Engineers help build the future, extend scientific progress, and improve global economies. The mission of our School of Engineering is to develop forward-thinking innovators who are able to overcome challenging problems using teamwork, originality, and a rigorous scientific acumen.

The expertise of our academic staff expands across a broad range of fields, reflecting the interdisciplinary nature of the challenges modern engineers face. Our relatively small size and collegiate campus gives our School a friendly atmosphere that helps to foster a community spirit and positive interactions between staff and students. Our flexible degrees mean you can change specialisation, opt for an industrial placement and transfer between BEng and MEng pathways. During later years you can select optional modules and project work linked to and informed by our excellence in research.

Studying engineering involves cultivating a range of skills through theory and practice. We adopt a “learning-through-doing” approach, supported by our exceptional team of experienced technicians and support staff. This approach constitutes you solving real-world problems, addressing technical and broader challenges. Our graduates move on to rewarding careers in a diverse range of fields reflecting the needs of modern industry and the value of our interdisciplinary approach.

For more information please visit lancaster.ac.uk/engineering
Welcome to Engineering at Lancaster

Here, in the School of Engineering, we carry out research and teaching that reaches across so many areas of the world we live in today. Our work spans communications, energy, manufacturing, bioengineering, informatics and healthcare. What we do, and how we do it, really is quite extraordinary and we look forwards to meeting you and explaining our work to you.

Engineering is a discipline that really can take you to wherever you want to go; you are limited only by your ambition.

We have a great team of people that are here to help you to get the very best out of your university experience. Our strength lies in our diversity; we support each other, and we embrace individuality. We also recognise that the transition to university can be daunting.

We are here to help you make the best start to your engineering course; our technical team will help you make sense of hands-on practical work, and you will get the chance to use a wide range of specialist equipment; our administration and programme support team will help you navigate learning resources; your course-work submissions, and explain the assessment requirements of your degree; and our excellent team of academic staff will inspire you with their teaching and they will bring the subject to life with insight and examples drawn from their research, much of which has been undertaken with industrial partners.

Teaching methods we use include face-to-face lectures, small group tutorials, laboratory classes and computer-based design activity. Methods are deliberately varied, and we will involve you in lots of team-working with your fellow students, with technical staff and with academics. You will develop solutions to real-world problems; you will work in teams to complete projects and you will evaluate and present your engineering solutions. We will develop your creativity and innovation through open-ended design problems.

We have particular expertise in chemical engineering; electronic and electrical engineering; mechanical engineering; mechatronic engineering; and nuclear engineering. We also have strong local and international collaborations, across many areas of our research.

I hope you will consider studying with us and beginning your university journey in engineering at Lancaster.

Professor Sarah Green
CEng CEnv FHEA FIMMM FWES PhD
Head of School

For more information please visit lancaster.ac.uk/engineering

Studying Mechanical Engineering at Lancaster has opened my eyes to the range of opportunities and careers available within this diverse field. The variety of modules available within Mechanical Engineering has allowed me to explore sectors which I never even knew existed and to discover and pursue the topics which truly inspire me.

The academic staff within the School have a great technical understanding and are genuinely passionate about what they teach. Additional support outside of lectures is easily accessible through designated office hours, and group projects with other students also allows for the development of vital transferable skills.

The support and knowledge gained through the School enabled me to secure a summer internship at Amazon within their Operations sector, something which I believe wouldn’t have been possible without the skills developed throughout my degree.

Lydia Bellis
MEng Hons Mechanical Engineering
Pendle College

The School of Engineering has great connections with the UK nuclear industry and the lecturers have really gone the extra mile to help me find placements. The relatively small engineering cohort means the staff have a lot more time to give you outside of lectures.

The course is diverse and interesting. You still get to study all of the regular engineering topics, but it’s combined with physics, chemistry and an understanding of the social and economic forces driving the nuclear industry. Some of the best parts of studying Nuclear Engineering were the off-site visits (such as touring a local nuclear reactor in Heysham) as these bring the course to life.

