 120 credits at Level 6, with an average of at least 40% in the best modules worth 120 credits remaining at Levels 5 and 6.

Third Class: An average of 40% or above in the best 240 credits at Levels 5 and 6.

To achieve the award of **BEng Honours Computer Systems Engineering (Sandwich)**, the conditions for the corresponding named degree must be fulfilled plus the industrial placement must have been assessed as successfully completed.

The classification of the sandwich degree will be determined by the same criteria as for the corresponding named degree. The industrial placement will not contribute to the classification.

Intermediate Awards

Non-Honours BEng Degree: In respect of the modules described in this course scheme, to qualify for the award of **BEng Computer Systems Engineering** a student must:

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(a) have obtained at least 300 credits including:

(i) a minimum of 120 credits at Level 4 or higher, of which no more than 15 shall be condoned; and

(ii) a minimum of 120 credits at Level 5 or higher, and

(iii) a minimum of 60 credits at Level 6 or higher, and

(b) have achieved a mark of at least 35% in the final-year project module.

The BEng Computer Systems Engineering may be awarded with **Merit** to a student whose marks average at least 60% across the best 150 credits at Credit Levels 5 and 6;

The BEng Computer Systems Engineering may be awarded with **Distinction** to a student whose marks average at least 70% across the best 150 credits at Credit Levels 5 and 6.

Diploma of Higher Education: In respect of the modules described in this course scheme, to qualify for the award of **DipHE in Computer Systems Engineering** a student must have obtained at least 240 credits including:

(i) a minimum of 120 credits at Level 4 or higher, of which no more than 15 shall be condoned; and

(ii) a minimum of 120 credits at Level 5 or higher.

The DipHE Computer Systems Engineering may be awarded with **Merit** to a student whose marks average at least 60% across the best 105 credits at Credit Level 5 or higher;

The DipHE Computer Systems Engineering may be awarded with **Distinction** to a student whose marks average at least 70% across the best 105 credits at Credit Level 5 or higher.

Certificate of Higher Education: In respect of the modules described in this course scheme, to qualify for the award of **CertHE in Computer Systems Engineering** a student must have obtained a minimum of 120 credits at Level 4 or higher, of which no more than 15 shall be condoned.

The CertHE Computer Systems Engineering may be awarded with **Merit** to a student whose marks average at least 60% across the best 105 credits at Credit Level 4 or higher.

The CertHE Computer Systems Engineering may be awarded with **Distinction** to a student whose marks average at least 70% across the best 105 credits at Credit Level 4 or higher.

Support for Students

On arrival, an induction programme will introduce students to the staff responsible for the course, the campus on which they will be studying, the Library and IT facilities and to the Campus Administration. Students will be provided with the Course Handbook, which provides detailed information about the course. Students are allocated a personal tutor who can provide advice and guidance on academic matters.

Learning support includes the Library which, across its four sites, holds printed collections of 412,000 books, 1,600 journal subscriptions and substantial audio visual collections. Access to over 6,500 electronic resources (databases, e-journals, e-books, exam papers and links to recommended websites) is facilitated through infoLinX, the library portal.

There are over 3,500 computers spread over the four University campuses available for students use. The University uses a Virtual Learning Environment called Blackboard where students can access course materials and communicate with staff and other students via message boards.

At University level, Services for Students provide advice and guidance on accommodation, financial and legal matters, personal counselling, health and disability issues, careers and the

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chaplaincy providing multi-faith guidance. The International Education Office provides particular support for international students. The University of Westminster Students' Union also provides a range of facilities to support all students during their time at the University.

Reference Points for the course

Internally

- University Quality Assurance Handbook and Modular Frameworks
- Staff research and development in Electronics and Communications
- Industrial advisory panel

Externally

Mainly:

- UK-SPEC (Engineering Council's UK Standard for Professional Engineering Competence) *The Accreditation of Higher Engineering Programmes*
- IET (Institution of Engineering and Technology) *Academic Accreditation Guidelines*
- QAA Subject Benchmark for Engineering

Also:

- EPC (Engineering Professors' Council) The EPC Engineering Graduate Output Standard
- QAA Guidelines for Preparing Programme Specifications
- SEEC Credit Level Descriptors for Further and Higher Education

Quality Management and Enhancement

Course Management

This course is managed by staff from the Department of Electronics, Networks and Computer Engineering (ENCE) in the School of Electronics and Computer Science. 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 School of Electronics and Computer Science takes overall responsibility for all departments within this School.

Course approval, monitoring and review

This course has been developed from and built upon similar courses previously approved by University Validation Panels. The Panels included internal peers from the University and external subject specialists from academia and industry to ensure the comparability of the courses to those offered in other Universities and the relevance to employers. Quinquennial Course Reviews help to ensure that the curriculum is up-to-date and that the skills gained on the courses continue to be relevant to employers.

Our courses are monitored each year by the School of Electronics and Computer Science to ensure that they are running effectively and that issues that might affect the student experience have been appropriately addressed. Staff will consider the outcomes from the Course Committee, evidence of student progression and achievement and the reports from External Examiners to evaluate the effectiveness of the course. The Campus Academic Standards Group audits these processes and the outcomes are reported to the Academic Council of the University, which has overall responsibility for the maintenance of quality and standards in the University.

Student involvement in Quality Assurance and Enhancement

Student feedback is important to the University and student comment is taken seriously. The most formal mechanism for feedback on the course is the course committee. Student representatives are elected to sit on the committee to represent the views of their peer group in

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the discussions held at the committee. The University and the Students' Union work together to provide a full induction to the role of the Course Committee. Students are asked to complete an end-of module questionnaire at the end of each module. The feedback from this informs the Module Leader on the effectiveness of the module and highlights areas that could be enhanced. Students meet with Review Panels when the periodic review of the course is conducted to provide oral feedback on their experience on the course. Student meetings are also held on an annual basis with representatives of the School Academic Standards Group as part of the annual monitoring process.	
For more information about this course: Admissions tutor: Dr Mohammed Al-Janabi Course leader: Dr Viv Bartlett Web site: http://www.westminster.ac.uk/schools/computing/subjects/electronic-engineering	
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 Handouts which provide more detailed information on the specific learning outcomes, content, teaching, learning and assessment methods for each module.	