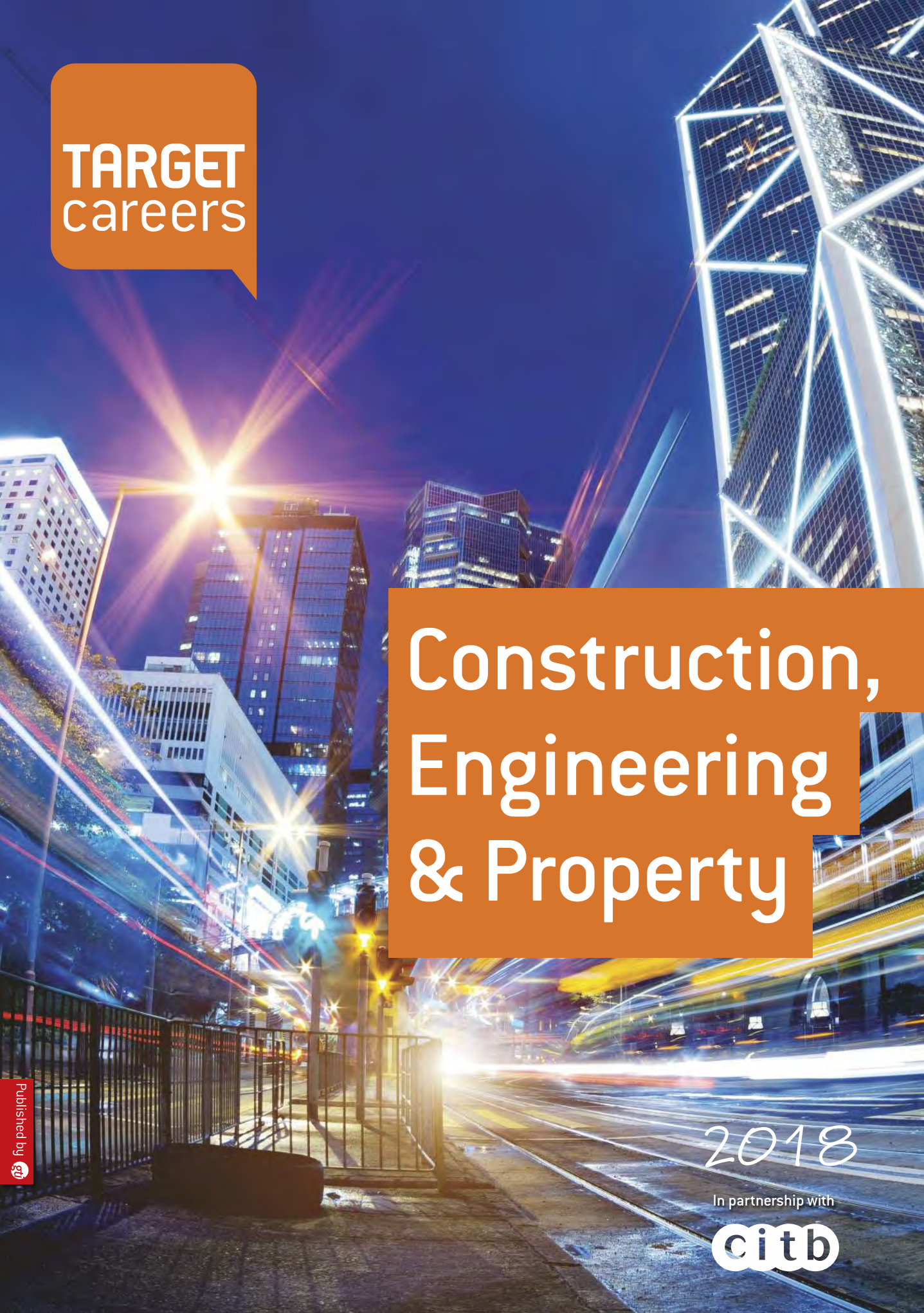
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careers
Construction,
Engineering
& Property
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2018 Edition

Welcome

How do you see your future?

Welcome to the fourth edition of TARGETcareers *Construction, Engineering & Property*. This guide will help you, as a school or college student, explore all the options of careers in construction, engineering and property. There are many study routes to explore from university to apprenticeships and training programmes – find a study route best for you.

Here at the Construction Industry Training Board (CITB) we understand how difficult it is to choose your ideal career path. This is why we are proud to support this publication and its website **targetcareers.co.uk** along with hosting our own careers resource, Go Construct. Find out what career is right for you by searching roles in construction, taking our personality quiz and using our careers explorer on **goconstruct.org**. This website also hosts a range of resources for teachers and careers advisers too. We are here to help you develop your career by providing the information you need to get you on your journey.

With 2.6 million construction roles in the UK, you can be part of something big. Whatever your skills, interests, ambitions or qualifications, construction has a role for you. Do you see yourself managing an entire project, being your own boss or being creative? Construction has the roles for you to thrive in an area of your choice. If you have the skills, construction can help you build on them.

Many students will start their careers off in an apprenticeship earning while they learn after GCSEs or A levels (or equivalents). Some students choose to go to university and gain a job after graduation; others choose to do a higher level apprenticeship while working. Whatever your study choice is, whether you want to go into construction, engineering or property, this publication will help you find out more.

Kind regards,

Steve Radley

Policy Director, CITB

GO CONSTRUCT
Industry led, funded by the CITB levy citb

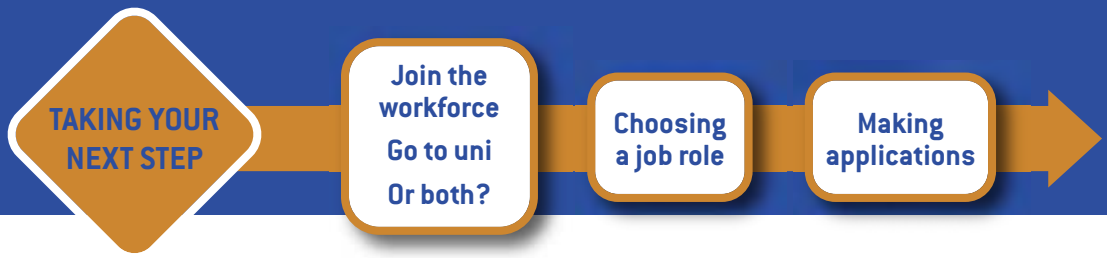
The Scottish Parliament Building in Edinburgh.
Thanks to Go Construct and the CITB for supplying the image.

Contents

Welcome to your future

Which route?

Which job role?



Career stories from students and apprentices

Applying to university

Apprenticeship applications and interviews

51 IMPRESS ON YOUR INTERVIEW DAY

25 ENGINEERING INDUSTRIES EXPLAINED

42 CAREER STORIES FROM STUDENTS AND APPRENTICES

Construction is...

Saying 'I helped build that!'. Designing and building the 'built' environment around us: the tallest skyscrapers, state-of-the-art football stadiums, homes for people to live in and so on.

See page 16
for more about construction careers

WELCOME TO YOUR FUTURE

Your choice of careers

Engineering is...

Problem solving. Designing, creating and fixing many of the items that make our lives easier – from smartphones and satellites to cars and medicines.

See page 25
for more about engineering careers

Designs for new projects on London's Greenwich Peninsula.

