**Engineering**

Engineering is generally available as a BEng or an MEng. A BEng would be three years and an MEng is four years. You can also often add in a year in industry/placement/sandwich year which gives you a full year working and then you return to university for your final year. A year in industry is an invaluable opportunity to take on a role within a company, apply the theoretical knowledge of your degree course to real-world issues and will enhance your career prospects.

If you don’t have the right grades for the type of course you’d like to do, look at Engineering courses with a Foundation year. This makes the degree one year longer but may have slightly lower entry requirements, allowing you to still get a place on a course in your chosen subject.

You can study **General Engineering** at university which would enable you to develop a broad knowledge and understanding of engineering. You may be able to specialise towards the end of your degree, or you could continue to study a variety of engineering subjects.

Good universities to consider for General Engineering include Sheffield, Durham, King’s, Leicester.

**Aerospace/Aeronautical Engineering**

Aeronautical and aerospace engineers are responsible for rockets, spacesuits, aeroplanes and weather prediction systems. Engineers in this field design, plan, and test some of the most exciting and advanced technology in the world. If you choose a career in this industry you could work on things like wing design (aerodynamics), engine assembly (propulsion), fuel efficiency, space technology, or investigating air accidents.

Take a look at Imperial, Bristol, Bath, Southampton, Sheffield, Loughborough, Manchester, Brunel.

**Automobile/automotive Engineering**

Automotive engineering is about designing, testing and building vehicles, ensuring they are well built, perform well and are safe. As an automotive engineer you’ll be solving problems while keeping to a budget. You’ll have the chance to work on various stages of a vehicle design and manufacture. Automotive engineers focus on a variety of areas such as performance, emissions, aerodynamics and much more. You’ll gain an in-depth knowledge of the technical workings of current and future automotive systems, from vehicle design and performance to engine and transmission systems to materials, structures and safety.

Look at Bath, Southampton, Leeds, Birmingham, Loughborough, Warwick.

**Biomedical/Medical Engineering**

How can traditional engineering principles be applied to the human body to solve challenges in healthcare? This links engineering and medicine to improve human health and quality of life. You will use cutting edge technology to help people live longer healthier lives. This might suit you if you are interested in a range of disciplines; mechanics, physiology, biology, anatomy, programming and design are all involved.

Consider Southampton, Imperial, Exeter, Glasgow, King’s, Leicester, Oxford, Queen Mary, UCL, Sheffield.

**Chemical Engineering**

If you study chemical engineering, you’ll learn how to alter the chemical, biochemical, or physical state of a substance, and transform raw materials into a whole host of everyday products from face creams, to medicine, to the fibres used in the fashion industry. Chemical engineers are doing work towards achieving a more sustainable world, including Net Zero and Sustainable Development Goals. You could work in the public or private sector, researching renewable energy, waste management, food production, or a whole range of other things.

Take a look at: Oxford, Cambridge, Bath, Birmingham, Nottingham, Edinburgh, UCL, Manchester, Brunel.

**Civil/Structural Civil Engineering**

This is about the design, construction, and maintenance of the built environment. It merges creativity with precision, tackling challenges from urban infrastructure to environmental sustainability. Civil engineering graduates are able to innovate and engineer solutions that redefine skylines, enhance transportation systems, and ensure the resilience of structures against natural forces. The career possibilities range from transportation engineering and environmental consulting to geotechnical and structural design.

Good universities to consider include: Cambridge, Oxford, Imperial, Bristol, Southampton, Bath, Leeds, Manchester, Loughborough, Brunel.

**Electrical/Electronic Engineering**

Electrical and electronic engineering brings together innovation and technology with many applications that define the modern world. From designing integrated circuits and power systems to developing cutting-edge communication technologies, electrical and electronic engineering is at the forefront of technological advancement. Graduates find themselves in roles including telecommunications, robotics, renewable energy, and semiconductor industries.

Consider Cambridge, Oxford, Imperial, UCL, Southampton, Manchester, Sheffield, Loughborough, Brunel.