I think Nuclear Engineering is a great course to study as it doesn’t limit you to working in nuclear power industry. In fact, every employer I’ve spoken to has been enthusiastic and positive about my degree choice.

Joe Spires
MEng Hons Nuclear Engineering
Grizedale College

Lydia Bellis
MEng Hons Mechanical Engineering
Pendle College

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Joe Spires
MEng Hons Nuclear Engineering
Grizedale College
In the course of your studies, you will not only develop the key skills and understanding of your chosen engineering discipline, but also through our common first year, the general engineering principles will make the difference in securing a successful and fulfilling career. You will develop the common language of engineering which enables effective communication and decision-making. You will also develop professional skills that will enable you to become a well-rounded engineer.

All our courses adhere to the principles of CDIO (Conceive, Design, Implement & Operate). This means that, alongside the theory and practical skills you would expect from a university education, you will also be exposed to open-ended real-world engineering problems which you will be invited to solve using a mixture of the design, engineering knowledge and practical and analytical skills that you have developed while considering economic, ethical, safe and sustainable solutions.

Your individual and group projects will be related to research activities of members of staff within the School. As all our academic staff are research active, this will provide you with a broad range of opportunity to get involved in work that is of interest to you and at the cutting-edge of research. These projects may also involve external organisations. Your work will therefore contribute positively to the local and wider community.

We always seek to provide forward-thinking course content delivered by experts within their field, we engage with engineering businesses who help shape our courses, the professional engineering institutions (such as the IET, IMechE, IChemE), the Engineering Professor’s Council and listen to and engage with student feedback and comments. We look forward to welcoming you to Lancaster.

Dr Fabrice Andrieux
Director of Undergraduate Teaching
School of Engineering

At Lancaster, we take great pride in the engineering education we deliver. All our undergraduate courses are accredited by the relevant professional institution (IET, IMechE or IChemE) and as such either partially (Bachelor’s) or fully (Integrated Master’s) meet the requirement for Chartered Engineer (CEng) registration.

In your first year you will spend two afternoons per week in the laboratory developing your practical skills. All our undergraduate degrees start with a general engineering first year regardless of which discipline you choose. This provides flexibility for you to change specialism and reflect the interdisciplinary nature of modern engineering.

Lectures consist of a presentation delivered by experts who will outline the subject material and stimulate your learning. The prime purpose of a lecture is to impart knowledge and to develop your understanding of a subject, so it is important to extract the content and the message from the information presented. Lectures are delivered through a combination of in-person delivery and online with recordings of all sessions available for you to revisit at your own pace.

In your first year you will spend two afternoons per week in the laboratory developing your practical skills.

Approximately 50% of your time should be spent on independent learning. This includes reading and understanding notes from lectures, Further reading, completion of coursework and practical work linked to modules and tutorials, and preparation for exams.

The assessment process varies across modules, but includes laboratory reports, project reports, presentations, online progress tests, tutorial sessions and exams. Assessment is continuous rather than just at the end of the degree and is appropriate to the learning outcomes assessed. This means we are able to provide feedback to you throughout your degree.

Engineering and mathematics modules are backed up by a scheme of weekly tutorial workshops in small groups of students with a member of academic staff as a tutor. For engineering tutorials there will be question sheets and exercises for you to complete as well as the opportunity to discuss the wider context of the work, ethics, careers and any other material important to your development as individual learners and professional engineers. Maths workshops are designed to help you apply your mathematical skills to reinforce material covered in lectures.

Professor Andrew Richardson
Director of Part I Teaching
School of Engineering

For more information please visit lancaster.ac.uk/engineering
What attracted you to study Engineering at Lancaster University?

What most attracted me to study engineering here was firstly, the offer of an initial general engineering year where I could get to know all types of engineering, and afterwards, be able to choose which path to follow knowing from experience what I enjoyed. Secondly, the excellent equipment of the School which had an extensive research profile and third, the fact that it offered lots of support for international students.

When did you know it was right for you?