With thanks to AECOM

With thanks to Go Construct and the CITB

The Park Central regeneration project in Birmingham.

Property is...

Increasing the value of land and real estate. From houses and offices to farmland and wind farms, property professionals work to ensure that land and property make money.

See page 35 *for more about property careers*

Engineers from many job roles can work in the built environment.

With thanks to Go Construct and the CITB

Your choice of caree

Your options at 16

Finish key stage 4

PAGE 10

Apprenticeship

You can complete an intermediate or advanced apprenticeship. You will study part time while working for an employer. All your training is paid for and you get paid too.

Intermediate (level 2) apprenticeships

- Entry requirements vary – from no GCSEs to five GCSEs.
- The end qualification you receive is equivalent to five GCSEs or an NVQ level 2.
- For jobs such as electricians, bricklayers, mechanics and plumbers.
- Lasts one to four years.

Advanced (level 3) apprenticeships

- Entry requirements vary – typically five GCSEs A*–D or 9–3.
- The end qualification you receive is equivalent to two A levels or an NVQ level 3.
- For jobs such as bricklayers and maintenance engineers, civil engineers, aerospace modellers and instrument fitters.
- Lasts one to four years.

This can lead to...

- A job (either with the same employer or a different one).
- Another, higher level apprenticeship or qualification (if an employer supports you).

Stay in education

You can go to a sixth form or further education college and study:

- A levels.
- Vocational qualifications, eg NVQ in engineering.

This can lead to...

- An entry-level job, eg building surveying technician.
- A higher apprenticeship or alternative school leaver training programme.
- University – HNC/HND/BEng/MEng/BSc qualification.

r routes

Your options at 18

Finish key stage 5

PAGE 10

Apprenticeship

The traditional apprenticeship option is the higher apprenticeship, in which you'll work full time for an employer with dedicated time for studying. However, a few employers are now offering degree apprenticeships. With an apprenticeship, your training is paid for and you get a salary too.

Higher (level 4) apprenticeships

- Entry requirements vary – usually two A levels and five GCSEs.
- The end qualification is equivalent to an NVQ level 4 or a foundation degree/HNC/HND.
- For jobs such as designers, construction managers and engineers – but you'll have less responsibility than if you'd got a degree.

Degree (level 6) apprenticeships

Recently introduced: only currently available through a few employers in certain areas, including surveying and engineering.

- Complete a degree and a relevant professional qualification.
- Typically lasts three to six years.

This can lead to...

- A job (with your employer or a different one).
- University (for higher apprentices).

PAGE 10

School leaver training programme

Some employers offer alternatives to apprenticeships for A level students who don't want to study full time at university. These are similar to apprenticeships, but are customised to the employer rather than having to follow apprenticeship frameworks. These employer training schemes usually involve you studying for a degree while working for the employer; the employer pays all (or most) of your fees.

This can lead to...

- A job.

PAGE 12

University

You can study a degree qualification full or part time.

- Entry requirements vary – all ask for a number of UCAS points, some require specific subjects and some won't accept general studies or critical thinking A levels.
- Fees cost up to £9,250 a year for UK students. Can be funded by a student loan, bursaries or through an employer.
- Courses typically last three or four years + an optional work experience placement year.

This can lead to...

- A graduate scheme or graduate-level job, which often includes management responsibility.
- Further study.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Which route is best for you?

What would suit you best: university, apprenticeship or training programme? Our quiz can help you work it out. Choose the statement you most agree with.

A		B
I enjoy the learning environment and am looking forward to student life.	1	I am keen to enter the workplace straightaway.
I enjoy learning in the classroom.	2	I enjoy learning through doing.
I don't want to work full time and have to study on top.	3	I feel able to combine full-time work with part-time study.
I want higher earning potential in the long term, even if I have student debt in the short term.	4	I want to earn some money straightaway and I don't want any student debt.
I want to be in a position to be offered management opportunities virtually straightaway.	5	I don't mind working my way up to management level.

Mostly As?

You might want to explore...

University courses and full-time study

SEE PAGE 12

Mostly Bs?

You might want to explore...

Apprenticeships or training programmes

SEE PAGE 10

Find out more at targetcareers.co.uk

WHICH ROUTE?

Thinking about apprenticeships?

Apprenticeships and school-leaver training programmes offer you the chance to develop your skills and work towards qualifications while earning money in a real job. They are a tried and trusted way to start your career, but you need to know what you are signing up to.

What's involved?

Apprenticeships allow you to work in an entry-level job while getting trained up. For example, you might spend one day a week at a further education college or training centre. You can gain vocational and technical qualifications and improve your functional skills (for example, in maths and English). Some employers provide training in business skills too.

Apprenticeships can be found in a huge number of different areas – from crafts such as stonemasonry to aspects of project management. An apprenticeship will train you to do a specific role and it can be hard to change that role later on. See pages 6–7 for an outline of the different types of apprenticeship available. You may also start working towards a 'professional qualification' during or after your apprenticeship. These tell clients and employers that you are trained to 'industry standard' and are an important step in construction, engineering and property professionals' careers.

Cashing in

The minimum wage is £3.50 per hour for apprentices aged 16–18 or for those aged 19 or over in their first year. After the first year, apprentices aged 19 or over are paid the national minimum wage, which changes depending on your age: £5.60 if aged 19–20, £7.05 if 21–24 or £7.50 if aged 25 or over.[1] However many employers pay more than the minimum wage: see the A–Z of organisations from page 60.

What happens afterwards?

Most employers will try to keep you on in a job after your apprenticeship. However, this might not always be possible. If this is the case, you will typically have qualifications and years of work experience that will help you find a job with another employer.

An apprentice could progress to a higher-level apprenticeship, a training programme or a university course. But you'll need an employer's cooperation to do so: they may want you to perform the job you've been trained in. If you have managerial ambitions, the quickest way to fulfil them may be through a degree, either through joining a graduate scheme after going to university or by finding an apprenticeship that includes a degree.

Applying for apprenticeships

Deadlines for apprenticeships depend on the employer: for example, some close in January, some in May and others are open all year. There are three ways to apply, you can:

- apply directly to an employer offering apprenticeships (see the A–Z of organisations from page 60)
- apply via a further education college
- apply to a training provider who will then place you with an employer. Training providers can be private businesses, charities or, like the CITB, professional bodies.

The application process can involve filling in a form, sending in a CV, one or more interviews, an assessment centre and online tests (eg numeracy). See pages 52–59 for advice on applying.

[1] Figures correct as of October 2017.

Training programmes

Training programmes (also called school leaver programmes) are schemes run by employers that usually involve studying for a qualification while working for the employer. You typically apply by contacting an employer directly. These are similar to apprenticeships, but they do not have to meet specific criteria set by the government.

The names 'training programme' and 'apprenticeship' may be used interchangeably. For example, an employer's training programme may include an apprenticeship. The most important thing is to look at the skills, qualifications and pay an employer is offering, rather than the name of the scheme.

The pros and cons

You can earn, learn and work at the same time, and you won't have any student debt.

A job is not guaranteed at the end of an apprenticeship.

Balancing the demands of work and study can be hard.

Graduates may start with a higher salary and more responsibility than a more experienced apprentice.

WHICH ROUTE?

Thinking about university?

Going to university is a popular choice and an established way for academically-minded people to accelerate their careers. But, with tuition fees to consider, you need to know how to make the most of it.

