Study Electronic Engineering at York
Undergraduate degree programmes
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Electronic Engineering drives our world of new technologies. Devices designed by Electronic Engineers feature in all aspects of modern life, including computers, mobile phones, robotics, the internet, digital television, satellites, aerospace, medical scanners, security systems and sustainable energy. Engineering degrees are a fascinating and challenging choice, with well-qualified graduates being in high demand in global industries.

The University of York is one of the leading institutions for the study of Electronic Engineering. Our Department is working on applications in wireless communications, aerospace, biologically-inspired computing, music systems, building acoustics, assistive technology for the disabled, three-dimensional imaging, machine vision, and broadcast engineering – to name but a few. This diversity is reflected in our wide selection of IET accredited engineering courses, which combine a flexible broadly-based syllabus with the opportunity for specialisation via a range of advanced options and projects.

Our courses are both demanding and innovative, giving our graduates a proven advantage in the employment market. Teaching is carried out via a mixture of lectures, laboratories and individual and group project work. York has a particular reputation in the use of small group teaching, individual support, and personal supervision by academic staff.

All courses begin by providing students with an understanding of the basic principles of electronic engineering, whilst developing their skills in maths and computing. Modules then combine these fundamental elements into systems that meet the needs of particular applications. Options provide the additional ability for students to explore their own individual interests.

Running through all courses is a significant portion of project work. In early years, group design/project work is incorporated into many of the modules. In later years, a team software engineering project enables students to simulate operating as a commercial business. Final year students have substantial individual projects, sometimes out in industry. The Department fully recognises the vital nature of this kind of supervised study to prepare students for the world of work. In turn, we have a widely recognised reputation for producing high quality graduates with skills relevant to a range of career paths.

Complementing the courses, the Department and University offer excellent facilities and a pleasant campus environment. The Department possesses its own computing laboratories and industry-standard digital media and recording studios. The University also has a new £6.5 million Nanotechnology Research Centre. New students are housed on campus which offers a variety of competitively priced accommodation. Numerous student societies offer something for everyone, including the ‘ShockSoc’ Electronics Society, television and radio stations (YSTV and University Radio York), a film society and a whole host of sporting and leisure activity groups. The vibrant centre of historic York is just fifteen minutes away.
Course list

BEng/MEng Electronic Engineering*
BEng/MEng Electronic and Computer Engineering*
BEng/MEng Electronic Engineering with Nanotechnology*
BEng/MEng Electronic Engineering with Music Technology Systems*
BEng/MEng Music Technology Systems*
BEng/MEng Electronic and Communication Engineering
BEng/MEng Electronic Engineering with Business Management*
BEng Electronic Engineering with a Foundation Year (4 years)
BEng Music Technology Systems with a Foundation Year (4 years)

BEng courses are three-year programmes unless otherwise stated; MEng courses are four-year programmes, excluding year in industry.

*These courses can be taken with an additional year in industry
Please see the website for UCAS codes and further details

COURSE STRUCTURE

All of our courses have a similar structure, with a common core of electronics material in the BEng/MEng courses. As each course progresses, there is flexibility with a choice of options providing the “flavour” for each of the specialities.

Alongside the core and optional modules, we regard projects as a vital element of our courses and students will be involved in projects throughout their time with us. Group projects are introduced in the early years, with the content relating to the student’s particular course.

In the third year MEng students carry out a major team project in which they have to produce a significant software package to commercial standards. All final year students carry out an individual project which provides a substantial contribution to the final degree marks.

The structure of the BEng Honours degree course is identical to that of the MEng for the first two years, but involves a shorter individual project and smaller range of subjects and options in the final year.

