seta

APPRENTICESHIPS
ENGINEERING

SOUTHAMPTON
ENGINEERING
TRAINING
ASSOCIATION

APPRENTICESHIPS
ENGINEERING

What is Engineering and Construction Engineering?

Engineering is about problem solving and pushing the boundaries of technology. In modern society, engineers are responsible for delivering our basic needs of heat, light, shelter and for turning our ideas into reality such as computer technology, medical equipment and aerospace.

Engineers are not only responsible for creating but also for the continued running of all these systems. An advanced society will always require engineers.

What is an Apprenticeship?

It is a way of learning the skills and qualifications needed by industry while earning money at the same time. All engineering apprenticeships consist of some 'off the job' training, key skills, a technical certificate and an industry specific NVQ.

Training at apprenticeship level is normally completed within one year at our own fully equipped training centre in Millbrook. On successful completion of this training, employed apprentices will typically commence an Advanced Apprenticeship. Your employer will contribute towards the cost of your training and help teach the skills they require.

A level 3 technical certificate will be completed either at SETA or a local college, whilst you work towards a NVQ level 3 at your place of work. This will typically take a further two to three years but your rate of progress will depend on you.

Throughout your apprenticeship and Advanced aprenticeship SETA will be on hand to guide and assist you to reach your goals.

Who are SETA?

SETA, the Southampton Engineering Training Association, is a charity specialising in engineering training. We have a board of trustees drawn from local engineering companies and a training team with real industry experience. Our training centre was purpose built to provide training in a wide range of skill areas.

Mechanical

Turning, milling, fitting, hydraulics, pneumatics, maintenance, CAD and CNC.

Electrical/Electronics

Installation, production, maintenance, instrumentation, design.

Fabrication/Welding

Sheet metal work, pipe fitting, MIG/TIG, platework and steel erecting. Drawing skills form an important part of all training courses and many apprentices will gain experience in computer-aided design packages.

How do I apply?

If you have – or expect to achieve – 5 C grades at GCSE, including English Language, Maths and a Science, you need to complete a SETA Application for Training form, available from schools, careers offices or SETA direct. It is important to apply by the end of May to increase your choice of apprenticeships available.

When SETA have received your Application, you will be invited in to sit some short tests designed to assess where your strengths are and which skills you may be suitable for. SETA will then start to circulate your details to companies who want to recruit an apprentice. If the company are interested in you, they will invite you for an interview.

Once you have found a job, SETA will then start to put together your Individual Training Plan, according to your abilities and your employer's requirements.

MECHANICAL SKILLS

Turning

Turning is the term used to describe the manufacture of a component on a lathe – either manually on a centre lathe or using a CNC (Computer Numerically Controlled) lathe. Turning is used to produce round components, such as screw threads. Turners need to work to a high degree of accuracy and be able to work from engineering drawings.

Milling

Milling is the process of cutting metal to create flat or angled surfaces. It can be done manually on a milling machine fitted with a rotating cutter or on a CNC machine. Milling can produce components such as gear wheels, slots or grooves and, again, requires a high degree of accuracy.

Fitting

This is the process of producing and assembling parts of machinery. Using tools such as pliers, hammers, spanners, files and screwdrivers, the fitter will work to technical drawings in order to assemble equipment.

Hydraulics/Pneumatics

Fluid power systems, like hydraulics and pneumatics, are a way of moving loads or applying forces in a controlled way. They are typically found in JCB arms, some suspension systems, air tools and braking systems.

Maintenance

A maintenance engineers' job is to keep mechanical plant and equipment running, whether in a hospital, a factory or offices. They will need to solve problems quickly and efficiently and use their initiative. They will often be working with teams of other skilled people and may be required to learn electrical skills as well as mechanical ones.

CNC (Computer Numerically Controlled) Machines

Many mechanical components are today produced using machines, especially if the component is not a one-off. These CNC machines need to be programmed and many skilled millers and turners have also learnt to use them. Their skills in reading drawings and understanding how components will fit together provide valuable expertise in programming the CNC machines.

ELECTRICAL/ELECTRONICS

Installation

Installation electricians are mainly responsible for the safe installation of electrical equipment in houses, factories, offices etc. They will need a good knowledge of electrical theory and regulations, as well as the ability to read drawings. They are also responsible for the testing and inspection of completed installations.

Production

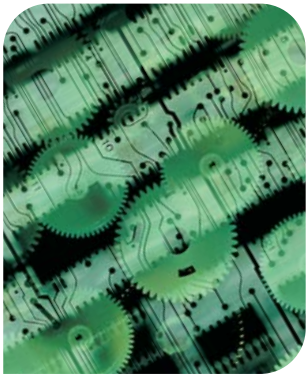
Production electronics is the process of assembling small components onto circuit boards to go into larger equipment, such as computers, washing machines or microwaves. Electronics engineers need to be precise and work closely following drawings. They may work on one-off jobs or in a production environment.

Maintenance

A maintenance engineers' job is to keep electrical equipment running, whether in a hospital, a factory or offices. They will need to solve problems quickly and efficiently and use their initiative. They will often be working with teams of other skilled people and may be required to learn mechanical skills as well as electrical and electronic ones.

Instrumentation

Instrumentation technicians will be trained in electrical/electronics and mechanical work and specialise in working with instrumentation. This may include manufacturing units, control meters and emergency shutdown systems.



Servicing & Design

Electronics engineers are involved in the design, test and repair of electronic equipment, usually in a controlled, clean environment. Many features of modern life are controlled by electronic systems, from aircraft and car engine management systems to life support systems. The challenge is often to design a reliable and high-tech solution to what may be a simple problems. Electronics engineers are taught to work in fine detail with logical thought processes.

FABRICATION/WELDING

Sheet metal work

Sheet metal workers change flat sheet metal into shapes as required, from aircraft parts to washing machines bodies. They will use both hand tools and machines to shape and cut the metal. They will probably work from an engineering drawing, either to create one-off parts or production runs.

Pipefitting

Pipe fitters work with pipe systems of various sizes and materials to create pipe systems, either for domestic situations or for industry. They will work from drawings to cut and bend pipes, often to very precise tolerances. Typically, they work within the railway, petrochemical, water and gas industries.

Welding

Welding is the process of joining metals by applying heat. The melted metals should then create a permanent join. There are many different types of welding technology, from oxy-acetylene and manual metal arc to laser and ultra-sonic. Virtually anything which is manufactured from metal requires welding, from trains and aircraft to oil rigs.

First Avenue, Millbrook
Southampton, Hampshire SO15 0LJ

Telephone: 023 8077 1908
Facsimile: 023 8087 8317
Email: info@seta-training.co.uk

Web: www.seta-training.co.uk

seta