The qualifications explained

Universities offer undergraduate and postgraduate qualifications that can be studied full time, part time or online. Most undergraduate degrees are bachelor degrees, usually taken after A levels. On graduating, construction and property students typically become bachelors of science (BSc). Engineering students can become either bachelors of engineering (BEng) or masters in engineering (MEng) – this is technically an undergraduate qualification, but is equivalent to a postgraduate masters degree. Postgraduate qualifications are taken after bachelor qualifications.

Sponsored degrees

If you want to get a degree while earning money, a sponsored degree or degree apprenticeship may be for you. You will likely work full-time for an employer and attend university in week- or month-long 'blocks', so you may not experience 'typical student life'. Your tuition fees will be paid for by an employer, but you may be required to study a particular course or at a particular university.

There are shorter undergraduate courses that offer recognised, but lesser, qualifications: higher national certificates (HNCs), higher national diplomas (HNDs) and foundation degrees. They are offered by further education colleges in addition to universities. You can progress to a bachelor degree from these courses; sometimes students take them if they have insufficient UCAS points for a bachelor course.

The courses on offer

There are many undergraduate subjects available – browse courses at **targetcareers.co.uk** and **ucas.com**. You can study either one subject in depth (single honours) or study two (joint or combined honours). The vast majority of courses in construction, engineering and property include the opportunity to take a 'placement' year (where you spend a year working for an employer).

What to expect

Around 25–40 per cent of your time will be spent in lectures, seminars and tutorials, but the rest of your time will be spent doing independent study: check out **unistats.ac.uk** for the ratios of specific courses. You'll be assessed through exams, presentations, extended essays and/or research projects. You'll also be encouraged to apply for work experience with employers during the holidays and/or a placement year.

Construction, engineering and property courses are more practical than other degrees, but they are still theory based. Engineering students, for example, learn a lot of maths. If you prefer a more practical approach, perhaps investigate apprenticeships or training programmes.

Qualification	Typical length (full time)
HNC (level 4)	One year
HND (level 5)	Two years
Foundation degree (level 5)	Two years
BSc, BEng (level 6)	Three years + optional one-year placement
MEng (level 7)	Four years + optional one-year placement

Choosing a course and university

Consider:

- the reputation of the university for the subject
- whether the course is accredited by relevant professional bodies
- whether tutors/lecturers are involved in cutting-edge research or have worked in industry
- the range of modules and projects
- the relationships the department and careers service have with employers
- facilities, including laboratories, computer-aided design software, access to journals and case study materials
- other general factors, such as the social life on offer, whether it's a campus or city university and your gut feeling!

Don't just rely on university prospectuses and websites to find these things out: go along to open days and ask course leaders and students.

Funding university

If you are a UK national, you will pay a maximum of £9,250 a year for tuition fees. You'll also need to factor in living expenses. You can get loans to cover the costs of tuition and living (maintenance) costs – the student finance calculator on **gov.uk** tells you how much you could get. You pay back your loan in instalments after graduating and only when you earn over £21,000 (likely to rise to £25,000) in England and Wales and £17,775 in Scotland and Northern Ireland. There are other ways to fund your studies. Check out the following sources.

Employer sponsorship

Many employers will pay for your studies in return for you working for them during holidays and after graduation. Some employers will offer this before you start university; many more will offer this to second-years who have completed a work placement with them. See the A–Z of organisations starting from page 60 to see who offers sponsorship.

Bursaries and scholarships

There are a number of bursaries and scholarships available – which you don't need to pay back – but you'll need to search for them. Look at the websites of individual universities and professional institutions (see page 40 for institutions' websites).

After your degree

Unless you've been sponsored by an employer, university does not guarantee you a job. You'll need to apply for graduate-level jobs (graduate schemes). If you graduate in July and want to start work in October, you should apply in the first term of your final year.

[1] According to the Department for Education's *Graduate Labour Market Statistics: 2016* report.

The pros and cons

- **The median salary of a graduate aged 21–30 is £6,000 higher than for a non-graduate the same age.[1]**
- **It can be expensive and you may end up with student debt, but it can be paid for via sponsorship or bursaries.**
- **A job isn't guaranteed after university, but you'll have a dedicated careers team to help you find one.**
- **Joining a graduate scheme can be a quicker way into management than an apprenticeship.**
- **It may enable you to study for a higher level professional qualification while on the job, leading to higher status and salaries. This isn't always the case for apprentices.**
- **A degree is a passport into many careers, not just the subject you are studying – great if you change your career plans.**

WHICH JOB ROLE?

Match yourself to the right career

How do you choose which job is right for you? Read our overviews of the industries and job roles over the next few pages and use our career-matching tool below.

Identify your skills

There are some general skills you'll need whatever construction, engineering or property job you go into. For example, you'll need to be able to work in a team; communicate with colleagues and probably clients too; and manage your time – that is, meet deadlines and be punctual. Some jobs require specific skills and qualities. For example, architects need to be able to draw and scaffolders can't be afraid of heights.

You've probably already developed some of the required skills through school or college work, extracurricular activities or part-time jobs. If you need to develop your skills further, use the rest of your time at school or college to do so: get involved with schemes such as the Duke of Edinburgh's Awards or Young Enterprise, offer to mentor younger students or take up a new interest outside of school.

Work out what you enjoy

Think about what skills and activities you've enjoyed at school and elsewhere – and what you didn't enjoy. Did you prefer science to English? If you have a part-time job in a supermarket, do you like talking to customers? Would you prefer to be cooped up inside on a winter's day or would you want to venture out? Considering your likes and dislikes will help you find a job that you love.

Make a match

Make a list of your school/college subjects and extracurricular activities. Write down the things you liked about them, and the different skills you needed to take part in them. For example, if you played rugby, you may have enjoyed being outdoors and getting fit – and you will have turned up on time for the match and for training (time management), been a team player (teamwork) and talked through game plans with your team (communication). You can create your list by drawing a mind map on a huge piece of paper or you can use an app. Then decide which of your likes and skills on the list are the most important to you.

Professional qualifications

Many of the professions featured over the next few pages involve taking an additional on-the-job qualification. This qualification is awarded by the institution that represents your chosen profession and tells the world that you are qualified to a high standard. You can start working towards it on a school leaver training programme or graduate scheme.

See page 40 for more information

If you like...

designing...

Consider:

If you like getting...

the best deal...

Consider:

If you like...

interpreting rules...

Consider:

If you like...

being in charge...

All jobs can lead to management, but if you want to start off as a manager, consider:

If you want to...

work with your hands...

Consider:

If you want to be...

out and about all day...

Consider:

If you want a...

green career...

Roles where you'll have a particular focus on minimising our environmental impact include:

How the construction industry works

Different organisations work together to build a project. Here's how...

1 It starts with the client

...who decides something should be built. They might be a property development company, a local authority, a central government department, a private business or an individual.

The client decides what they want to build, the timeframe in which it should be built and how much it should cost.

2 The client then hires consultants

...who will advise them on matters relating to the design, cost and any regulations. The client could employ several consultancies or one consultancy to advise on everything. Either way, one consultant organisation will often oversee the project on behalf of the client.

Consultant organisations include:

- architecture practices
- cost consultancy (quantity surveying) employers
- civil, structural, mechanical and electrical engineering employers.