Core Subjects Include:
- Analogue Circuit Design
- Communication Systems
- Electromagnetic Waves, Transmission Lines and Noise
- Design Projects and Laboratory Practical
- Mathematics
- Digital Circuit Design and Programming
- Software Engineering and Programming in Python/Java/C
- Signals and Systems
- Control Engineering
- Business Management

Advanced Subjects Include:
- Mobile Communication Systems
- Bio-Inspired Computation
- Electronics for Medicine
- Emerging Nanotechnologies
- Cloud and Distributed Computer Systems
- Sensors and Instrumentation
- Strategic Management
- Internet and LAN Protocols
- Mobile Applications
- Robotics
- Processors for Mobile Devices
- Wired and Wireless Transmission
- Information Storage and Spintronics
- Photonics and Nanophotonics
- Accounting and Finance
- Algorithms and Numerical Methods

For more information on the content of our courses see our website:
york.ac.uk/electronic-engineering/undergraduate/courses
Studying in the Department

IET ACCREDITATION

All our degree courses are accredited by the Institution of Engineering and Technology (IET), which is one of the largest multidisciplinary professional engineering institutions in the world. The Department of Electronic Engineering is an Academic Partner of the IET, which means that all students are automatically student members of the IET and have their membership fees paid.

Accreditation is important – it means that the IET has approved all of our courses as fulfilling a major part of the educational requirements for Chartered Engineer (CEng) status and, in fact, our MEng courses meet the full requirements. IET membership and CEng status also provide a direct entry route to the award of European Engineer (EUR ING). IET accreditation makes all of our degrees instantly recognisable to employers as high quality engineering degrees. At the last IET evaluation, the Department was not only awarded full accreditation for all degree courses, but was recognised by a special award for 25 years of accreditation.

TEACHING QUALITY

The Department has performed consistently highly in the National Student Survey (NSS) and places considerable importance on student feedback.

Athena SWAN

Athena SWAN is a Charter that recognises and celebrates good employment practice for women working in science, engineering and technology in higher education and research. This extends across both student and staff representation and experiences. The Department is one of the very few Electronic Engineering departments in the UK to hold a Bronze award.

COURSE VARIATIONS AND YEAR IN INDUSTRY

BEng degrees are three year courses leading to the award of Bachelor of Engineering. For the extensive final year project, they may be sponsored by one of our industrial contacts: the work takes place in our laboratories, tackling a problem defined by the industrial sponsor, with whom the student will have frequent contact.

MEng (Integrated Masters) degrees are four years in duration and lead to the award of Master of Engineering. Along with the inclusion of more advanced topics, the final year includes a substantial 5-month project, often carried out at an industrial sponsor. The project is jointly supervised by the sponsoring company and the Department: the marks awarded form a significant percentage of the final degree award. Sponsoring companies are arranged by the Department in conjunction with the student. Alternatively, students may carry out their final year project with one of our academic research groups.

MEng courses are particularly appropriate for those wishing to enter careers in research and design, or those with specialised interests eg Computing, Communications, Music Technology or Business Management. They are also important for those wanting to pursue opportunities in Continental Europe where employer expectations are for graduates with long periods of training. We believe that the four-year courses offer an enhanced learning experience and are the ideal route forward for many students.

Year in industry options are available on all of our degree courses, where one year is spent on an industrial placement that contributes towards the final degree. For Bachelors courses, this is between the second and third years of the degree course ie 2:1:1. For MEng courses, students take the year in industry after the third year of the course ie 3:1:1. The Department gives assistance in finding a suitable sponsor and a member of the academic staff will visit the student during their placement. Students find the experience gained invaluable in determining career options, and often students have found that placements lead to job offers on graduation. Some companies are also prepared to sponsor students for all or part of their studies.

CHANGING COURSES

The Department offers a wide range of degree courses in Electronic Engineering and related subjects. You may find once you are here that you have a strong bias towards Computing, Communications or one of our other streams, or that you wish to take a year in industry. The courses, with the exception of Music Technology Systems and Nanotechnology, have been structured to allow transfers. Usually it is possible to transfer from one course to another during the first year and in some cases during the second, if all prerequisites have been met.

It is also simple to transfer from BEng to MEng variants of the same course at any time during the first two years. Progression from the second to the third year of the MEng degree is dependent on satisfactory academic progress.
York has exactly the right mix of pure theoretical electronics and more practical application of this theory. I knew from the interview, and the open opportunity this presented to find out more about the course and the university, whilst they tried to find out more about me, that I would be happy here. The facilities are excellent, and have everything you could ever want! Subjects are taught by a variety of leading academics, each with their own style and interesting tales. But it’s more than just the course: York has around 200 student societies, led by and for students. I couldn’t imagine having done Uni in any other way, or at any other place.”

