



University of
Strathclyde
Engineering

MEng/BEng (Honours)

ELECTRONIC and

ELECTRICAL ENGINEERING

MEng/BEng (Honours)

ELECTRONIC and ELECTRICAL ENGINEERING

Everywhere you look electronic & electrical engineering is there – from efficient energy systems to lower carbon emissions, high-speed fibre optic broadband, digital sound and vision, and internet security, to electronic systems at home, in entertainment technology and industry.

Studying the electronic and electrical engineering discipline opens many doors, and with two million new employees needed in the UK engineering sector by 2020, career opportunities are vast.

There are three premium degrees designed to capitalise on such opportunities:

- MEng/BEng (Honours) Electronic and Electrical Engineering
- MEng Electronic and Electrical Engineering with Business Studies
- MEng Electronic and Electrical Engineering with International Study

Each of these degrees is accredited by the Institution of Engineering and Technology (IET), meaning after work experience, you can become a Chartered Engineer (CEng).

Course Syllabus

Year 1 – Core Engineering & Science Skills

Classes in mathematics, engineering science, analogue and digital circuits, software design, electronics, electrical engineering, computing and business are taken.

You complete a variety of group-based laboratory projects to gain practical training in core engineering applications and project management skills.

Year 2 – Core Engineering & Technology Skills

The study of analogue and digital electronics continues, with an introduction to basic concepts in signal processing. Further study includes the design and analysis of electrical and microcontroller-based instrumentation systems, coupled with further classes in advanced maths; all supported by practical and teamworking activities.

Year 3 – Specialist Engineering Skills

You develop specialist engineering skills through classes on the following topics:

- Signals & Communications Systems
- Analogue & Digital System Design
- Electronic & Electrical Engineering Principles 3
- Instrumentation & Microcontrollers
- Engineering Innovation and Management
- Engineering Analysis
- Engineering Project
- Renewable Energy Technologies

Years 4 & 5 – Engineering for your Professional Future

You personalise your curriculum through a selection of classes combined with individual and group project work.

In the MEng Business Studies stream, you'll take specialist classes in business, entrepreneurship and management along with the technical engineering classes.

These are delivered by the University's Business School – Times Higher Education UK Business School of the Year 2016.

The MEng with International Study integrates a full academic session, Year 4, at a partner university overseas. Language study is available in Years 1- 3 to prepare for Year 4 and full academic credit is given for classes studied at the overseas partner. You can study in Europe, the USA, Canada, Hong Kong, Singapore, Australia and New Zealand.

Year 4 (BEng (Honours) & MEng)

You undertake an individual design project to enhance your technical and project management skills, and develop specialist engineering knowledge by choosing classes from the following topics:

- Photonic Systems
- Communications Networks
- Control Principles
- Digital Signal Processing
- Power System Design, Operation & Protection
- Information Transmission and Security
- Analogue Systems
- Power Electronics, Machines & Applications

Year 5 (MEng only)

A group design project is completed, along with a selection of advanced classes.

The project will have a strong industrial influence, requiring you to use both your hardware and software skills to create a working prototype to showcase at the end of year exhibition.

- Advanced Digital Signal Processing
- Control Techniques
- Advanced Power System Analysis and Protection
- Power Systems Economics, Markets and Asset Management
- FPGA-based Embedded System Design
- High Voltage Technology and EMC
- Advanced Microcontroller Applications
- Mobile and Wireless Communications
- Image and Video Processing
- Robotics Design
- Wind Energy Systems

Teaching and Assessment

A blend of student-centric methods, including interactive lectures, small group problem-solving tutorials, practical laboratories as well as industrial visits and seminars by professional engineers are used throughout all years of study.

The programmes ensure that you develop not only technical engineering and computing expertise, but also, and equally importantly, communication, project management, leadership and entrepreneurial skills.

There is a wide range of assessment methods, including assignments, examinations and individual and group-based projects. Both class delivery and assessment make use of web-based and multimedia facilities.

The course typically consists of around 10 lectures, five tutorial/problem-solving classes and three practical classes per week. Students also undertake around 20 hours of self-study.

Scholarships and Work Placements

Our department runs one of the UK's largest industry-supported Scholarships Programme, providing annual bursaries of up to £5000, as well as help with books, software and paid summer internships with a range of well known, international organisations such as Rolls-Royce and ScottishPower.

Students are also eligible for other scholarship schemes the department participates in, such as those offered by BP, Siemens, the Wood Group and the IET Power Academy.

EEE is the only Department in Scotland in the IET Power Academy. It supports career development in the energy sector and offers unparalleled access to major energy companies such as Scottishpower, SSE, National Grid and Rolls-Royce.

For details search for engineering scholarships at www.strath.ac.uk.



I hope to build a career in the engineering industry, and my course is providing theoretical knowledge, hands-on experience and networking opportunities necessary to succeed in this field.

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BEng ELECTRONIC & ELECTRICAL ENGINEERING



Careers

These degrees give graduates a broad technical knowledge and understanding of the entire electronic and electrical engineering discipline. Combined with their team-working, numeracy and problem-solving skills, they are well prepared for today's job market and very highly prized by employers.

Careers exist in renewable energy, the power sector, communications, consumer and electronic design, finance and IT, oil and gas, and the automotive and aerospace industries.

Over 60 different companies target these degrees every year. Last year's graduates took up well-paid positions with companies including BAE Systems, ScottishPower, Shell Global Solutions, HBOS, JP Morgan, Network Rail, and Vodafone.

Contact

Academic Selector

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www.strath.ac.uk/studywithus

the place of useful learning

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Information current at August 2017. Please consult the University website for the most up-to-date information. The University of Strathclyde is a charitable body, registered in Scotland, with registration number SC015263.