Consultants then look after the design phase of the project – they design the structure and work out how much that design will cost to build. Once this has been established, they decide which construction contractor should do the construction work. Contractors have to 'bid' for the work – put a case for why they are the best company to carry out the work and state their price.

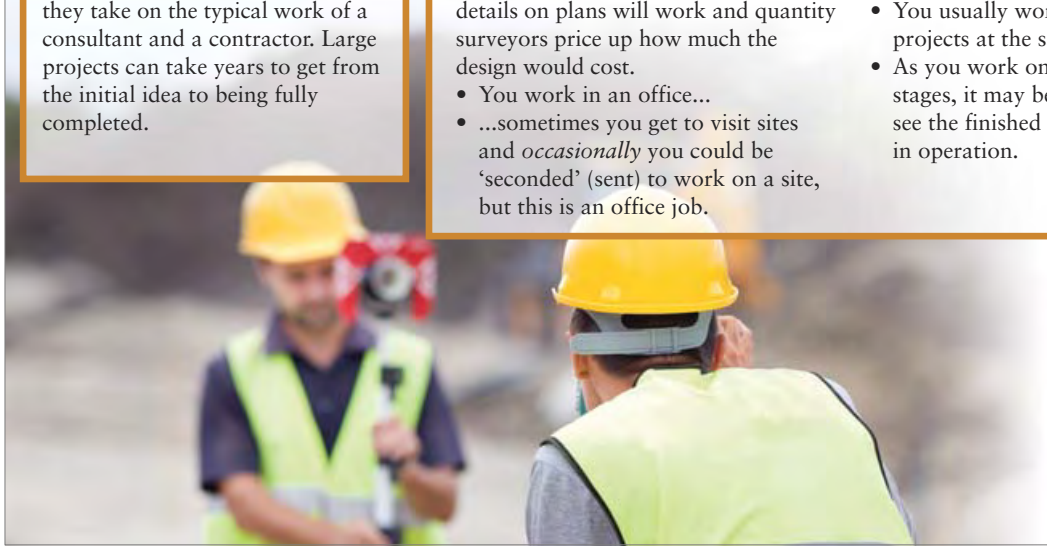
1 The traditional process

The flowchart above shows the typical process of how a construction project gets built, but some larger firms offer a design-and-build service where they take on the typical work of a consultant and a contractor. Large projects can take years to get from the initial idea to being fully completed.

2 Working for a consultancy

If you work at a consultancy, your work will be on the design phase. Civil engineers make sure that the technical details on plans will work and quantity surveyors price up how much the design would cost.

- You work in an office...
- ...sometimes you get to visit sites and *occasionally* you could be 'seconded' (sent) to work on a site, but this is an office job.
- You work office hours (typically 8.30 am – 6.00 pm) but may have to work longer hours close to a deadline.
- You usually work on a number of projects at the same time.
- As you work on a project in its early stages, it may be years before you see the finished project in operation.



Find out more at
targetcareers.co.uk

3 Contractors carry out the construction work...

Once the contractor has won the work, construction begins on site. They ensure the project is built to the agreed quality, budget and timeframe. They take instructions about the design from the design consultancy and run any design-related problems past them.

...but may get subcontractors to help

If there is work involved in the project that needs specialist skills or knowledge, the contractor might offer the work to specialist organisations that have more expertise in specific areas. Typical tasks that might be given to subcontractors include:

- reinforced concrete works
- structural steelwork
- work on the foundations
- plumbing and electrical work.

Subcontractors tend to be smaller and local employers. They work in similar conditions to contractors.

3 Working for a contractor

Job roles with contractors include site managers, civil engineers, quantity surveyors, and trades or crafts people.

- You work on site (or from a temporary office on site) in all weathers.
- Depending on the project, you might need to work shifts or overnight.
- Working hours are longer out on site (typically 7.30 am – 6.00 pm) and you may need to work longer hours if things get behind schedule.
- You typically work on one project at a time.
- You get to see things being built before your very eyes.

What else do you need to know?

A project could be a 'new build', a renovation or a refurbishment. It can cover anything in the built environment around us, for example:

- houses, office blocks, warehouses, factories and hospitals
- train stations and airports
- roads, railways, bridges and tunnels
- piers, dams and coastal defences
- nuclear power plants and other generators of energy.

Relocation, relocation, relocation... or commute

Don't be surprised if you have to relocate for the job or face a long commute. This is more likely if you work for a contractor, as you'll be expected to go to where the projects are. If you work for a national employer, the project can be anywhere across the country but smaller employers are more likely to work in a particular region. Consultants are also more likely to stay in their local area, but may need to travel to visit sites.

If you work for an international employer, you might get to work abroad – although you may need to get a few years' experience under your belt first. If this is the case, the company usually pays for your accommodation.

Know your markets

Larger construction companies specialise in particular 'markets' or sectors – for example, they might offer civil and structural engineering services for healthcare projects. Some work in a range of sectors while other companies provide expertise in just one or two areas. Many construction professionals specialise in a particular type of project over time.

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Above all, it's about people

Architects and architectural technologists

Every building starts with the design Enter the architect

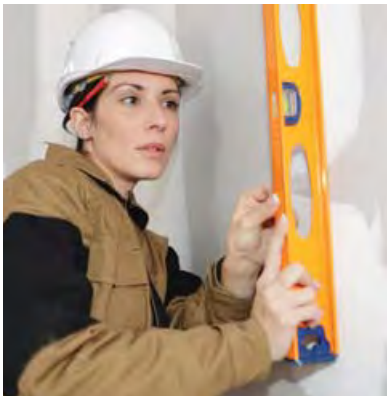
Architects design buildings that are safe, attractive and as environmentally friendly as possible. They stay involved throughout the construction process, adapting their plans if the budget, environmental factors or the client's wishes change. They are assisted by architectural technologists and technicians.

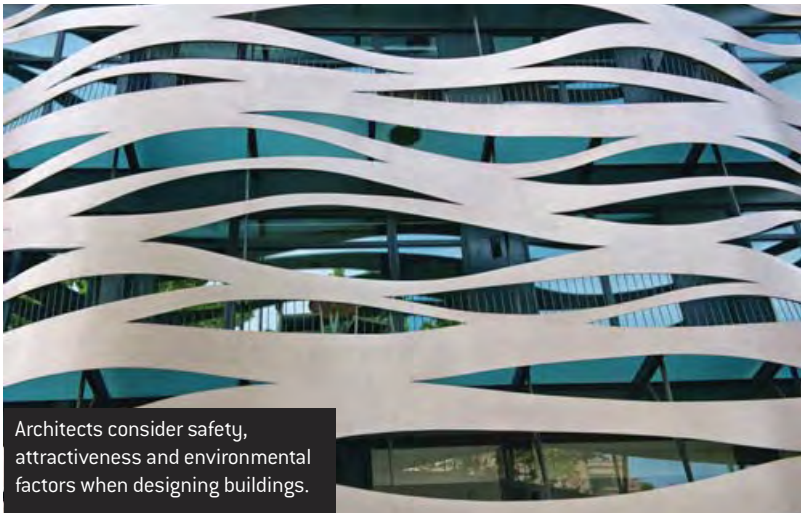
Architectural technologists ensure that the technical aspects of a design work and comply with regulations. They work in a similar role to civil engineers in that way. Architectural technologists may also be hired to oversee a project from start to finish. Technicians help prepare drawings, compile technical information such as surveys, and help put together proposals and contracts.