Stephen (Fifth year, MEng in Electronic Engineering with a year in industry)
Department facilities

The Department of Electronic Engineering aims to give students the best possible teaching environment. Housed in a complex of purpose-built buildings, we are conveniently located in the centre of the campus and all areas are accessible by ramp or lift. In addition to well-equipped lecture theatres, the Department has the following specialised facilities:

Teaching laboratories
The Electronic Engineering teaching laboratories have been completely re-equipped and extended at a cost of over two hundred thousand pounds. To complement these facilities a comprehensive range of fully integrated Audio-Visual equipment is available including twin data projectors and screens, electronic visualiser system, radio microphones and facilities to show our custom multimedia training material in the laboratories.

We provide the latest test equipment and laboratory instruments to enable our students to develop their practical skills in core electronic engineering. Typically, students work in pairs at each standard workstation, which includes a PC, 60MHz Digital Storage Oscilloscope, power supply, pulse & signal generators and other general-purpose test equipment. This is supplemented by specialised equipment and purpose built teaching aids, including:

- Network analysers, spectrum analysers and synthesised signal sources for radio frequency engineering laboratory work
- CPLD and FPGA micro-controllers for hardware aspects of digital and computer engineering (in addition to software in the Departmental Computing Laboratory)
- Purpose built digital communications hardware simulators
- Clean room and device fabrication facilities and electron microscopy in conjunction with our Nano-fabrication Centre
- Design and fabrication facilities for unmanned aerial vehicles for practical work in avionics

First year students undergo an intensive introductory laboratory programme at the beginning of their course, designed to familiarise them with equipment they will be using and develop key skills. These include fault finding techniques, soldering exercises and circuit prototyping and PCB manufacture.

For project work in all years, students have access to the Advanced Digital Manufacturing Laboratory. A new student project laboratory has also been created and fitted out with an entire suite of new PCs and iPad / iPhone workstations to extend the provision already available in the Department’s own extensively equipped computing laboratory.
Advanced digital manufacturing laboratory
The Department has invested over a hundred thousand pounds in a Digital Fabrication Laboratory: a combination of sophisticated 3D CAD software and machines that can direct manufacture. Students can produce a wide range of 3D items, from low cost consumer grade Fused Deposition Modelling to high resolution Stratasys (28-micron) liquid photopolymers.

The laboratory also contains an advanced multi-material 3D printer; a 4-axis computer controlled miller; a 60W computer controlled CO2 laser cutter and engraver; an LPKF board router, which enables PCBs to be manufactured very quickly and without the need for chemical processes, greatly speeding the design iteration cycle.

Departmental computing laboratory
The Department’s computer laboratory is situated in a purpose-built facility, offering video projection equipment for teaching purposes. It provides a comprehensive set of PCs with permanent Internet access via the campus gigabit network. The PCs offer a wide range of both general purpose software, such as word processing, web authoring and email, plus specialist teaching software, including Java Eclipse, C, MATLAB and PSpice along with ARM cortex-M RISC development platforms. The laboratory is equipped with a range of Xilinx design tools and FGPA based hardware platforms. These are used to provide practical hands-on experience with digital design, microprocessor architectures and embedded systems. As well as access to their central filestore and email, Electronic Engineering students also have access to additional filestore for use in group projects, assessments and laboratories, helping to promote teamwork and interpersonal skills. The filestores are accessible on-campus via both wired and wireless hotspots, off-campus via an ISP and on-campus study bedrooms. Electronic Engineering students have exclusive access to the laboratory 24/7. This is in addition to 24/7 access to campus computer classrooms. Technical support is provided by our own departmental Computer Support Group.

