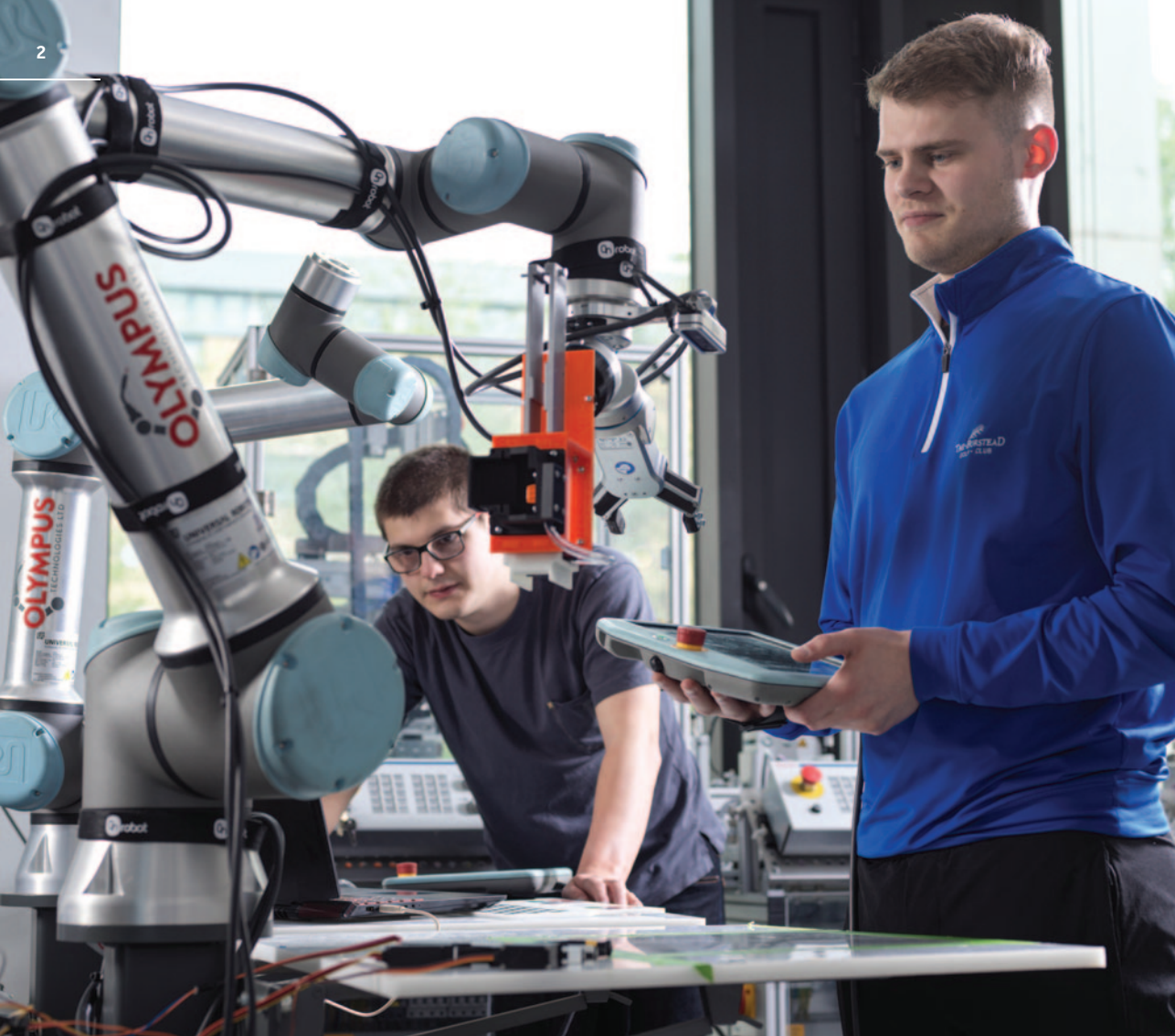


Lancaster
University



Engineering
Undergraduate Degrees 2024



Design, innovate, create

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 or international study 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

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Important information

The information in this leaflet relates primarily to 2024/25 entry to the University and every effort has been taken to ensure the information is correct at the time of printing in June 2023. The University will use all reasonable effort to deliver the course as described but the University reserves the right to make changes after going to print. You are advised to consult our website at www.lancaster.ac.uk/study for up-to-date information before you submit your application.