**Maritime Engineering**

Maritime Engineering covers the design, construction and testing of the vessels and offshore structures that use the ocean for transport, recreation and the harnessing of marine resources. It covers the theoretical principles of naval architecture and marine engineering alongside practical laboratories, design modules and projects. You will develop a thorough understanding of the science and engineering associated with marine vehicles, structures, and their design.

This course isn’t widely available but if you’re interested then Southampton is the main choice.

**Materials/Mining Engineering**

If you study this you will understand the properties of materials – from metals to plastics – essential for the development of new and improved products. If you like solving problems creatively and relish the opportunity to combine science, maths and engineering to understand how the materials that surround us – from bricks to body scanners – behave, and how they can be used and improved to develop new products, then this could be right for you.

Look at Loughborough, Birmingham, Imperial, Manchester, Queen Mary, Sheffield.

**Mechanical Engineering**

This looks at the design, analysis, and manufacturing of systems. You will use physics, maths and computing to assess engineering systems. This includes topics like fluid dynamics, thermodynamics, and materials science. The career opportunities span industries such as aerospace, automotive, energy, and robotics. Mechanical engineering is not just about machines; it also develops skills such as problem-solving, creativity, and a deep understanding of physical principles that will shape the future of technology and innovation.

You might want to look at Cambridge, Imperial, Oxford, Bristol, Bath, UCL, Sheffield, Southampton, Leeds, Manchester, Brunel.

**Software/Computer Engineering**

As a software engineer, you’ll use your technical and creative skills to make everyday lives easier. You could design, develop, maintain, and manage software for anything from efficient cars, mobile phones, and social media to the technology needed by the emergency services. You might work for a tech or retail giant, in manufacturing, government, or the military. Jobs are expected to grow by 2.19% in the next eight years.

Consider Sheffield, Nottingham, York, Imperial, Southampton.

**Useful links**

* <https://www.ucas.com/explore/subjects/engineering-and-technology>
* <https://i-want-to-study-engineering.org/>
* <https://isaacphysics.org/>
* <https://neonfutures.org.uk/>
* <https://targetcareers.co.uk/career-sectors/engineering/86-how-do-i-get-into-engineering>
* <https://raeng.org.uk/>
* [www.stem.org.uk](http://www.stem.org.uk)
* <https://www.livescience.com/>
* https://www.bbc.co.uk/news/topics/crr7mlg0dd1t/engineering
* https://www.engineeringuk.com/about-us/overview/
* https://www.theengineer.co.uk/news/
* https://www.newscientist.com/article-topic/engineering/
* Website to help you **compete for engineering places** at top universities <https://i-want-to-study-engineering.org/>
* Support and activities in **Physics problem solving** <https://isaacphysics.org/>
* **Engineering experiences and career resources** <https://neonfutures.org.uk/>
* **Routes into engineering** <https://targetcareers.co.uk/career-sectors/engineering/86-how-do-i-get-into-engineering>
* **Routes into Engineering** by the Royal Academy of Engineers <https://raeng.org.uk/>
* **How to become an engineer** <https://www.prospects.ac.uk/jobs-and-work-experience/job-sectors/engineering-and-manufacturing/how-to-become-an-engineer>
* **Subject guide to engineering and technology** <https://www.ucas.com/explore/subjects/engineering-and-technology>
* Education and careers support in **Science, Technology, Engineering and Maths** [www.stem.org.uk](http://www.stem.org.uk)
* **Science news** website <https://www.livescience.com/>
* **Maths** resources for students, parents and teachers <https://nrich.maths.org/>
* **Engineering news** from the BBC https://www.bbc.co.uk/news/topics/crr7mlg0dd1t/engineering
* **Inspiring tomorrow’s engineers** https://www.engineeringuk.com/about-us/overview/
* The latest **engineering news** https://www.theengineer.co.uk/news/
* **Engineering news** <https://www.independent.co.uk/topic/engineering>
* **Engineering news, articles and features** from the New Scientist https://www.newscientist.com/article-topic/engineering/