Recording studios
The Department has extensive recording studio facilities consisting of three control rooms, two live rooms and a DAW editing room. One control room is built around a traditional analogue desk coupled to the latest digital recording technology, while the other control rooms are designed for digital audio/video post-production and surround-sound work. The DAW editing room contains identical software and interfaces to the digital control rooms and can be used for pre-production and editing work. An adjacent Digital Media Suite contains four more DAW-based workstations, as well as a surround speaker rig and projection facilities. All the facilities are connected by gigabit networking, providing a fully-integrated multimedia production environment enabling full audio-for-video production work for both teaching and research-based activities.

When the Recording Studios are not in use for teaching purposes, they can be booked for assignments or personal use. A wide range of location recording equipment is also available. Full descriptions of all the equipment in each of the Recording Suite rooms can be found on our web pages.
Immersive Audio for Virtual Reality
A major part of audio research at the Department of Electronic Engineering lies in designing immersive audio systems for virtual reality. Dr. Gavin Kearney and his team work closely with industry to provide the best sounding 3-D audio experiences for VR systems. Their recent work has been adopted by Google as part of their YouTube 360 and virtual reality audio pipelines. Essential to this research is the creation of realistic and immersive soundfields over both loudspeaker arrays and headphones. To facilitate their work, the AudioLab houses a custom-made 50 channel Genelec loudspeaker system with which the team can gain a better understanding of the perception of realistic and immersive 3-D soundfields so that such experiences can be replicated over headphones.

Digital media suite
The digital media suite is a professionally designed facility providing industry standard production and post-production tools. The suite has the same audio software and hardware and shares a high-speed local area network with the recording studios enabling powerful distributed rendering of graphics, composite effects and intensive audio processing.

Nanotechnology research centre
This multi-million pound facility represents a major long term collaboration between the University of York, Yorkshire Forward and JEOL UK Ltd, world leaders in electronic optics. In addition to supporting world class research activities, we offer undergraduates on the Electronic Engineering with Nanotechnology programme the opportunity to use the centre's highly specialised facilities for project and other work.

Student societies
The University offers a huge variety of student societies for all manner of leisure and sports interests – details can be found at yusu.org/societies. The following may be of particular interest to our students.

ShockSoc
Shocksoc is a society that gets people in the department together, for both social and academic events. It is a society aimed mainly at Electronic Engineering students but all York students are welcome to join. Events have included 'Q factor' – a staff/student battle of the bands and 'Spacewire' – a talk about engineering in space. After this talk, they got the idea of sending something into space – which is now their long-term project. To find out more see facebook.com/shocksoc or email shocksoc@yusu.org.

Media and music
There are numerous opportunities to become involved in musical activities and/or media production on campus. These include the student run television station (YSTV) with its own studio facilities, a student run radio station (University Radio York), and independent film production group (the Cinematography Society), two student newspapers, and a range of other publications. Students who play music can audition for university ensembles or orchestras, or form their own group. There are also two concert halls, a small theatre, an audio-visual studio, rehearsal rooms and a range of halls that can be used for dramatic and musical productions of all types.
COMMON FEATURES OF THE DEGREE COURSES

Languages for all
Under the ‘Languages for All’ scheme run by the University, students can opt to study a wide range of languages at all levels from beginner onwards. Successful completion of a language option is recorded on the final degree certificate.

York Award
All undergraduates at the university have the option to join the York Award, a scheme aimed at providing further learning opportunities and to assist with the transition into later employment. It is a structured programme for skills and personal development offering courses in communication, career management and other areas. The award further recognises skills gained through paid and voluntary work experience.

Study abroad
There are opportunities to study for a part of the course in an overseas university. Either through exchange links with universities in Europe or in other continents through the Centre for Global Programmes.

Business management
All our courses include an element of business management. Skills essential to life in the world of industry are covered including communication skills, group working, costing and finance.

Computing content
All our courses use computers as tools for the analysis and design of circuits and systems, as well as for direct control and measurement by interfacing an electronic system to a microprocessor control unit. The development of computing skills including programming languages, software engineering techniques and microprocessor interfacing is an essential ingredient of all the courses.

Laboratory and project work
Practical skills are a vital part of any engineering degree course, and it is important that the laboratory and project work should integrate well with the taught courses. As part of the first year laboratory work students progressively assemble an audio amplifier/mixer module. The finished product can be taken away at the end of the year. Regular laboratories and workshops in the earlier years are supported directly by the taught course material and link into major projects.