From the very first moment I stepped on to the Lancaster University campus I knew it was going to become my first choice. I had already visited a few universities in UK, but nothing compared to Lancaster. The university and the city looked very student-based, and although it was compact it still offered all the facilities and shops that I’d need. I really liked the campus feel and that it was surrounded by nature.

Did you visit the School? What were your thoughts?

I visited the School with my family the year before starting university. I really liked the laboratory facilities and the open space. I also found very welcoming the C-floor breakout area where people just talked and relaxed in between laboratories. When I saw all this, I was sure this was the place I was looking for.

What has been your favourite aspect of your course so far?

One of my favourite things has been my 3rd year project. For Chemical Engineering students, it is a group report where everybody has to contribute to design a chemical plant to manufacture a product. Different aspects of the project are investigated, not only the chemistry but aspects like mechanical design, economic evaluation, plant layout and many more. This project has come to show how all the theory we have learnt in our modules is being used in practice, which I think engineering is all about, listening to the needs of a client and delivering a fully functional product.

What do you do in your spare time?

During my spare time I like practising sports, travelling, reading and most of all hanging out with my friends. Thanks to my Engineering degree and the multiple societies Lancaster has, I have been able to meet wonderful people that I know will be friends for the rest of my life.

For more information please visit lancaster.ac.uk/engineering

Maria Sanchez-O’Mullony Martinez

3rd Year MEng Hons Chemical Engineering
Supporting your studies

We pride ourselves on the wide range of services and support available to all our students.

**Small group weekly tutorials**

You will meet weekly with your academic tutor in a friendly atmosphere to reinforce what you have learnt in lectures, discuss the wider engineering context, and to provide a forum for professional and personal development. Tutorial support continues in Part II but on a termly basis providing a continuous tutor link throughout your time at Lancaster.

**Online learning**

Our online learning environment, Moodle, provides information and resources to support your learning. Lecturers utilise Moodle in a variety of ways such as delivering learning materials, uploading lecture recordings, opening up virtual discussion spaces, and updating you on course-related information.

It is used extensively for both delivery of material and for coursework submission. All of this links with the iLancaster app so you have a personalised timetable and can be kept updated with upcoming deadlines.

**Learning development**

There is a team of professionals to help develop your academic writing, critical thinking, exam technique and management of your studies. The University has a full time dedicated maths tutor who works closely with the School of Engineering to help provide extra support through workshops, tutorials, and one-to-one sessions.

**Wellbeing and support**

Lancaster has a range of specialist support services that work in partnership with the School and your college to offer you the right support at the right time.

Many students have medical conditions or impairments that can impact upon university life. If you have a condition that is classified as a disability, the Disability Service can help put in place various forms of support.

Our Counselling and Mental Health Service can provide short-term support to help you to continue to engage in your studies if you experience emotional and/or mental health issues. We have a medical practice on campus, pre-school centre and multi-faith chaplaincy.

**Careers**

Our School’s Academic Employability Champion leads careers advice and hosts a number of events throughout the year, including a dedicated Science and Technology Careers Fair. You will have access to our excellent Careers Service, which provides an innovative service for students and graduate employers. We offer lifetime support, help and advice to all of our students.

Enabling your career aspirations

With a strong focus on industrial projects, internships and work experience, our degrees will provide you with the support you need to achieve your career aspirations. Our undergraduate degrees provide excellent employment prospects. We provide careers advice and host a number of events throughout the year, including an annual Science and Technology Careers Fair.

**Industrial experience**

We actively encourage you to take time out of your degree to complete periods of time in industry, typically 12 to 15 months’ paid employment. These industrial opportunities can be arranged in conjunction with the University, directly with companies or through the Engineering Development Trust’s Year in Industry scheme.

**Elish Chambers, Bowland College**

**BEng Hons Chemical Engineering**

**Company:** GlaxoSmithKline

**Role:** Orals Technical Support Technologist

**Duration:** 1 year

I wanted to do a Placement Year to see what engineering looks like in the real world and help me narrow down my future career path. I was drawn to the pharmaceutical industry as the knowledge that there is a patient at the end of the supply chain brings a sense of purpose and motivation to my work.