Most architects, technologists and technicians work in architectural practices; many experienced architects and technologists set up their own. There are a few vacancies with large construction employers and in the public sector.

Do you need a degree?

To become an architect, you need a degree approved by the Royal Institute of British Architects (RIBA): it takes seven years, including two years of work placements. A levels in art/graphic design, maths and physics are useful, but not always required. Many universities want a combination of arts and sciences.





Architects consider safety, attractiveness and environmental factors when designing buildings.

Most architectural technologists study a three-year degree approved by the Chartered Institute of Architectural Technologists. Technicians typically study an HND/HNC or a foundation degree in an architecture or built environment-related subject before applying for a job; there are a few apprenticeships. With further study, they can become technologists.

A good choice if...

- **You are good at freehand drawing.**
- **You are creative.**
- **You can get your head around maths.**
- **You can get to grips with detailed information on building regulations.**

Building services engineer

Making sure that new buildings are ready for people

Building services engineers see that a building has more than walls and a roof. They are responsible for the electrical, mechanical, utility and telecoms systems in new building. In short, they take a new building from being an empty shell to being a comfortable living space that meets health and safety regulations.

Depending on the type of employer you work for, you could be responsible for designing systems, implementing systems on site or maintaining and repairing systems in an up-and-running building. You could work on designing, implementing and maintaining: air conditioning, elevators, telecoms systems, electricity supplies and lighting, water supplies and heating.

Routes in

You can become a building services engineer through an apprenticeship or through a degree. If you have GCSEs (or equivalent), you can choose to complete an advanced apprenticeship, become an engineering technician and work your way up to become a chartered engineer, the highest qualified type of engineer (see page 29). Apprenticeships may specialise in a specific area, such as design or heating and ventilation.

The quickest way to become a chartered engineer is through an MEng degree or a BEng with a postgraduate qualification. This can be in building services engineering or a related subject (such as mechanical engineering or electrical engineering) that is accredited by a relevant professional body such as the Chartered Institution of Building Services Engineers, the Institution of Mechanical Engineers or the Institution of Engineering and Technology.

Maths, physics, chemistry and IT are good A level (or equivalent) subject choices. You may be able to get a MEng or BEng through a degree apprenticeship.

A good choice if...

- **You want to be at the forefront of technological development – building services engineers work with the most up-to-date 'building services intelligence' technology.**
- **You like getting into the nitty gritty of design or making designs work in the real world.**

Civil, structural and geotechnical engineers

Creating the tallest buildings and the longest bridges

Civil and structural engineers design, build and maintain the constructed world around us: bridges, tunnels, roads, railways, dams, pipelines, buildings, power plants, offshore wind facilities and so on. They ensure the technical detail in architects' plans will work in practice. They often specialise in a type of project, such as highways. Structural engineers have particular responsibility for ensuring that the structure (inner-framework) of the project holds up, even in bad weather.

Consultants vs contractors

If you work for a construction or engineering consultant – who designs and plans projects – you will be working on the technical aspects of designs, using computer-aided design packages. If you work for a construction or engineering contractor – who builds the project – you'll make sure that the design is implemented properly. If you work for a public sector organisation or utilities supplier, you'll help to investigate the need for public services, such as roads, and maintain them. See page 29 for more information on how to start your engineering career.

Building foundations

If structural engineering takes your fancy, consider geotechnical engineering too. Geotechnical engineers are responsible for structures' foundations, assessing data from the field, finding ways to ensure foundations or slopes are stable, designing foundations, and overseeing work on a construction site.

A good choice if...

- **You can draw basic sketches – you don't have to be an artist.**
- **You like knowing the technical details of how things work (for jobs with consultancies).**
- **You'd like to work on site instead of in an office (for jobs with contractors).**
- **You want to be able to say 'I helped build that!'**

Landscape architects

Combining a flair for design and concern for the environment

Landscape architects aim to improve the quality of the environment by designing and managing the open spaces around us. They combine artistic skills with knowledge of human activity and the natural environment to design public areas in towns, cities and the countryside. They use computer-aided design packages to model and experiment with designs; visit, survey and analyse sites that could be developed; draw up plans for how the space will be developed in the longer term; help to protect and conserve the environment; deal with clients; and work alongside other construction professionals.

Landscape architects tend to work for specialist landscape architectural practices, environmental consultancies, transport planners and large engineering consultancies. There are also a few vacancies in the public sector.

Do you need a degree?

To become a landscape architect, you need to study a degree approved by the Landscape Institute. This is usually a three-year undergraduate degree plus a one-year postgraduate diploma in landscape architecture. But if you complete an undergraduate degree in a subject such as art, geography or horticulture you can do a postgraduate 'conversion' masters lasting up to two years. Most universities do not specify A level (or equivalent) requirements but the Landscape Institute suggests that the following subjects would be good choices: art, design, graphics, chemistry, physics, biology, geography, English, technology, ICT or history. Some universities may ask you to have art to at least GCSE level.

A good choice if...

- **You are creative.**
- **You are good at art and biology.**
- **You like the outdoors.**
- **You want to help protect the environment.**

Quantity surveyors

Hold the purse strings of the construction industry

Quantity surveyors (QSs) can also be known as cost consultants, commercial managers, cost managers or cost engineers. But whatever you're called, your role is to help a construction project to make a profit. You'll keep a close eye on how much everything costs (the materials, the time taken and the workers' salaries) and make payments.

If you work for a construction or QS consultancy – which looks after the 'design' stage of the project – you'll be based in an office. You'll spend most of your time working out how much different designs cost. If you work for a contractor – which builds the project – you'll be based in an office on a construction site. You might help to choose which materials to buy, be out on site checking completed work, track the materials used or pay subcontractors for their work.

Do you need a degree?

Employers will want you to gain an undergraduate or postgraduate degree that has been approved by the Royal Institution of Chartered Surveyors or the Chartered Institute of Building. But some will hire you onto an apprenticeship or trainee scheme with GCSEs and/or A levels (or equivalents). They'll then pay for you to study an HND or bachelor qualification while working for them.

A good choice if...

- **You're good at maths.**
- **You're good at figuring out the best buy or deal.**
- **You like keeping track of systems and pay attention to detail.**
- **You like people.**

Site managers

In charge of making things happen on a construction site

Construction site managers ensure things get done on a construction site. They make sure that the building work is finished on time, in budget and to a high standard. They organise schedules of work, manage workers and deal with issues such as health and safety, logistics and the effects of the building work on members of the public. On larger and more complicated projects, an experienced site manager will have a number of assistant managers, each looking after one part of the project (or package), such as the foundations.

Working hours

Site managers typically work for construction contractors and are based on site. As with any job role on site, you may have to work night and weekend shifts, and hours can be long: a 40-hour week is normal and you will probably have to work overtime as deadlines approach.

Routes in

You can start out as an assistant manager if you have studied a construction or project management degree approved by the Chartered Institute of Building, or another closely related subject such as civil engineering. A very few employers might hire you with a different degree and sponsor you through a postgraduate course.

The quickest way to get into management via an apprenticeship route is to complete a higher apprenticeship, for which you'll either need A levels (or equivalent), or an advanced apprenticeship in something like construction site supervision or through experience in the industry.