Group engineering project
In the third year, all MEng students participate in a major software project. This is organised in teams that operate as self-contained units. Teams can trade with each other to buy and sell software modules (with notional money). The final product is a substantial piece of working software.

I have loved every minute of being at York; the stress before my exams and the relief after submitting assignments. It’s a course that requires dedication and hard work but rewards with captivating modules supported by enthusiastic supervisors and teaching staff. The course offers a great balance between theoretical and applied engineering that I was able to learn from and apply in a year in industry, an opportunity I would encourage everyone to take.”

Noor (Fifth year, MEng in Electronic Engineering with a year in industry)
BEng Final Year Project
In their final year, Bachelors students carry out a personal project supervised by a member of staff. Each year a large number of projects are offered to students as well as there being the possibility for students to propose their own project, or conduct a project in conjunction with an industrial sponsor. The project contributes to around one sixth of the final degree marks.

MEng Final Year Project
The MEng project runs in the Spring and Summer terms after advanced modules have been completed in the Autumn. Students may choose to carry out project work in industry, where it will be jointly supervised by members of academic staff and a supervisor from the sponsoring company. Projects are carefully vetted by the Department to ensure that the student undertakes a substantial and industrially relevant project.

Alternatively, they may choose to undertake the project in our research laboratories. The projects can span almost any application area, providing that the work involves the solution of a problem by the application of technological tools (analogue and/or digital electronics, microprocessor interfacing, computer systems, CAD, hardware or software, design, modelling, measurement, control, etc). Students studying Electronic and Business Management courses carry out a Management based project. All the projects share a certain open-ended nature in that they tend to be exploratory and investigative, allowing the student to take responsibility for their work and to control its direction and pace. Aspects of project management, such as planning, costing, scheduling, etc, are intrinsic to the work.

Sample Timetable Year 1, Spring Term

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<tr>
<th>TIME</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
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<tbody>
<tr>
<td>9.00</td>
<td>Engineering Design Workshop</td>
<td>Digital Systems Practical</td>
<td>Introduction to Programming Practical</td>
<td>Analogue Electronics and Physics Practical</td>
<td>Analogue Electronic and Physics Practical</td>
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<td>10.00</td>
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<td>11.00</td>
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<tr>
<td>12.00</td>
<td>Mathematics Lecture</td>
<td>Mathematics Lecture</td>
<td>Digital Systems Lecture</td>
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<td>Digital Circuits Lecture</td>
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<td>1.00</td>
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<td></td>
<td>Sports and Societies Activities</td>
<td>Introduction to Programming Lecture</td>
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<tr>
<td>2.00</td>
<td>Engineering Design Workshop</td>
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<td>Analogue Electronics and Physics Lecture</td>
<td>Analogue Electronics and Physics Lecture</td>
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<td>3.00</td>
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<td></td>
<td>Mathematics Lecture</td>
<td>Mathematics Workshop</td>
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<tr>
<td>4.00</td>
<td>Digital Systems Lecture</td>
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<td>Digital Circuits Lecture</td>
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<tr>
<td>5.00</td>
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TEACHING STYLE
We pride ourselves on the quality of the education we provide at York; most lecture courses are taught by staff that are active in leading-edge research. Practical sessions and the regular meetings involved in project work ensure that students have close contact with the academic staff.

We use lectures to convey the theoretical content of our courses, and combine these with a range of methods to allow students to apply and develop their knowledge. Tutorials allow the subject to be explored in greater depth in a small group. These are supported by problem sheets that students tackle in their own time. Workshops offer further support on a one-to-one basis. All of the theoretical material is then reinforced by extensive practical and computer laboratory sessions.

Project work is a particularly important teaching mechanism and projects occur throughout the course. The research groups are involved in a wide range of activities and individual final-year projects often contribute to the research output of the Department. Several projects have won national awards and others have led to published research papers.