In my role I support the day-to-day production of Augmentin Tablets and Suspensions, as well as leading projects which aim to continuously improve and optimise our processes. Outside of work, I’ve been involved in local STEM outreach projects and am working towards my EngTech registration with IChemE.

The world of work is very different to university life and the 6am wakeups definitely took some getting used to! My year in industry has helped me establish myself as a young professional and develop a network of contacts within an industry I’m passionate about. I have strengthened my communication and presentation skills, as well as improved my technical understanding of key engineering concepts, such as powder flow and unit operations.

My year in industry has been an incredible learning experience. In the long run, I hope my experience this year will make me more employable in the tough graduate market and act as a stepping stone into the pharmaceutical industry.
Our alumni

Our graduates are keenly sought after by employers in a range of industries, from small local businesses to large international corporations. Our graduates find that developing their skills through project work and engaging with a close-knit student community helps prepare them for exciting industrial careers after leaving Lancaster.

Project Manager - Jaguar Land Rover
Sophy Ellis
BEng Hons Mechanical Engineering
County College

I currently work at Jaguar Land Rover as a Project Manager overseeing ADAS (Automated Driver Assisted Systems) in their vehicles. ADAS is like a baby system building towards fully autonomous driving. We deliver set features such as Lane Keep Assist and Cruise Control with Speed Limiter that enables customers to be safer when driving.

Although I don’t do a typical engineering role at the moment, technical project management does require a lot of engineering acumen. My job also requires lots of soft skills. It’s making sure people are talking to one another when they need to (which is actually really hard!), knowing who people are, and making those connections.

My job’s really varied, intense and sometimes very hard. I would have never got my job without the degree I did at Lancaster University.

Thinking about my degree from Lancaster, the most important skill I developed was learning to take things back to first principles. When you have a really complicated problem, being able to strip it back to its raw components is so important.

Completing the degree was really challenging but I learnt so much, and because it’s intense you come out of university and people want to employ you!

Mechatronic Design Engineer - Science and Technology Facilities Council
Jon Elmer
MEng Hons Mechatronic Engineering
Fylde College

I develop, design and commission precision motion systems for the instrument suite at the ISIS Neutron and Muon Source near Oxford.

At Lancaster, I enjoyed the campus’ community atmosphere, and the balance between campus and city life. The teaching staff and technicians in the School of Engineering were all very approachable and helpful. I also enjoyed the different societies and sports teams, especially playing for the University water polo team. The dedicated Engineering Building is a great asset, and having access to facilities that reflected industrial working environments like the open plan MEng lab prepared me for moving into a workplace environment.

Developing my knowledge through the common first year gave me a good grounding in engineering topics, which has been useful when communicating with people from different scientific disciplines at work. Engaging with the MEng group project also offered me the opportunity to hone the project management skills that I use every day in my current role.

Our research

We are active in a wide range of research areas and teaching on our degrees is directly informed by our world-leading research. These research themes place a significant role in choice of year 3 and 4 undergraduate projects. Research in the School is structured into five research areas.

Electronic Engineering
Lancaster is home to world-leading academics researching in the following areas: high frequency electronics, flexible electronics, photonics and sensing. We are leading cutting-edge research in areas encompassing microwaves to terahertz, the Internet of Things (IoT), vacuum electronics, particle accelerators, wireless communications for 5G and 6G, microfluidic and novel artificial functional materials.

Energy
Research activities within the Energy Research Group include: the supply and demand of energy, work on hydropower and fluid machinery, work on renewable wave, tidal, solar and wind energy, energy storage, bioenergy utilisation, condition monitoring, smart grids, and energy efficiency.

Chemical Engineering
The Chemical Engineering Group researches a wide range of internationally important aspects of chemical and biochemical engineering including environmental energy storage, functional porous materials, battery technology and hydrogen, photoelectrochemical sensors and chemical kinetics for renewable and alternative fuels.

Structures, Materials & Manufacturing
Research in this theme is multidisciplinary and addresses a broad range of societal and engineering problems. Specific areas include: smart sensors for structural integrity, composite and sustainable materials, additive manufacturing and laser-based production techniques, and multiscale modelling of materials and production processes.

