



Engineering



Engineers and scientists are crucial to the performance and competitiveness of our country. Engineers can contribute to positive changes in our environment and society by finding solutions to problems such as pollution and transportation. Or they can influence the economy and industry by improving existing products as well as developing new ones. Engineers work in health, entertainment, transport, construction, robotics, conservation, design, communications, disaster relief, in fact pretty much everywhere. The engineering industry employs over 1.6 million people.

What's happening?

- Locally 13% of the working population is employed in engineering and manufacturing.
- Advanced engineering - especially aerospace – is a major employment sector in the West of England.
- South Gloucestershire is one of the most important aerospace engineering areas in Britain. Much of this is based on the work of Airbus UK, BAE Systems, Rolls Royce and associated companies.
- Rolls Royce Filton has just invested £75m in two new factories built on the old site. One of the new factories will be used for assembly operations, and one for manufacturing.
- Employees in all science, engineering and technology occupations require a high level of numeracy due to the technical and mathematical basis of the jobs in the sector.
- Apprenticeships can be a good route into a skilled trade. They can offer a more vocational route into work and gaining qualifications.

How much could I earn?

	Average annual salary (£s)
Assembler/Routine Operator	£19,822
Mechanical Engineer	£38,426
Plant and Machine Operator	£23,900
Production Manager	£46,561
Telecomm Engineer	£27,134

Salary rates have been calculated using the average gross pay rates for full time workers. Figures are for the United Kingdom. Averages can hide higher earnings. With training and career development, higher salaries can be achieved. Source: Annual Survey of Hours and Earnings 2008, O.N.S., © Crown Copyright.

What we think will happen

- While the immediate future is uncertain due to the current economic downturn it is likely that skill shortages will remain across most engineering occupations.
- The impact of technological change will increase the demand for professional and technical skills.
- There be a greater need for more flexible, 'multi-skilled' workers, who have both electrical and mechanical engineering skills.
- Customer service skills will become increasingly important.
- Global competition means that more companies will work together – or merge. Economies of scale will allow cutting of costs.
- Environmental checks are becoming more common. Businesses are increasingly required to reduce toxic emissions and waste.

Do you want to work in Engineering? Is this you?

- Good at communicating ideas and theories
- Always pay attention to detail
- Interested in craft, design and technology

Some job suggestions

- Chartered/Incorporated Engineer
- Chemical Engineer
- Engineering Craftsperson
- Engineering Operator
- Fabricator
- Fitter
- Sheet Metal Worker
- Technician

Routes into Engineering

Level 1 (Foundation)	Level 2 (Intermediate)	Level 3 (Advanced)	Level 4 (Higher)
GCSE Grades D – G BTEC Introductory Diploma NVQ 1 Foundation Diploma	GCSE Grades A* – C BTEC First Diploma NVQ 2 Apprenticeship Higher Diploma	A Level BTEC National Diploma NVQ 3 Advanced Apprenticeship Advanced Diploma	HND Foundation Degree First Degree NVQ 4

The Engineering Diploma

You'll learn about: the engineering world; discovering engineering technology; engineering into the future and analytical methods for engineering. A Diploma in Engineering might cover building and maintaining transport infrastructure; developing medical solutions; ensuring leisure, living and working environments benefit from safe and efficient heating and air conditioning, electricity and water supplies.

See: www.engineeringdiploma.com

Check with your school or Connexions Personal Adviser when this will be on offer in your local area.

Note: there are a number of ways of training for this area of work; the new Diploma is just one of these. See Routes into Engineering for the options.

Want to know more?

Apprenticeships – www.apprenticeships.org.uk
or call the **helpline on 08000 150600**
Engineering Construction Industry Training Board – www.ecitb.org.uk
Engineering Diploma – www.engineeringdiploma.com
Enginuity – www.enginuity.org.uk
SCENTA – Science, Engineering and Technology – www.scenta.co.uk
SEMTA – Sector Skills Council for Science, Engineering and Manufacturing Technologies – www.semta.org.uk
Society of Women Engineers – www.swe.org.uk
The Diploma – www.direct.gov.uk/diplomas

"Rolls-Royce is giving the Diploma in Engineering its full support. It is a great opportunity for young people to discover what engineering is all about so they can make the right decisions for their future."

Margaret Gildea, Executive Vice President of Human Resources
- Operations and UK Employment Skills Policy, Rolls-Royce

Want to speak to somebody?

Go to www.connexionswest.org.uk for addresses of Connexions West of England local centres or contact Connexions Direct. Connexions Direct can offer you all the information and advice you need to make the decisions and choices in your life.

Connexions Direct: **080 800 13 2 19** Text: **07766 4 13 2 19**

Webchat/Email: www.connexions-direct.com