

# Careers Pathways in Engineering and Maths

## Facts

- Mathematicians make it possible to send secure emails and put things online. Mathematicians are essential to analyse data and design accurate models in fields as diverse as biology and finance. Mathematicians enabled researchers to complete the Human Genome Project quickly.
- Engineering is central to an exciting range of business and industries including space, construction, transport, cosmetics, medicine, food, fashion and much more.
- Maths is a fundamental subject for much of science and technology. With a mathematic degree you could pursue a career in the petroleum and nuclear industries. In medicine or IT, as well as many forms of engineering and varied government departments.
- Engineers work in offices, laboratories, film studios, in the outdoors and underground. Engineering today is closely linked with technology, and plays a major role in many technological advances and new devices.



## Job Opportunities

Green Technology is set to be the biggest UK engineering sector.

Engineering is a challenging and rewarding profession. There are excellent job prospects and your work is likely to have plenty of variety as no two jobs are the same.

There are jobs in a very wide range of specialist areas and roles at all levels from engineering technician to senior engineer. You can also progress to management and research.

Government research suggests that engineering graduates will earn over £144,000 in their working lifetime more than the average graduate (30% more.) Coupled with the long-term stability and professional registration, engineering offers an excellent career package.

Architectural technologists are specialists in the science of architecture, building design and construction. They work closely with architects and help to turn the architect's concept into reality in the completed construction.

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Career Area	Job Description	Career Pathways	A Level Subject
Engineering	Engineers are problem-solvers. They apply science and maths to solve problems creatively	This pathway can lead to employment in a variety of sectors, including automotive, aviation, construction, defence, manufacturing, nuclear, scientific and renewable energy.	You should study A Level Maths and Physics. Depending on the branch of engineering you wish to enter, you may choose another subject such as Chemistry or Further Maths, BTEC Engineering
Architecture	Architects can work on individual buildings or on large redevelopment schemes, and can be responsible for design of the surrounding landscape and spaces.	This leads to a career as an architect, architectural technician, architectural CAD, architectural technologist or surveyor.	You should consider studying Art/Science mix of subjects. Useful subjects include Art, Maths and Physics, and BTEC Engineering
Maths and Statistics	As society becomes more technologically dependent, there will be an increasing requirement for people with a high level of mathematical training. Analytical and quantitative skills are sought by a wide range of employers	This leads to careers such as an actuary, statistician, computer scientist, civil engineer, economist or air traffic control analyst.	Useful subjects include A Levels in Maths, Further Maths, Physics, Economics and Computing.

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## Useful Websites

Careers after your degree – [www.prospects.ac.uk](http://www.prospects.ac.uk)

National Careers Service [www.nationalcareers.service.gov.uk/](http://www.nationalcareers.service.gov.uk/)

Science, Technology, Engineering and Maths Careers [www.stem.org.uk](http://www.stem.org.uk)

Tomorrow's Engineers [www.tomorrowsengineers.org.uk/careers.cgm](http://www.tomorrowsengineers.org.uk/careers.cgm)

Maths Careers [www.mathscareers.org.uk](http://www.mathscareers.org.uk)

Engineering and Construction Industry Training Board [www.ecitb.org.uk](http://www.ecitb.org.uk)

Chartered Institution of Building Services Engineers [www.cibsejournal.com](http://www.cibsejournal.com)

Royal Institute of British Architects <https://www.architecture.com/education-cpd-and-careers>

Airbus [www.airbus.com/work](http://www.airbus.com/work)

Accountancy [www.ey.com/uk/careers](http://www.ey.com/uk/careers)