Electronic Engineering
Lancaster hosts one of the UK’s strongest university-based nuclear research centres with internationally-recognised capabilities in radiation detection and safeguards, decommissioning and waste management, nuclear process chemistry, control and robotics, fusion, environmental behaviour, and nuclear safety and policy.

For more information please visit lancaster.ac.uk/engineering
Entry requirements

A level
BEng AAB
MEng AAA

Required subjects A level Mathematics and a physical science, for example, Physics, Chemistry, Electronics, Computer Science, Design & Technology or Further Mathematics.

International Baccalaureate
BEng 32 points overall
MEng 36 points overall

With 16 points from the best 3 Higher Level (HL) subjects including either:
- Mathematics HL grade 6 (either pathway) plus grade 6 in a physical science
- Mathematics HL grade 6 (either pathway) plus grade 6 in two SL physical sciences
- Mathematics SL grade 7 (Analysis and Approaches) plus HL grade 6 in a physical science

Acceptable physical science subjects include Physics, Chemistry, Computer Science, and Design Technology.

BTEC (2016 specifications)
BEng Distinction, Distinction, Merit in an Engineering related subject to include Distinctions in the following units – Unit 1 Engineering Principles, Unit 7 Calculus to Solve Engineering Problems. Unit 6 Further Engineering Mathematics is highly recommended.

MEng Distinction, Distinction, Distinction in an Engineering related subject to include Distinctions in the following units – Unit 1 Engineering Principles, Unit 3 Engineering Product Design and Manufacture, Unit 6 Microcontroller Systems for Engineers, Unit 7 Calculus to Solve Engineering Problems. Unit 6 Further Engineering Mathematics is highly recommended.

For Chemical Engineering a BTEC is considered alongside A Level Chemistry.

Additional requirements
GCSE Minimum of four GCSEs at grade B or 6 to include Mathematics, and GCSE English Language at grade C or 4.

IELTS 6.5 overall with at least 5.5 in each component. For other English language qualifications we accept, please see our English language requirements web pages.

We welcome applications from students with a range of alternative UK and international qualifications, including combinations of qualifications. Further guidance on admission to the University, including other qualifications that we accept, frequently asked questions and information on applying, can be found on our general admissions web pages.

For more information please visit lancaster.ac.uk/engineering

Your degree, flexible options

Our School is one of only a handful of general engineering schools or departments in the country offering an interdisciplinary experience typical of what you will face in modern industry. Our courses are designed to be flexible and adapt to your study needs. For example, BEng students who achieve 60% or higher can transfer onto the MEng schemes.

Students on any of our courses are able to take part in a year in industry. This would provide you with valuable real-world experience and allow you to practise and enhance the skills you have gained during the programme.

All our degrees are externally accredited, offering a mark of assurance that the degree programme meets the standards defined and set out by the Engineering Council. Our three year BEng degrees meet partial fulfilment of the educational requirements for Chartered Engineer (CEng) status, whereas our four year MEng degrees meet the full educational requirements.

At our recent joint accreditation by the Institute of Mechanical Engineers (MechE) and the Institution of Engineering Technology (IET) the commendable features were –

* The multi-disciplinary aspects of all of the programmes
* The strong design thread that runs through the programmes exemplified by the emphasis on CDIO
* Continual investment by the University in the facilities of the School of Engineering

General Engineering
BEng H100 3 years
MEng H102 4 years
BEng Study Abroad H103 4 years
MEng Study Abroad H104 4 years

If you’re unsure of which area of specialisation you’d like to go into when applying, you can use the UCAS codes H100/H102: Engineering to leave your options open.

Similarly, subject to meeting progression requirements, the common first year lets you change your specialisation allowing a more informed choice at the end of year one.
Chemical Engineering

Courses

- BEng H800 3 years
- MEng H811 4 years
- BEng Study Abroad H812 4 years

Chemical engineers are employed across a huge variety of sectors requiring technical knowledge of chemistry, biochemistry, engineering, materials science and IT as well as skills in management, safety and the environment. Our modern Chemical Engineering programmes offer a common first year structure delivering fundamental engineering science and engineering mathematics to give you a sound base on which to develop your specialism.