At the end of each course module, students complete anonymous questionnaires that ask them to rate the course under various headings. These are then used by staff to monitor and evaluate the quality of the teaching. Students also elect representatives to a staff/student liaison committee, ensuring that their voice is heard on any matter affecting their interests.
The stress York places on excellent mathematical and theoretical skills ensures that York graduates are capable of filling jobs anywhere in the industry. We’ve hosted many final year student projects, and we’ve never failed to offer the student a job when they’ve graduated, and so far they’ve always accepted. One final year student project even went on to become a successful SONY product – I can’t imagine that happening with any other University.”

Peter Eastty (Director SoC Audio Processing at Apple, San Francisco)

A traditional York feature is that on arrival, every student is allocated a personal tutor who supervises their progress throughout the course. This regular personal contact and guidance is invaluable.

Aside from departmental provision, the University has a whole range of welfare support available to students. These include 24/7 College Welfare Teams and a Student Support Hub, who are there to provide information, support and advice on money, housing, employment, healthcare and other issues. There are also support networks for mature students and overseas students, a Disability Services centre, Dyslexia Support Officer and a student-run overnight help-line.

WELFARE

In school I came on a trip to the university, and knew it was where I wanted to study – I fell in love with the campus! I can’t express how happy I was to become a student at York, and it has gone above and beyond my expectations. The course offers a wide range of modules and specialisations, providing the opportunity to explore the different areas of engineering. The staff are amazing – they are enthusiastic about their subject area, and the support they provide is fantastic. When I graduate, I aspire to work in the space industry!”

Amy (Second year, MEng Electronic Engineering with Nanotechnology)
Admissions policy

MATURE STUDENTS AND FOUNDATION ENTRY

We welcome applications from mature students and those who already possess suitable entry requirements will be considered for first year entry. Students without appropriate qualifications, but who demonstrate potential, will be considered for our Electronic Engineering with Foundation Year course. This course is intended to address the needs of a wide range of people, for example:

- Those studying non-scientific/non-mathematical A level courses who wish to change the direction of their studies (The typical offer for these students is BBB)
- Mature students with no recent or advanced level qualifications
- Those wishing to re-enter education having left with qualifications below A level standard
- Overseas students whose school leaving qualifications are not the equivalent of UK Advanced Level

In all cases, the candidate will need to demonstrate that they can cope with the demands of a course that provides the equivalent of A level Mathematics and Physics in one year of study.

APPLICATION PROCEDURE

All applications must be made through the UCAS system (ucas.co.uk), but we will be happy to take enquiries and arrange individual or group visits and tours of our facilities in advance of a formal application.

We treat every application on an individual basis. All suitable candidates who are based in the UK will be invited for interview. The interview day is intended to give a broad overview of the Department, rather than be purely a selection process. We also provide a Parents’ Programme on interview days for any accompanying relatives/friends.

Precise offers are customised to each applicant and where they are still undertaking qualifications this will normally be conditional on the achievement of specified examination grades. Once results are available, if a student meets the terms of our offer they are automatically accepted. Where a student has missed the grades, we would not automatically reject the applicant. We look carefully at all the student’s circumstances, taking into account the reference, personal statement and performance at interview. In particular, we will always take into consideration cases where students have been ill or suffered personal or domestic problems. We prefer, however, to be informed of such difficulties prior to the release of results. Applicants who miss the terms of an MEng offer but make the terms of a BEng offer will automatically be offered the BEng version of their chosen course if York is their firm choice. A suitable pass mark in Year 1 then allows students to transfer to the MEng. If students decide that they wish to defer entry, for example to undertake a year in industry, there will be no difficulty in facilitating this – again, provided we are advised before the release of the A level results in August.

VISITS

We are always pleased to welcome visitors to the Department. Simply contact us on 01904 322365 to arrange a suitable date and time and we will be happy to show you and any relatives or friends around the teaching facilities and discuss any questions.

The University also holds general Open Days and other Pre-Application visit days/tours. Details of these can be obtained on the University website at: york.ac.uk.