A good choice if...

- **You like to take charge.**
- **You can make decisions quickly.**
- **You like solving problems.**
- **You are organised.**
- **You don't want to work in an office – and you don't mind being out in all weathers.**

A site manager and assistant check the progress of a construction project.

The crafts and trades

For those who prefer working with their hands to book learning.

If you choose a career in one of the traditional construction crafts or skilled trades, you can go straight from sitting your GCSEs to working on site. You can complete an intermediate or advanced apprenticeship. Alternatively, you can take a vocational qualification at college and then find an entry-level job. You could find work with large construction employers, smaller specialist employers or within the public sector. Many experienced trades and crafts people work for themselves. Below we outline some of the main crafts or trades open to you.

Brickwork

Brickwork is probably the most well known and popular construction craft. It includes bricklaying as well as stonemasonry, and you can choose to specialise in one or both of these areas. As a bricklayer, you'll work as part of a 'brickwork gang' to trim bricks and shape natural stone, lay bricks, apply mortar and check the courses are straight. There could be several gangs on site, depending on the size of the project.

Stonemasonry is a traditional yet increasingly uncommon skill, but it's essential to our heritage and great if you like history. Stonemasons – who create and restore stonework on buildings and other structures – might specialise in curving, laying or fixing.

Carpentry and joinery

Carpenters and joiners work together to prepare and install the wooden parts of buildings, from floorboards and roof trusses to windows and doors. Typically, a joiner uses drawings to prepare the materials and a carpenter installs them and does any structural work – but the two roles overlap and sometimes one person will do both. Joinery can be split into two areas: site (floors, doors and roofs) and bench (counters, kitchens and staircases). You can also specialise in building temporary supports, which are used to hold setting concrete in shape. This is called formwork or shuttering.

Demolition

You need to be at least 18 to work in demolition, although you typically only need GCSEs (or equivalent). You'll usually start off as a demolition operative and there'll be lots of power tools to use and crane-based work to do. So, it's essential you have a head for heights and an awareness of health and safety. You'll spend your days blowing up or pulling down disused or unattractive buildings, as well as clearing the site, removing debris, rubbish and hazardous waste. You might specialise in preparing the site for demolition (for example, putting up rails and laying dustsheets), in removing fittings and dismantling roofs, or cutting steel frameworks and removing fragile roofs.

Electrical work

Electricians (sometimes known as electrical technicians) install and repair the electrical systems around us. You might find yourself specialising in installation or maintenance, or in a particular area such as highways maintenance and street lighting or solar panels. You may work in a team or on your own. You'll need to be a logical thinker and problem solver. You need a level 3 electrical or electrotechnical qualification to be an electrician. You can do this through an apprenticeship. Be aware that you may need to take extra on-the-job qualifications to ensure you are able to carry out tasks such as PAT testing (portable appliance testing).

Painting and decorating

You will paint and decorate in a range of environments, from redecorating the homes of the rich and famous to applying finishing paint touches to structures such as bridges. You could choose to specialise in a particular technique such as restoration. Be prepared to wear a protective mask or climb a ladder in order to carry out a job.

Plumbing

Plumbers do more than you might think. They design and fix sanitation systems and leaky pipes, work on heating and air-conditioning systems, fit bathrooms and install dishwashers and such like. But they might also work on a construction site or tasks such as planning where pipes need to go. Plumbers can sometimes work unsociable hours if asked to deal with an emergency.

Scaffolding and steeplejacking

As a scaffolder, you will put up and take down temporary scaffolding using a series of metal tubes (standards), horizontal poles (ledgers) and wooden working platforms (battens). You'll need a head for heights, good hand–eye coordination and to be resilient to extreme weather.

Steeplejacks use a variety of systems – scaffolding, harnesses, belay rope fall-arrest systems, bosun's chairs and abseil equipment – to carry out general maintenance work and repairs at great heights. As a steeplejack, you will work across the main areas of construction, doing tasks such as repairing masonry and fitting aircraft warning lights on tall structures.

Wall and floor covering

There are four main careers within this craft: plastering, dry lining, tiling and floor fitting/laying. Accuracy and the ability to work from drawings that someone else has done are core skills. You could be doing anything from pebble dashing (as a plasterer) or applying grout (as a tiler) to improving acoustics (as a dry liner) or re-hanging doors (as a door fitter). ◎

Becoming a card carrier

Many construction employers want their site workers to gain a Construction Skills Certification Scheme (CSCS) card, which proves that you are trained and qualified to do your job properly. You'll need to demonstrate that you have obtained the appropriate qualification for your job and pass an appropriate Construction Industry Training Board health, safety and environment test.

A good choice if...

- **You are physically fit.**
- **You don't mind interacting with customers if required.**
- **You are practical and like working with your hands.**
- **You don't want to work in an office – and don't mind being out in all weathers.**
- **Keeping up to date with building and health and safety regulations wouldn't bother you.**

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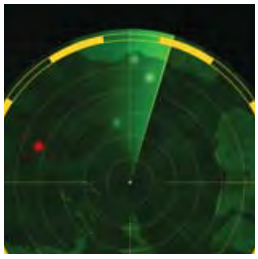
The engineering industries explained

Engineers specialise in different industries. Find out more about them and discover which interests you the most.



Aerospace

WHAT IT IS: flying things... helicopters, fighter jets, unmanned vehicles, commercial planes, satellites, space stations, rockets etc.

FACTORS AFFECTING THE INDUSTRY: world events and conflicts, high levels of regulation, environmental concerns, cost and availability of materials, searches for new fuels.

ENGINEERS TYPICALLY NEEDED: aerospace/aeronautical, chemical, electrical, electronics, environmental, manufacturing, mechanical, software.*

Automotive

WHAT IT IS: cars and other motor vehicles. The UK has six mainstream and nine major premium/sports car manufacturers, nine bus and coach manufacturers, and 100+ other companies involved in putting vehicles together.**

FACTORS AFFECTING THE INDUSTRY: the increasing reliance on electronics and software, the need to reduce carbon emissions.

ENGINEERS TYPICALLY NEEDED: aerospace, automotive, chemical, electrical, electronics, environmental, manufacturing, mechanical, software.*

Chemicals

WHAT IT IS: the backbone of industry... oil companies, manufacturers, pharmaceuticals, water treatment companies and more – those who use and produce chemicals that create products and make factories and other industrial sites work.

FACTORS AFFECTING THE INDUSTRY: the price of oil, world events and conflicts, environmental concerns.

ENGINEERS TYPICALLY NEEDED: chemical, civil/structural, electrical, environmental, manufacturing, mechanical.*

Defence

WHAT IT IS: equipment, support and services for the armed forces and national security, whether that is the latest weaponry, military vehicles or cyber security. Engineers often work at the cutting edge of technology.

FACTORS AFFECTING THE INDUSTRY: the needs of military personnel, military strategy, costs, the need to deliver products/projects quickly.

ENGINEERS TYPICALLY NEEDED: aerospace, automotive, chemical, civil/structural, electrical, electronics, environmental, manufacturing, mechanical, software.*

Electronics

WHAT IT IS: smartphones, medical scanners, TVs, games consoles, washing machines, radios, unmanned vehicles… the creation of anything that includes electronic systems. It crosses over with other engineering industries.