In year two onwards, you will gain hands-on experience with access to cutting-edge facilities and an array of high-quality equipment in our state-of-the-art Engineering Building and acquire creative, entrepreneurial and analytical skills which will improve your employability. Studying Chemical Engineering provides you the opportunity to study process technology, which will help solve some of the world’s greatest challenges; such as clean water and equitable access to energy. You will gain insights into current environmental issues and development of new technological solutions such as carbon capture for climate change and biochemical processes for sustainable production.

Our Chemical Engineering programmes are accredited by the Institution of Chemical Engineers on behalf of the Engineering Council. For MEng students we offer a diverse range of individual project opportunities that are guided by our research strengths. Previous projects have examined fuel cells, nutraceuticals, catalysis, bioprocesses and materials.

“A degree in Chemical Engineering at Lancaster opens career pathways by teaching processes that are directly used in those careers and develops important skills like teamwork ability.”

Eleanor Hodgson
MEng Chemical Engineering

Electronic and Electrical Engineering

Courses

- BEng H607 3 years
- MEng H606 4 years
- BEng Study Abroad H608 4 years

We live in an increasingly high-tech world where demand for electronic and electrical engineers is crucial to the design and manufacture of future systems in the medical, environmental, energy, transport, communications markets.

Our Electronic and Electrical Engineering degree will develop your specialist knowledge whilst reflecting the modern industry requirement to work collaboratively alongside other engineering disciplines. Your first year develops core engineering science, mathematics and software technical skills along with equally valuable transferable skills highly valued by employers.

Specialisation begins in year two where you will build on your knowledge in analogue and digital systems and complete an interdisciplinary mobile robot project allowing you to engage with creativity and develop a range of specialist practical and professional expertise.

During year three, you will have the opportunity to study an individual project under one-to-one tuition and guidance from our academic staff who are leading experts in the areas of electronics design, radio frequency and wireless technologies, sensors and instrumentation, nanotechnology and renewable energy. Past projects include managing the UK’s contribution to the Large Hadron Collider upgrade at CERN; developing the electronics for the survey of polar ice melting; and leading the development of very high data rate transmission over 5G mobile networks.

MEng students in fourth year will build upon the BEng degree by studying a higher level of technical understanding using cutting-edge technology as well as cultivating your leadership, entrepreneurial and management potential. This is achieved by engaging with two short industry linked projects.

Our Electronic and Electrical Engineering programmes are accredited by the Institution of Engineering and Technology (IET) on behalf of the Engineering Council. Lancaster is a University Partner within the UK Electronics Skills Foundation who connect the most capable electronics students at top UK universities with leading employers through a competitive scholarship scheme.

“I initially applied to General Engineering, then after the first year found that I really enjoyed the electronics modules so was able to move onto the Electronic and Electrical Engineering course.”

Laura Gould
MEng Hons Electronic and Electrical Engineering

For more information please visit lancaster.ac.uk/engineering
Mechanical Engineering

Courses

- BEng H300 3 years
- MEng H303 4 years
- BEng Study Abroad H305 4 years

Mechanical Engineering is a field covering any industry that uses mechanical systems, from construction to transport; medicine to manufacturing; renewable energy to consumer technology.

Our programmes start with a general first year where you will study a broad spectrum of engineering science. From the second year onwards, you will specialise in the core competencies required for a modern mechanical engineer (for example, design and manufacturing, mechanics and materials, thermodynamics and fluid mechanics, innovation and management).

Group projects are a strong feature of the second year and you will enhance your team working and presentation skills in a multi-disciplinary robot project and a business development project which is supported/mentored by industry experts.

Individual project work plays a significant role in the development of your analytical ability and practical skills in year three. It also enhances your creativity for solving problems and producing innovative designs, key skills required by employers. Past projects have included high-lift aerodynamics for turbine blade design, microstructural design of steels for improving strength and toughness, design and testing of a novel concept in thermal management for electric vehicles and vibration energy harvest using piezoelectric sensors.