The information in this brochure is correct at the time of going to press. It is issued for the general guidance of students entering the Department of Electronic Engineering and does not form part of any contract. The University hopes to provide the programmes and facilities described here, but reserves the right to withdraw or to make alterations to courses and facilities if necessary.
### TYPICAL ENTRY REQUIREMENTS

| A levels | **MEng:** AAA including Maths, one of Physics, Electronics or Chemistry, and any third subject excluding General Studies.  
**BEng** ABB including Maths, one of Physics, Electronics or Chemistry, and any third subject excluding General Studies.  
Alternate BEng offer for those not studying Physics, Electronics or Chemistry: AAB including Maths and any other two subjects excluding General Studies.  
Courses with Foundation Year: BBB excluding General Studies. |
|---|---|
| **Scottish Advanced Highers** | **MEng:** AA, **BEng:** AB including Mathematics and a science (preferably Physics) plus AAAAA (MEng) or AAABB (BEng) in a suitable range of Highers.  
Students with no science will be considered for BEng entry: AB plus AAAAB in Highers. |
| **Irish Highers** | **MEng:** AAAAAAB, **BEng:** AABBBB including Mathematics and Physics.  
Students without Physics will be considered for BEng entry: AAAABB |
| **BTEC National Diploma** | **MEng:** DDD, **BEng:** DDM in Engineering Diplomas with Distinctions in Electrical & Electronic Principles and Further Mathematics modules.  
Students taking other diplomas, such as IT, who are interested in our Engineering courses need to apply to do our course with a foundation year, offer: DDM.  
We also welcome applications from students taking a combination of A levels and National Diplomas. Please contact us if you wish you check your combination meets our requirements. |
| **International Baccalaureate** | **MEng:** 36 points overall, **BEng:** 34 points overall both with grade 6 in Mathematics and Physics at Higher Level. Students taking either of these subjects at Standard Level or students not taking physics, are asked to contact us for advice. |
| **Other non-UK** | The School Leaving qualifications of all other countries will be considered providing that the syllabus broadly equates to the content of UK Advanced Level, particularly in Mathematics and Physics. The same criterion applies to Foundation courses. For advice please contact us with details of your course content. |
| **English Language requirement (for those who don’t have English as their first language)** | IELTS 6.0 with 5.5 in each component or for alternative requirements please see: [york.ac.uk/study/undergraduate/applying/entry/english-language](york.ac.uk/study/undergraduate/applying/entry/english-language) |
Financial assistance

Government grants and loans
Non-repayable Maintenance Grants are available for UK students, depending on their financial situation. Loans for Living Costs and Fees are also available. More details on these and other awards that students from low income families may be eligible for are included in the University of York prospectus and website (see below). Students from other EU countries should note that although they are not eligible for assistance with living costs, in most cases they are eligible to apply for Fee Loans from the UK government.

University of York undergraduate bursary scheme
If you are a UK undergraduate student who is entitled to a Maintenance Grant, you will also be assessed for a University of York Undergraduate Bursary. The size of the bursary that you receive will depend upon the household income of your family. You will not have to apply for an Undergraduate Bursary, the University will calculate this automatically for you. Please ensure that when you apply for your student support you tick the box that allows the release of your assessment information to the University. Detailed information on grants, loans and the Undergraduate Bursary Scheme can be found on the University’s Student Support web pages at: york.ac.uk/studentmoney

Department scholarships for UK/EU students
Scholarships are available to the most outstanding first year UK/EU entrants. An internal panel will consider examination grades, performance at interview and any other indicator of academic or creative excellence.

Company sponsorship through the UKESF
The Department of Electronics is an invited member of the UK Electronics Skills Foundation (UKESF), which is a collaboration between industry and universities to promote careers in the electronics industry. The UKESF offers scholarships to students studying at member universities that include annual bursaries, summer work placements, mentoring and professional development training.

Students apply once they are studying at university and can start on the scheme from any year except their final year and continue until graduation. They are associated with a particular sponsoring company and will undertake at least one summer work placement. For more details see: ukesf.org

“Having studied Music at undergraduate level, completed a PhD at York which investigated the science of the singing voice, and trained as a singer at Trinity College of Music I’m now a full time lecturer in this Department. My interdisciplinary research concentrates on acoustics and combining music and science. I am especially passionate about the course I teach on hearing and voice as it is so closely related to my research area. I enjoy engaging the students in a topic that they don’t necessarily immediately associate with engineering or music. However, by the end of the course they are being creative, composing and performing with voice synthesis systems they have designed and understanding the potential benefits and applications of work in voice science.”