FACTORS AFFECTING THE INDUSTRY: the emphasis on safety, trends in technology (eg 'the Internet of Things'), the changing behaviour/expectations of consumers.

ENGINEERS TYPICALLY NEEDED: electrical, electronics, software.*

Energy and power

WHAT IT IS: finding energy sources and generating power… oil, gas, tidal, wind, solar, nuclear etc. The industry is divided into generating, transmitting/distributing, metering and sales. Oil and gas generation is divided into 'upstream' (exploring and producing) and 'downstream' (refining ready for use).

FACTORS AFFECTING THE INDUSTRY: accessing dwindling supplies and harnessing newer sources, environmental concerns, world events and conflicts.

ENGINEERS TYPICALLY NEEDED: aerospace, automotive, chemical, civil/structural, electrical, electronics, environmental, manufacturing, mechanical, software.*

Fast-moving consumer goods (FMCG)

WHAT IT IS: the manufacturing of goods that fly off the production line only to fly off shop shelves just as quickly. These tend to be everyday products: food, cleaning products, cosmetics etc. Thousands of goods can be produced every minute.

FACTORS AFFECTING THE INDUSTRY: the need to minimise cost and wastage, needing to keep production moving, environmental concerns.

ENGINEERS TYPICALLY NEEDED: aerospace, automotive, chemical, civil/structural, electrical, electronics, environmental, manufacturing, mechanical, software.*

Marine

WHAT IT IS: ships and other sea-faring vessels or equipment – eg equipment aimed at off-shore and sub-sea exploration.

FACTORS AFFECTING THE INDUSTRY: designing for a wet, windy, salty and unstable environment, demands for global shipping and energy, the need to improve efficiency.

ENGINEERS TYPICALLY NEEDED: chemical, civil/structural, electrical, electronics, environmental, manufacturing, mechanical, software.*

Find out more at targetcareers.co.uk

Pharmaceuticals

WHAT IT IS: researching, developing and manufacturing medications and related products in tablet, liquid or vaccination form. Engineers work alongside chemists and pharmacists.

FACTORS AFFECTING THE INDUSTRY: getting a product ready to sell in a short amount of time, counterfeit products, developments in world health.

ENGINEERS TYPICALLY NEEDED: chemical, civil/structural, electrical, electronics, environmental, manufacturing, mechanical, software.*

Rail

WHAT IT IS: anything to do with the railway… tracks, bridges, drainage, power systems, train control systems etc.

FACTORS AFFECTING THE INDUSTRY: designing and constructing a railway to meet future needs, costs, environmental concerns, moving from a 'find and fix' approach to 'predict and prevent'.

ENGINEERS TYPICALLY NEEDED: civil/structural, electrical, electronics, environmental, mechanical, software.*

Telecoms

WHAT IT IS: allowing people to communicate, whether through conversation or sending data through the cloud. There are vendors and carriers (vendors, eg Ericsson, sell the hardware and software; carriers, eg BT, use them in their network).

FACTORS AFFECTING THE INDUSTRY: the need to keep up with technological and consumer trends, the need to deliver a reliable service.

ENGINEERS TYPICALLY NEEDED: electronics, software.*

Utilities

WHAT IT IS: delivering energy/power, water, sewage treatment and telecoms to the public.

FACTORS AFFECTING THE INDUSTRY: environmental concerns, the expectations of consumers, the need to upgrade existing systems, networks and industrial sites, the decisions of regulatory bodies.

ENGINEERS TYPICALLY NEEDED: chemical, civil/structural, electrical, electronics, environmental, mechanical, software.* ◎

* Always check individual employers' requirements.

** According to *The Society of Motor Manufacturers and Traders: Motor Industry Facts 2017.*

And not forgetting...

The construction industry employs civil, structural, mechanical and electrical engineers among others. See pages 19–21 for more on the construction industry.

There are also some engineering jobs in working with raw materials and metals, eg developing coated steel.

TARGET careers

University blend

study the subject you love • join societies • make new friends • experience new activities

Apprenticeship blend

earn money • different levels to choose from • learn on the job • add work experience to your CV

School leaver programme blend

gain a professional qualification on the job • earn as you learn • develop your skills working alongside professionals • potential to also undertake university course

Gap year blend

travel to new places • extra time to decide what you really want to do • take a break from studying • get some vital work experience

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Engineering job roles explained

Engineers are essentially problem solvers: designing, building and fixing many of the items we use every day. Their day-to-day work, however, can be completely different, depending on the discipline and industry they work in. Some roles get you out and about more than others and some roles involve more technical report writing than others, for example. Over the next few pages, we introduce you to the main engineering disciplines to help you find the best role for you.

Levels of expertise

Across the engineering profession the amount of responsibility you get depends on your levels of education and experience. You can get into engineering via an apprenticeship, school leaver programme or an engineering degree (usually either a three-year BEng or a four-year MEng course). The Engineering Council regulates the profession and has identified three levels of professional engineering:

- engineering technician
- incorporated engineer
- chartered engineer.

Chartership is the most senior level, at which engineers are recognised as able to take the lead on projects and develop new solutions. They tend to receive the highest salaries. Even as an experienced technician, you could find that a less experienced, just-chartered graduate will outrank you.

Getting qualified

You only qualify for each of these levels *after* you have undergone a training programme, usually an apprenticeship or graduate training programme. When you are starting out, you are eligible to train towards:

- technician level if you have GCSEs, A levels, an HNC/HND or BTEC/NVQ level 3 (or equivalents)
- incorporated level if you are qualified to a BEng degree level
- chartered level if you have an MEng degree or a BEng-plus-a-postgraduate-masters-degree.

You can start out as a technician and work your way up to incorporated and chartered status. But you will need your employer's approval and support to do so: you either need to gain an appropriate level of workplace experience or get your employer to pay for you to study the appropriate academic qualification while you work for them.

Depending on its level and content, an apprenticeship can lead to either technician or incorporated status – from there you can work towards chartership. But the quickest way to become chartered is to do an MEng – there are also a few degree apprenticeships that result in an MEng.

What subjects do you need?

If you want to get on a degree course, you'll need to take maths and, usually, physics at A level (or equivalent). Other useful subjects at GCSE and A level include further maths, computing, chemistry, and DT. >>

A good choice if...

- **You are good at maths, physics and IT.**
- **You like solving problems and puzzles.**
- **You always want to know how something works.**
- **You like working in a team.**

Find out more at targetcareers.co.uk

Aerospace engineers

Helicopters, planes, satellites and spacecraft – flying things

Aerospace engineers research, design, build and repair any type of aircraft: from satellites to weapon systems. The work is often focused around improving flight safety, fuel efficiency, speed and weight, as well as reducing system costs. Engineers have to take into account environmental impacts and client needs.

Depending on your level of experience, you might:

- build engines and components
- create designs
- work out why something isn't working
- put together engines and other equipment
- repair aircraft
- measure and improve the performance of an aircraft and its components
- investigate accidents
- consult technical or regulatory requirements.