Our MEng programme builds upon the three year BEng scheme offering opportunities for you to develop your leadership, entrepreneurial and management potential through design, make and test group project work and two short industry-linked projects. These projects offer the pinnacle of achievement whilst at university and have been commended by external examiners and industry. Our fourth year offers a diverse course structure that allows you to develop a deeper technical understanding in areas of your choice through a number of optional pathways –

- Materials and Manufacturing
- Energy and Resources
- Design

Our Mechanical Engineering programmes are accredited by the Institution of Mechanical Engineers (IMechE) on behalf of the Engineering Council.

"Studying Mechanical Engineering is an incredibly rewarding experience. From being introduced to lab procedure on day one; to conducting my own individual research project it has been a great journey. The School has given me the opportunity to grow and explore the engineering world, whilst always being there to support, guide, and advise me through my journey. With the combination of the technical expertise of lecturers and the practical know-how of the technical support staff, the School helps us to progress and develop into well-rounded engineers with the technical, practical, and professional skills to help us in our future careers."

Samuel Nolker
MEng Hons Mechanical Engineering

For more information please visit lancaster.ac.uk/engineering

Mechatronic Engineering

Courses

- BEng HH63 3 years
- MEng HH64 4 years
- BEng Study Abroad HH64 4 years

Our Mechatronics degree programme was the first of its kind in the UK, set up in 1984 in response to employers' needs. Almost forty years later, we continue to be leading the field. Mechatronic engineering is a mix of mechanical, electrical, electronic, computer and control engineering topics. Studying mechatronics will give you the skills to seamlessly integrate mechanisms with their actuators, sensors and controllers.

Your course takes a multidisciplinary approach and focuses on product design, control and system integration using embedded microcontrollers, FPGAs and PCs.

Upon graduating, as well having the skills necessary to design mechatronic systems, you will also have the knowledge and confidence to apply new technologies, promote advanced design and introduce new and more efficient production techniques or processes. The broad technical understanding and leadership skills gained within the MEng makes Mechatronic Engineering graduates particularly attractive to industrial employers. The MEng gives you the skills to quickly move into management roles. The Mechatronic discipline provides both BEng and MEng graduates flexibility within their career.

You undertake a 3rd year individual project chosen from a wide range of subjects and tailored to the Mechatronics degree scheme. If studying for an MEng, you will complete a major group project during the 4th year and two short industry-linked projects. Group projects are interdisciplinary and you will work alongside electronic, mechanical and nuclear engineers. Most projects involve automation and control. Examples include underwater robotic manipulators, navigation of unmanned aerial vehicles, non-invasive measurement systems for medical, commercial and agricultural applications, autonomous firefighting robots and development of a Formula Student electric race car. Examples of short industrial projects include, investigation into overheating in a dimmer switch, development of a whole body sleep movement sensor, development of an acoustic sensor for field environments (offshore and onshore) and design for a sports breathing training product.

Our Mechatronic Engineering programmes are accredited by the Institution of Engineering and Technology (IET) and the Institution of Mechanical Engineers (IMechE) on behalf of the Engineering Council.

"Engineering at Lancaster provides us with a student-focused learning experience through a diverse curriculum that equips us with the necessary skills to become thriving professionals."

Ahmed Negm
MEng Hons Mechatronic Engineering

For more information please visit lancaster.ac.uk/engineering

State-of-the-art Engineering Building with specially designed workshops and laboratories
Nuclear Engineering

Courses

- BEng H820 3 years
- MEng H821 4 years
- BEng Study Abroad H822 4 years

Studying Nuclear Engineering at Lancaster will provide you with a detailed understanding of nuclear technology and its implementation in modern industry, enabling you to pursue a career in a wide range of exciting fields including energy generation, decommissioning, medicine and fusion.

