



Engineering

(Including Motor Vehicles)

Job Information Sheet



What is engineering?

Engineering is the process of designing, making and maintaining the machinery of everyday life. It is not only about spanners, sprockets and springs; it is also about, trains, TVs, camcorders, CDs and all the things that we use on a daily basis. Engineers make the equipment that produces and packages most of the items we eat, drink and wear. They help in the construction of bridges, in the design and maintenance of the buildings in which we work and the roads we use to get there.

Motor vehicle engineering covers assembly and finishing, maintaining and repairing all kinds of cars, vans and heavy vehicles. The motor vehicle industry is an important part of the UK economy. There are over 28 million vehicles on British roads, all of which need regular maintenance and repair.

The traditional image of the 'mechanic' may be of overalls, a spanner and grease but this industry is one of the most qualified in the country. The increasing complexity of vehicles has seen the work of technicians change, with a greater emphasis now placed on electrical fault-finding and less on mechanical repair.

Wherever they work, there are different levels of engineers. **Incorporated or chartered engineers** normally have more overall responsibility for complex activities. They may also be team leaders. **Technicians** work under the guidance of incorporated engineers or chartered engineers when carrying out essential skilled tasks. **Craftspeople** work in many aspects of engineering. They follow engineering drawings to turn the design into a product. **Operators** use machinery or are involved in assembling products.

Are there jobs for 16-19 year olds?

To be an incorporated or chartered engineer you need to study at university. However, there are many jobs in engineering that do not require a degree or diploma. Below is a selection of jobs that could be available to 16-19 year olds living in Central London. Further details of these and many other jobs go to nextstep.direct.gov.uk and click on *Browse our job profiles*.

There are many positions available within the engineering sector, from rail transport, gas and water supply, car dealerships to bus companies. Many of these include apprenticeships as part of the package, and require a commitment to train over a number of years.

Some of these will not ask for any qualifications but most will ask for good GCSEs including English, maths and science or relevant vocational college courses. For some higher level technician training A levels or equivalent qualifications are often an advantage.

This information sheet covers jobs for 16-19 year olds in Central London. It does not cover graduate jobs or jobs that are rare in Central London. For details of the whole range of jobs in business and finance go to nextstep.direct.gov.uk and click on *Browse our job profiles*.

Vacancies for electricians (who install, test and inspect wiring systems and electrical equipment) are covered in the Construction Job Information Sheet and vacancies for computer and telecommunications technicians are covered in the Computing & ICT Job Information Sheet.

Jobs for 16-19 year olds in engineering

- **Clinical engineers** design, build and test equipment used for the diagnosis, treatment and monitoring of patients.
- **Electricity generation workers** deal with the machinery for generating electricity – turbines, generators, and electronic control equipment.
- **Electrical engineering technicians** install and test wiring systems or electrical equipment used in manufacturing or engineering.
- **Electronic engineering technicians and craftspeople** may design printed circuit boards, help with designing and testing new equipment or help to plan and install production control systems.
- **Gas distribution workers** put in gas distribution mains pipes and the pipes that connect customers' premises to the mains.
- **Gas service technicians** install gas and service appliances, such as fires, boilers, cookers and so on, in customers' homes and business premises.
- **Railway fitters and electricians** service the 'traction units' that pull trains, carriages and wagons. Some also build new traction units and carriages, or look after machinery such as cranes and lifts.
- **Security systems installers** fit, test and maintain electronic systems to detect intruders.
- **Satellite systems technicians** install and repair telecommunications equipment and satellite dishes.
- **Signalling technicians** work on railway signalling and control systems, which involve complex mechanical, electrical, electronic and computerised technology.
- **Domestic appliance service** people work in people's homes, or in workshops, servicing and repairing all the different kinds of machinery and equipment used at home, from washing machines to microwaves, cookers to vacuum cleaners.
- **Engineering operatives** are involved in production in any area of engineering. They usually work on a production line.
- **Locksmiths** sell, install and maintain locks and other security devices such as safes, CCTV and push button or swipe card door entry systems. They also replace lost keys and repair damaged security systems.
- **Office machinery service** people service and maintain office equipment, such as photocopiers and fax machines.
- **Welders** join pieces of metal together using intense heat to melt the edges, which fuse together as one piece as it cools.
- **Auto electricians** use different kinds of testing equipment to find electrical faults in motor vehicles. They then repair the fault, fitting new electrical or electronic parts if needed.
- **Construction plant mechanics** service and repair machinery such as excavators, bulldozers, cranes and dump trucks, usually on site.
- **Motor vehicle body repairers**, builders and refinishers repair the bodywork on damaged vehicles. This can involve straightening the chassis, filling or hammering out dents or replacing panels, and repainting.
- **Motor vehicle technicians** repair and maintain vehicles, either for members of the public or for organisations. They generally specialise in cars and vans, heavy vehicles or motorcycles. Some work as auto electricians.
- **Paint sprayers** use a spray gun or a large machine to apply paint and other coatings.
- **Parts People** or vehicle parts operatives sell motor parts and accessories to vehicle technicians and the public. They often need to obtain information on the availability and cost of components and present this information to customers.
- **Tyre and exhaust fitters** repair or replace worn or damaged tyres or exhaust systems on any kind of vehicle. Some fitters deal with both tyres and exhausts; others specialise in just one.

Engineering Apprenticeship Vacancies (on 5th January 2012)



For more details and to apply go to apprenticeships.org.uk and select Search for vacancies under Apprenticeship Vacancies. Search by vacancy reference number using the Ref No from the first column in the table. When this information sheet was published the following vacancies were available:

Ref No	Apprenticeship Framework	Business	Borough	Weekly Wage	Qualifications Required	Closing Date
127703	Engineering Manufacture	Medical Research	Southwark	£100	GCSE grades C+ in maths, English & 3 science/technical subjects	8 Jan 2012
124698	Engineering Manufacture	Cycle Shop	Islington	£94 30 hours	GCSE grades C+ in maths & English	9 Jan 2012
127298	Vehicle Parts	Bus Operator	Throughout London	£218.41	None	9 Jan 2012
128806	Vehicle Maintenance	Car Dealership	Southwark	£104.10	GCSE grades C+ in maths, English & ICT	10 Jan 2012
129590	Food & Drink (Vending Machine Engineering)	Vending Machines	Southwark	£122.42	None	17 Jan 2012

Any vacancies marked ^{AA} are Advanced Apprenticeships leading to Level 3 qualifications. All others are Intermediate Apprenticeships leading to Level 2 qualifications.

To apply for any of these vacancies you will need to register (if you have not already) at apprenticeshipvacancymatchingservice.lsc.gov.uk/navms/forms/candidate/PreRegisterCandidate.aspx (you will need a valid email address in order to register). You can get further help on using the site and making applications at apprenticeships.org.uk/sitecore/content/avtm/Candidate.aspx

Transport for London Apprenticeships



There are currently 36 Track Maintenance, 2 Business Administration and 2 Welding Apprenticeships with companies working with Transport for London across London. All applicants must complete a four day pre-employment course held at the London Transport Museum in Covent Garden (lunch and travel costs provided). Qualifications are not required and the closing date is 5 January. Call 020 7565 7298 and leave your name, age, email and mobile number to apply.