Further legal information may be found at www.lancaster.ac.uk/compliance/legalnotice.

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Welcome to Engineering at Lancaster

Here, in the School of Engineering, we carry out research that spans many areas of the world we live in, from energy, manufacturing and bioengineering to informatics and healthcare. Our expert researchers work at the cutting-edge of engineering in the fields of chemical, electronic and electrical, mechanical, mechatronic and nuclear.

We have strong and active industry links, both internationally and in the UK, and our connections benefit you in your projects and placement opportunities.

We have expanded our School to add another building with brand new facilities, and teaching and collaborations space. The building is primarily teaching focused offering a new chemical teaching lab, small lecture theatre, computing lab, electronics teaching lab, maker space and flexible teaching space alongside various specialist lab areas.

Within the School, we have a great team of people 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, and have retained our small group tutorial sessions during the recent course revisions.

Our staff 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 coursework 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 your creativity and innovation skills through solutions to real-world problems; you will work in teams to complete projects and you will evaluate and present your engineering solutions.

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



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



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



Lydia Bellis
MEng Hons Mechanical Engineering
Pendle College

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.



Aaron Chin
BEng Hons Mechatronic Engineering
Bowland College

When I first looked at the league tables, Lancaster University was amongst the top universities in the UK. Upon doing more research, it really impressed me when I discovered that Lancaster produced one of the best employment rates upon graduation. This gave me great confidence that the excellence which students achieve here was not just from their own hard-work and brilliance upon entering, but also from the support which the University provides.

Now being here, I feel doe-eyed just entering the Engineering Building. I gawked at the naked elevator for quite a while in my first year, watching all the mechanisms work in unison to bring the lift up and down. We even had a lecture on elevator systems not long ago!

The community of students is so diverse that I never felt out of place despite being an international student, and have met many great friends from all around the world throughout my time here.

The course for you

At Lancaster, we take great pride in the personal 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 educational requirement for Chartered Engineer (CEng) registration.

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 opportunities to get involved in work that is of interest to you and at the cutting-edge of research. These projects may also involve

*New Placement Year programmes will be reviewed during the next accreditation cycle.

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 David Cheneler
Director of Undergraduate Teaching
School of Engineering



Your general first year

8 hours of lectures/support sessions
4 hours of lab and project work
4 hours of maths workshops
1 hour of small group tutorials
15-17 hours of weekly contact
6 hours of online content
+ Private study

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

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.

Support sessions

We provide in-person teaching to support online sessions. The focus is on application of the theory, working through examples and ensuring any questions are answered.

Tutorials

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.

Laboratory work and projects

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

Independent learning

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.

Assessment

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.



Professor Andrew Richardson
Director of Part I Teaching
School of Engineering



“

What attracted you to study Engineering at Lancaster University?

The reason I was drawn to study Engineering at Lancaster was because of the strong ties to academia and the nuclear industry. With Lancaster being involved in cutting-edge research in fields such as renewable energy and robotics, students are afforded the opportunity to engage in real-world projects. Furthermore, Lancaster has a supportive environment, the Engineering staff are more than happy to help you with anything, and the facilities are modern and well-maintained.

When did you know it was right for you?

When I came to Lancaster for my interview, I realised then that this was the place for me. I loved, and still do love, that campus is incorporated into the countryside with wildlife and nature all-around, the sports facilities are great, the University campus is really close to Lancaster city centre, and the collegiate system.

**What facilities do you use?
Do you have a favourite piece of kit?**

I mainly use the computer lab, electrical and mechanical workshops, and the neutron source lab, but my favourite piece of kit to use is the gamma detector.

”

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

My favourite aspect of Nuclear Engineering is the broadness of the course, as it allows for me to obtain a solid understanding of the fundamentals of electrical and mechanical engineering, as well as an in-depth understanding of nuclear engineering. I love the practical elements of the course, such as the 2nd year robot project and my 3rd year project.

What you are going to do after your degree?

I am staying at Lancaster University to pursue a Master's degree and hope to work in the nuclear energy industry after that.

Raghuram Sridhar



BEng Hons Nuclear Engineering
Furness College

Supporting your studies

We pride ourselves on the wide range of services and support available to you as you transition from school/college and work towards your degree.

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 know exactly when important deadlines or announcements are made.

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.

Our research

We have active researchers who are pioneers in a wide range of areas and their work directly feeds into your degree programme. Their research themes also play a significant role in the options available to you in your Year 3 and 4 projects. Research in the School is structured into five research areas.