Dr Helena Daffern (Lecturer in Music Technology)

“My research focusses on new computer architectures, particularly self-repairing computers. We’ve turned to biological mechanisms for inspiration in developing new technologies. I use my research in teaching digital systems, covering both traditional and novel methods. It also features in undergraduate projects based in my research group.

We make great use of FPGA devices throughout digital teaching. These are the latest digital design chips that allow you to programme the hardware (yes the hardware) to design your digital function. Without replacing the chip you can upgrade its function by reprogramming it.

I’m thrilled that I can combine my world leading research with teaching some of the brightest electronic engineering undergraduates here at York.”

Professor Andy Tyrrell (Head of Department)
I arrived in the department in 1995 to study electronic engineering and having completed a PhD in communications systems I’m still here. My research focuses on large scale distributed communication networks. Practical applications include environmental monitoring, acoustic species identification and management and control of forest fires. Through my teaching I enjoy stimulating interest and enthusiasm in students about a subject I am passionate about. Projects and laboratory/PC classroom based courses are particularly enjoyable since they permit much more interaction with individuals. My PhD students take part in these activities, providing the students with technical support. It is pleasing to see students make breakthroughs in their understanding.”

Dr Paul Mitchell (Senior Lecturer in Communication Systems)
After Your degree

The continuing growth of the Electronics industry has ensured that the demand for engineers is significantly greater than the supply. Opportunities for electronic engineering graduates are diverse and substantial and graduates encounter little difficulty in obtaining jobs, mostly in well paid and rewarding areas. In fact, the employment ‘success’ rate for electronic engineering graduates from York is well above the national average for the subject. For those wishing to take different career paths, the transferable skills gained on our courses are recognised by employers as highly valuable.

Typically, 25-30% of our graduates carry on up to postgraduate level. Of those going into employment, the chart below shows the breakdown of careers.

Because of the wide range of opportunities available, our graduates enter all sizes of firm, from multi-nationals to small businesses, and some have even started their own companies. Others choose to continue their studies to MSc or PhD (doctoral level).
I’ve always known I wanted to solve interesting problems that matter to people. Given that Electronic Engineering forms part of just about everything in our lives, it seemed the right choice for me. After graduating in 2015 I joined BBC R&D and now I’m working on the media technologies of the future; whether that’s VR experiences, High Dynamic Range TV, or live news production on a smartphone. I’ve found that practical experience is very useful when looking for a future career and I got plenty at York.

As part of my degree I also took a year in industry. The Department helped me find my placement and offered support while I was away designing starter kits for a large microcontroller manufacturer. At University I spent a lot of my free time with one of our student societies too, YSTV. Putting the theory from lectures and labs into action on real projects rather than just my academic assessments was a key part of getting where I am today and I’m really glad I had the chance at York.”

Sam Nicholson (Trainee Research Technologist with BBC Research & Development)

I started at York in 2011 as a starry-eyed 18-year-old girl from Delhi full of excitement and apprehension about the next phase of my life. I was worried how I would adjust to a degree in electronic engineering, let alone to a new country. But I fitted right in, and there was no looking back.

My studies challenged me every step of the way and unleashed potential I never thought had. From fabricating and characterising nanodevices to learning about neural networks and artificial intelligence, exploring engineering solutions to environmental issues to researching bioelectronic devices fabricated with surface chemistry, I quickly realised I loved the challenge and problem solving opportunities, which introduced me to the world of research. I enjoyed my time in York so much that I stayed a year longer, changing to a MEng to pursue research in nanotechnology.

I am now doing a highly multidisciplinary PhD in building a new type of technology at the University of Auckland in New Zealand. The interdisciplinary skills I learnt in York have proven invaluable. And I’m still as starry-eyed about science and technology as I was on my first day at university!

Ankita Gangotra (PhD student, University of Auckland)