You will first study a broad range of topics, covering the fundamentals of engineering and engineering mathematics subjects. You then study several nuclear specific modules including Decommissioning and Sustainability, Nuclear Medicine and Nuclear Instrumentation through to our new module on Nuclear Fusion Engineering. Throughout, you will develop practical skills, test and analyse your design ideas in the laboratory or through computer simulation using engineering IT tools.

Our four year scheme is guided by world-leading research in nuclear instrumentation, nuclear decommissioning, and fusion. Through our collaborations with the UK Atomic Energy Authority, Sellafield Ltd, Westinghouse Springfields Fuels Ltd and others, the School is an international leader in nuclear engineering systems. Our strong links with these industrial partners nuance your learning and help you gain insight into nuclear industries.

Nuclear applications cover a broad range of sectors from healthcare and cancer treatment through to power generation, national security and decommissioning activities.

“Nuclear engineering at Lancaster prepares you for all forms of nuclear engineering, including but not limited to energy, instrumentation, and medicine. The course contains many nuclear-specific modules as well as a wide range of interdisciplinary content relevant to every aspect of engineering.”

Charlie Thorogood
MEng Hons Nuclear Engineering

Global experiences

Broaden your academic horizons by spending your third year studying abroad at a partner university in Europe, North America or Australasia.

Many multi-national engineering companies recruit graduates with international awareness and a willingness to travel. If you want to kick-start your international career by having actual experiences to talk about with future employers then the Study Abroad route is something that you should strongly consider and it is open to all our engineering programmes regardless of selected specialisation.

If you don’t want to spend an entire year abroad as part of your degree, we have other opportunities which run during the vacation periods, some of which are co-delivered by Lancaster’s overseas campuses and teaching partners.

I completed my Study Abroad year at Iowa State University. I really enjoyed my time abroad for many of the expected reasons; the travelling, meeting people and living in another country. Some of the discoveries I made, that I didn’t expect to make, made the best memories of my Study Abroad year. It massively opened my eyes to the uniqueness of people and that no matter how similar countries in the west might seem they are very different. I fully intend on going back!

Kaymen Lewis-Johnson
BEng Hons Electronic and Electrical Engineering (Study Abroad)
Investing in new facilities for you

We’re delighted to announce that construction has started on a second purpose-built Engineering Building*. Located alongside our award winning 2015 School, the new building and its facilities will support teaching and research.

2700+ square metres of specialist space
The 2700 square metre new-build over three floors includes:
- Three large teaching laboratories themed around mechanical, electronic and electrical, and chemical engineering
- A large triple-height flexible workspace
- Chemical distillation column
- Lecture theatre with retractable seating
- Maker space
- 24 hour access computer lab
- Three labs focusing around flammables, bioengineering and wet chemical processes
- Isolated slab for vibration-free microscopy
- Industry in-residence rooms

Accessible by design
In-line with the University’s minimum standard specification, the facilities within the building will be fully accessible, fitted with hearing loops, adjustable furniture layouts and accessible toilet facilities.

Prime location
Located next to the existing RIBA award winning Engineering Building on South Campus, the main entrance will be accessed from the Spine and from Farrer Avenue.

Sustainable planning
The project will repurpose existing space to reduce the carbon emissions generated by construction works.

We’re here for you!
There are lots of ways you can connect with us. Our Open Days are designed to introduce you to Lancaster and our School. We hope you can join us for one of our summer or autumn Open Days to experience the campus for yourself. To find out more visit www.lancaster.ac.uk/visitus for up to date information on all our events.

For more information about our degrees and the School please visit www.lancaster.ac.uk/engineering

Events and visits
All applicants will be invited to visit campus, and depending on the degree scheme you have applied for this may involve an interview. At this event you will have the opportunity to engage with current engineering students, meet academic staff members, find out more detailed information regarding the programme of study and ask any questions that you may have. These exciting days are designed to give you a taste of how it feels to live and study at Lancaster.

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Ask a student
Want to know more about engineering? Interested in finding out what the social scene is like or what it’s like studying at Lancaster? Who better to talk to than our students? Chat online: www.lancaster.ac.uk/chat

For more information please visit lancaster.ac.uk/engineering

*Due for completion in 2023.