Undergraduate Electrical and Electronic Engineering
Do you think green energy and transport are important? Did you know that electronic engineers develop life-saving medical instrumentation? Do you believe the internet and the growth of mobile communications have had a huge effect on society? If you have answered “yes” to any of these questions, you have already understood the impact electrical and electronic engineering has on our lives. In fields as diverse as mechanical and aerospace engineering, power generation, transport, healthcare, quantum information, computing, artificial intelligence, cryptography and communications, electrical and electronic engineers are busy developing the technologies that will shape our future. This is why electrical and electronic engineering is one of the broadest of the engineering disciplines you could choose to study – in terms of the range of career possibilities it offers.

Links with local industry help to make the University of Bristol an excellent place to study electrical and electronic engineering. Renewable energies and smart grids are two of the fastest growing UK sectors, with the world’s largest number of renewable energy-related small and medium enterprises being based in this region. Bristol is also home to Europe’s largest cluster of microelectronics industries, the UK’s biggest aerospace companies and a thriving creative media industry.

Why study electrical and electronic engineering at Bristol?

I always enjoyed maths and science and finding out how things worked, so this course was perfect. During my penultimate summer I interned at Arup and now work for them. I’m involved in the design of communication systems in transport projects, carrying out environmental impact assessments of new buildings and the effect on residents’ radio and TV systems.

I really enjoyed my time at Bristol. After gaining a good foundation in electrical and electronic engineering, I specialised in a subject that I found particularly interesting, being taught by world-class experts in this area.

Hannah

MEng Electronic and Communications Engineering, 2009
Communications Consultant, Arup

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0.5 million tonnes of CO2 emissions would be reduced annually using our design of signal amplifiers for mobile phone mast

Hannah
MEng Electronic and Communications Engineering, 2009
Communications Consultant, Arup
What will I study?

**Single Honours courses**
- **BEng Electrical and Electronic Engineering**, three years H600
- **MEng Electrical and Electronic Engineering**, four years H606
- **MEng Electrical and Electronic Engineering with Study Abroad (entry by transfer from H606 at the end of first year)**
- **MEng Electrical and Electronic Engineering with Study in Continental Europe, four years** H605
- **BEng Electronic and Communications Engineering**, three years H640
- **MEng Electronic and Communications Engineering**, four years H623

**Joint Honours courses**
- **MEng Computer Science and Electronics**, four years GH46
- **MEng Computer Science and Electronics with Study Abroad**, four years GH4P

Our subject consists of several themes. Electrical engineering is concerned with the "power" aspect of electricity, including topics such as renewable energy or high-performance electric drives for green vehicles. Electronic engineering uses electricity to convey signals, as in medical equipment, music systems or computers. Communications is a branch of electronic engineering that covers the transmission of data, sound and images – possibly over long distances and in hostile conditions, or even just between a wi-fi router and your phone.

The normal route to becoming a chartered engineer is through our four-year MEng degrees, but we also offer three-year BEng degrees. The MEng provides more breadth and depth than the BEng, and you take a major group project as well as your individual research project. We offer both three- and four-year courses in the broader electrical and electronic degree or the slightly more focused electronic and communications degree. All these courses are common for the first two years, so you can transfer between them until the start of the third year. By that stage you will know which areas of the subject particularly interest you.

The first laboratory sessions in year one ensure that you understand the basic concepts. Often, they will be delivered in conjunction with the Dynamic Laboratory Manuals, providing online resources to allow you to explore the laboratory activity online before you go into the lab. From the middle of year one onwards, you will be encouraged to start designing hardware and software solutions in collaboration with your laboratory partners. The project in year three of the MEng degrees will teach you about the challenges of teamworking as well as technical issues. Much of your final year will be spent on your individual project. Although we will suggest a wide range of possible project titles, you will be free to come up with your own idea.

If you would like to take part of your studies outside the UK, you should consider the MEng with Study Abroad and the MEng with Study in Continental Europe. These involve spending your third year at an overseas institution, studying in English or in a foreign language, respectively. Destinations include France, Germany, Spain, the USA and Australia.

In conjunction with the Department of Computer Science, we offer a Joint Honours MEng in Computer Science and Electronics, in which you would normally take an industry-based project as part of your third year.

You will have an average of 20 – 25 timetabled hours per week in term time. Typically half that time will be spent in lectures and the remainder on laboratory work, where you can try out what you have learnt in the lectures. Engineering is a creative subject, and we try to reflect that in the curriculum. As you progress through your degree, you will find that practical activities give you increasing freedom to make your own design decisions.

Throughout your degree you will be given feedback on your performance to help you improve. Your degree result will be based on a mixture of coursework marks and examination marks.

95% of students agree the course is intellectually stimulating (National Student Survey 2013)
As one of our graduates, you will be highly sought after. Our graduates find employment in a number of industries: broadcast, mobile and optical communications; alternative and green energy; integrated circuit design; medical engineering; avionics; consumer electronics and computer networking, to name but a few. Some of our graduates go into research while others pursue careers outside engineering.

As well as the support offered by the University’s Careers Service, our engineering students benefit from a dedicated Industrial Liaison Office, which develops engineering-specific industrial links for students. Its work includes running special internship and mentoring schemes for engineering students, organising industry-specific ‘Inside Track’ lectures, and establishing industrial scholarships, prizes and projects.

What are my career prospects?

£29k

our graduates earn starting salaries up to this amount*

*Destination of Leavers from Higher Education survey 2011/12

Making your application

When applying, it’s important that you demonstrate a genuine interest in your chosen course, so please visit our website and read through the detailed information on the courses and units that we offer. In your personal statement, we are looking for genuine enthusiasm and commitment to the subject, highlighting any relevant work experience or extracurricular research you’ve undertaken, what interested you about it and why.

To join the Study in Continental Europe course, you will need a good language qualification to at least GCSE-standard.

Further information

Find out more about the Department of Electrical and Electronic Engineering: bristol.ac.uk/eeng

For details of the MEng courses in Computer Science and Electronics please visit our mini-website: bristol.ac.uk/engineering/interdisciplinary/cse

Entrance requirements

Typical offer for BEng/MEng Electrical and Electronic Engineering

Please visit bristol.ac.uk/ug15-eleceng for Joint Honours and other qualifications

A-levels AAA including Mathematics (contextual offer AAB including A in Mathematics†)

IB Diploma 37 points overall (contextual offer 35†) with 6, 6, 6 at Higher level including Mathematics

Access Pass Access to HE Diploma with at least 30 credits at Distinction including Mathematics and 15 credits at Merit

English Language Profile E*

GCSEs Mathematics and English Language

Selection UCAS or Common Application

Part-time study Not available

Deferred entry Welcomed

*For details of English language profiles please visit bristol.ac.uk/study/undergraduate/language-requirements

†For information on contextual offers please visit bristol.ac.uk/study/undergraduate/apply/#typical-contextual-offers

bristol.ac.uk/study

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