Electronic Engineering

Our world-leading academics conduct research in: 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.

Structures, Materials & Manufacturing

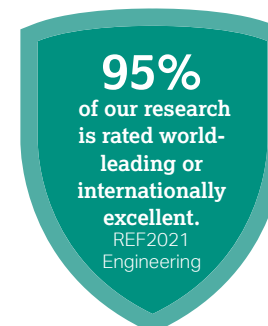
Research in this theme is multidisciplinary and addresses a broad range of societal and engineering problems. Specific areas include: smart sensors for structural integrity, composite and sustainable materials, additive manufacturing and laser-based production techniques, and multiscale modelling of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

Nuclear Science & 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.

Chemical Engineering

The Chemical Engineering Group researches a wide range of internationally important aspects of chemical and biochemical engineering including electrochemical energy storage, battery technology and hydrogen, heterogeneous catalysis, fuel cells, electrolyzers, plasma gasification, valorisation of biomass, chemical kinetics for renewable and alternative fuels, carbon capture and utilisation, circular economy, net zero carbon emission technologies, process intensification, green process engineering, biomaterials for biomedical applications, multilingualism in science, bioprocesses and membrane technologies for biomolecule recovery.



Enabling your career aspirations

The emphasis we place on a more personalised education experience makes you highly employable, and that's why we have an amazing track record of graduate employment. We have a strong focus on industrial projects, internships and work experience and we use our connections to bring business leaders into the classroom. Here's how we support you to achieve your career aspirations.

Placements & Internships

Industrial placement and internship opportunities are commonly offered within the School, usually in collaboration with an external organisation, allowing students the opportunity to put into practice aspects of the learning from degree programme and to gain experience, whilst earning a wage. Internships more frequently happen during vacation periods (e.g. Easter and Summer), however, some can be undertaken during term-time to work around your studies and other commitments.

Industry Guest Speakers

Guest speakers are invited to participate in academic modules associated to their industrial sector, to provide practical insight to applications of engineering within their business setting, and highlight what employment opportunities may look like within that industry.

Industrial Projects

Industrial projects are a key component of the curriculum, incorporated within all programmes in the School. These may take the form of intensive, two-week projects undertaken in collaboration with an external stakeholder, to year-long individual and group-based projects in the third and fourth years of study (depending on degree discipline).

Careers and Jobs Fairs

The School is fully engaged in both the University and Faculty of Science and Technology Careers Fairs, held annually on campus, and which attracts top recruiting companies and organisations from the private and public sectors. One-to-one meetings with employers allow students the opportunity to learn first-hand what the expectations are from recruitment processes, and what might be involved in assessment centres, workplace-based exercises and interviews.

Careers Support

The School of Engineering has dedicated Academic Employability Champions, able to work with students to prepare applications for placements and graduate roles, and to provide information about upcoming opportunities. Centrally, the University's Careers Service provides a dedicated Careers Advisor to the School, offering access to a range of resources including CV checks, mock interviews, and example recruitment exercises, allowing you to perfect your employability skills.

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.



Sophy Ellis

BEng Hons Mechanical Engineering
County College

Project Manager - Jaguar Land Rover

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!



Jon Elmer

MEng Hons Mechatronic Engineering
Fylde College

Mechatronic Design Engineer - Science and Technology Facilities Council

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.

Entry requirements

Our entry requirements are set at a level to ensure everyone meets the minimum prerequisites to succeed during their degree.



The School recognises and accepts a wide variety of Level 3 educational qualifications including A level, International Baccalaureate, BTEC, Scottish Highers, and the EPQ, alongside many international qualifications. For full details, please see the course pages on our website:

www.lancaster.ac.uk/undergraduate

As a guide A level entry requirements:

BEng ABB

MEng AAA

We do set minimum levels of fluency in Mathematics which should be met alongside some scientific underpinning. Given the broad level of teaching in first year we do not specify a specific subject and are flexible about what the scientific underpinning may be.

Contextual offers are available to those whose personal circumstances may have impacted their achievement in education.

Entrance to our MEng programmes will involve a short interview to discuss your experience and career choice. If you are undecided between BEng and MEng we are happy to advise and often write to appropriately qualified BEng applicants to consider the integrated Master's programme. At results time, should the threshold for MEng not be met, we will guarantee to review your application against our BEng entry criteria. All students have the opportunity to consider transferring to a different specialisation at the end of Year 1, and transfer between BEng and MEng at the end of Year 2.

