

# How to get into engineering

Explore paths into engineering and the grades required.

**W**ould-be engineers who intend to complete their A levels or Scottish Highers can either study for an engineering degree before starting work or join a higher apprenticeship programme with an engineering employer.

## A level subjects

If your child wants to take a degree in engineering they need an A level (or equivalent) in maths. In many cases they will also need physics. Some chemical engineering degrees ask for maths and chemistry instead; some ask for maths and physics; and some ask for all three. For some very prestigious universities it is helpful to also have further maths. See the extended version of this article at [targetcareers.co.uk/career-sectors](http://targetcareers.co.uk/career-sectors) for more details.

To get onto an engineering higher apprenticeship or similar your child will typically need maths and science A levels. Some employers ask for specific science subjects and others don't, but maths is often requested.

## Grades required

If your child wants to get into a top university to study engineering they will typically need A\* and A grades in their A levels or equivalent. Universities that aren't as highly ranked often ask for As and Bs. Entry requirements for higher apprenticeships are typically a bit lower. Some employers don't specify grades; some ask for C grades or above at A level; others set a minimum number of

UCAS points, typically between 240 (CCC) and 280 (BBC) though sometimes higher.

## The university route

Your child could study a particular area of engineering or keep their options open with a general engineering degree. They can also choose between a course that leads to a bachelors-level qualification or one that leads to a masters-level qualification.

Many engineering employers run graduate schemes for those who have completed an engineering degree. As well as a job to do, graduates are likely to receive formal training and might have the chance to try out different roles to see which suits them best. There are also many jobs for graduate engineers with companies that don't run formal graduate schemes. Often these are with smaller organisations that need someone to come in and do a particular job straight away.

## Joining an employer at 18

A number of engineering employers run higher apprenticeships, which are aimed at those who've just finished their A levels (or equivalent). The qualifications your child would gain vary from company to company – some offer the chance to gain a bachelors degree; others offer a foundation degree or an HND or an HNC, for example.

All programmes involve combining a job with part-time study. Your child might work Monday to Thursday and then spend Friday studying at a local college or university, or attend college in blocks of a week or more at a time. They'll also need to spend some of



their spare time studying at home. However, their employer will typically pay all of their tuition fees.

Your child is unlikely to be guaranteed when they start the programme that they will have a permanent job once they finish. However, if they do well their employer is very likely to offer them a position. It may also support them to continue their studies to a higher level.

#### Becoming professionally qualified

Many engineers choose to become professionally registered. This means that a professional body has certified that they have the right level of skills and knowledge to meet its benchmark. Engineers work towards becoming professionally registered over a period of time while in employment, gathering evidence of their skills and experience before being assessed.

There are different levels of professional registration. The highest is chartered engineer, then incorporated engineer, then engineering technician. On average, chartered engineers

earn more than incorporated engineers, and incorporated engineers earn more than engineering technicians.

The quickest and simplest route to chartered engineer status is with a masters degree; the quickest and simplest route to incorporated engineer level is with at least a bachelors degree. However, it's also possible to get there with lower qualifications, if you can prove that you've reached these levels of learning in another way. **T**

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- an overview of types of jobs and employers in engineering
- advice on choosing an engineering degree or higher apprenticeship
- engineering salaries.