A number of Scholarships and Bursaries are available to help support your studies, these are reviewed annually with details available on our website: www.lancaster.ac.uk/scholarships

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 through our Placement Year schemes. 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 (IMechE) 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

BEng Placement Year H106 4 years

MEng Placement Year H105 5 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.



Scan to hear students share their experience at the School of Engineering



Chemical Engineering

Courses

BEng H800 3 years

MEng H811 4 years

BEng Study Abroad H812 4 years

MEng Study Abroad H813 4 years

BEng Placement Year H814 4 years

MEng Placement Year H815 5 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 is challenging but opens up many exciting career pathways and helps students become independent learners and problem solvers. The staff work hard to set up guest lectures and workshops by industry professionals. The process safety workshop is a great example as it helped improve my understanding of industry requirements. The contact with chemical engineering industry leaders opens up opportunities to undertake placements and even secure a job before graduation."

Molly Riding

MEng Hons Chemical Engineering

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



Electronic and Electrical Engineering

Courses

BEng H607 3 years

MEng H606 4 years

BEng Study Abroad H608 4 years

MEng Study Abroad H609 4 years

BEng Placement Year H610 4 years

MEng Placement Year H611 5 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 electrical, 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 electric vehicles, radio frequency and wireless technologies, robotics, energy storage systems, sensors and instrumentation, system-on-chip, and renewable energy. Past projects include developing amplifiers for 5G communications, FPGA systems for nuclear detection, studies on harmonics in the power electronics of wind turbines, and design of next generation nanoelectronic devices.

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.

"My favourite facility is the computer lab in the Engineering Building. It's great that we have a dedicated computer space for engineers. Many major software is provided and can even be used virtually, at home using the VMware system. I use a variety of software, such as LT SPICE, to design and test circuits before I commit to construction in the electrical lab."

Natalie Chigwedere

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

MEng Study Abroad H306 4 years

BEng Placement Year H307 4 years

MEng Placement Year H308 5 years

#15
for Mechanical
Engineering

The Guardian
League Tables
2023

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 competences 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 two optional pathways –

- Design and Manufacturing
- Energy and Resources

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 Noller

MEng Hons Mechanical Engineering



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

Mechatronic Engineering

Courses

BEng HH63 3 years

MEng HHH6 4 years

BEng Study Abroad HH64 4 years

MEng Study Abroad HHH7 4 years

BEng Placement Year HH65 4 years

MEng Placement Year HHH8 5 years

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

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 a leader in 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 Mechatronic 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 an 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

Nuclear Engineering

Courses

BEng H820 3 years

MEng H821 4 years

BEng Study Abroad H822 4 years

MEng Study Abroad H823 4 years

BEng Placement Year H824 4 years

MEng Placement Year H825 5 years

1:14
high staff
to student ratio

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

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



Find out more about
our Study Abroad
programme and
partners



Kaymen Lewis-Johnson
**BEng Hons Electronic and
Electrical Engineering
(Study Abroad)**

“

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!

”

Grow with our Placement Year

Increase your employment prospects by opting for a placement year. All of our degree schemes offer a one year placement where you will undertake full-time, paid employment with an organisation of your choice. Establish yourself as a young professional, just like Elish Chambers.

Placement opportunities are available with a range of organisations all over the UK and world-wide, including large multinational corporations and start-up businesses. You will be fully supported by the School and Careers Service in finding an organisation with an appropriate role. We provide support throughout the placement process, from helping you to source opportunities and to prepare you for interviews and assessment centres, as well as the duration of your placement.

Many Lancaster graduates gain employment with their placement company. Whatever your future career, a placement degree is guaranteed to bestow you with a range of new knowledge, skills and experience, giving you that competitive edge and readiness for work once you graduate.

Recent Engineering students have undertaken placements with:



Elish Chambers
MEng Hons Chemical Engineering
Bowland College

GlaxoSmithKline Orals Technical Support Technologist

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.

The world of work is very different to university life and the 6am alarms definitely took some getting used to! 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.

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 time working in industry has been an incredible learning experience and I am fortunate that I will be starting my career with GSK when I graduate.

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.

Get in touch

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engineering@lancaster.ac.uk

[Twitter](#) LancsUniEng

[Facebook](#) Lancaster.University.Engineering

[Instagram](#) lancaster_uni_engineering

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



Engineering

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