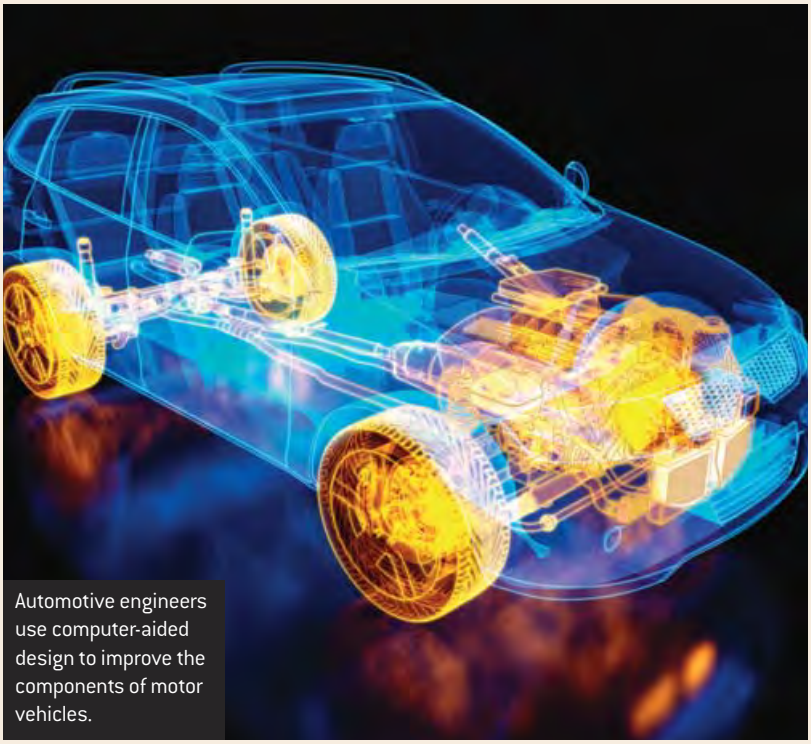
Most jobs can be found in large international companies, which tend to either build aircraft or engines but not both. There are also some jobs with specialist contractors which focus on building particular components or on the military or public sector. You might work from offices or from aircraft workshops, production hangars or aeronautical laboratories.

Routes in

Apprentices typically work as machinists, fitters, modellers or engineering technicians. Graduates might work as incorporated or chartered engineers in a particular area, such as maintenance, mechanical, electrical, or systems design. There are aerospace engineering degree courses, but employers sometimes accept other engineering disciplines, such as mechanical, electrical or software.

A good choice if...

- **You think it's cool to make things fly.**
- **You are happy to work on military equipment. Much of the UK's aerospace work is found in the defence industry.**
- **You are fascinated by space!**



Automotive engineers use computer-aided design to improve the components of motor vehicles.

Automotive engineers and motor vehicle technicians

Working on any kind of vehicle, from mopeds to MotoGP bikes.

Automotive engineers design, assemble and improve the performance of motor vehicles, from family estate cars or MPVs to Formula 1 cars or MotoGP bikes. Motor vehicle technicians repair and service them. Automotive engineering is closely related to mechanical, electronic and electrical engineering.

Automotive engineers tend to specialise in a particular stage of the process. Broadly speaking, there are three stages:

- designing and improving vehicles, components or processes
- research and product development (finding new ways to overcome problems or limitations)
- manufacturing or production (planning manufacturing processes and ensuring that the vehicles are produced according to the design).

You might use computer-aided design software; test whether engines would work in different conditions, such as high temperatures; find and negotiate the cost of parts; agree budgets for creating the vehicle; or evaluate manufacturing processes. You'll work alongside others, including environmental and manufacturing engineers, and members of the finance department.

Automotive engineers tend to work for large car manufacturers or for automotive suppliers (those who manufacture parts) – as such there are fewer automotive vacancies than in some disciplines. Motor vehicle technicians tend to find work with car manufacturers and garages.

Your options

Vehicle technician apprenticeships are available, usually at intermediate or advanced level, and you can specialise in light or heavy vehicles. Large automotive companies also run some advanced, higher, and degree apprenticeships.

There are automotive engineering degree courses – sometimes with a particular focus on the environment or motorsports – but you can become an automotive engineer with a mechanical or electronic engineering degree, among others.

A good choice if...

- **Meccano and Scalextric sets were your favourite toys.**
- **You are a detail person.**
- **You are creative.**

Chemical and process engineers

Using a detailed knowledge of chemistry outside of the lab

Chemical engineers help to transform raw materials into any type of product by applying their knowledge of chemistry. Some chemical engineers are employed in research and product development roles, but most are employed as process engineers. Process engineers can work across many industries: from helping to decommission (dismantle) a nuclear power plant to designing a process for solid/liquid separation in food production. Their role is to ensure that processes relating to chemicals are the best that they can be – designing them, implementing them or controlling them.

Biochemical engineering is an offshoot of chemical engineering and these engineers focus on applying life sciences to products or processes. You might help to create new medicines and vaccines, as well as greener technologies such as biofuels.

Chemical and biochemical engineers typically work for:

- consumer goods, synthetics, plastics, paints and polymer manufacturers
- pharmaceutical companies
- the water treatment industry
- food manufacturers
- oil refining/petrochemical companies.

Routes in

Most apprenticeships appear to be in process engineering or an aspect of manufacturing engineering – they are hardly ever called chemical engineering apprenticeships. At degree level, you can study chemical or biochemical engineering and there are various degrees available combining the two. You might be able to get a graduate chemical or process engineering job with a chemistry degree, but it is more likely that you'd have to complete a postgraduate degree in chemical engineering first. Mechanical engineering graduates can also be hired as process engineers.

To get on to a chemical engineering degree, you will need A levels (or equivalent) in chemistry and maths. Biology, physics or computer science would also be useful choices.

A good choice if...

- **You like chemistry (and biology if you are thinking of biochemistry).**
- **You like following something through step by step.**
- **You get a kick out of improving things.**

Electrical and electronic engineers

Making the modern world work

Electrical engineers design, test and supervise the manufacture, installation or repair of electrical systems, equipment or products. Electronic engineers do the same work on electronic systems. Both types of engineers get involved with products/projects such as:

- aircraft and spacecraft
- cars and other vehicles
- construction sites and in construction design offices, designing or overseeing the installation of electrical systems in buildings (this job role is sometimes called 'building services engineer')
- defence projects, including new weapons
- products for electronics and consumer goods manufacturers
- projects for the power generation companies.

Spot the difference

1. The difference between electrical and electronic circuits is that electronic circuits make decisions as well as power things, for example, while an electrical circuit might power a toaster, an electronic circuit will tell a microwave to bleep when the timer runs out.
2. Electrical components tend to be larger than electronic components, which sometimes can fit on one of your fingertips.

BUT... Many devices use both electrical and electronic circuits – and in some sectors you can apply for the same jobs, whether you have a background in electrical engineering or electronics.

Electrical engineers vs electricians

Electrical engineering technicians install and repair electrical systems and equipment. As such, they carry out similar work to electricians. However, not all electricians take the Engineering Council's 'technician' qualification so cannot call themselves an 'engineering technician'. See page 22 for more about electricians.

Electrical and electronic engineering degrees

Most degree courses in this engineering discipline are joint honours courses in electrical and electronic engineering, sometimes with an environmental or energy focus too. There are also a number of joint degrees in mechanical and electrical engineering available.

A good choice if...

- **You enjoyed the circuitry work during your science lessons and any electronics work you did during DT.**
- **You want to work on the latest technologies (if you work for a top-of-the-range electronics manufacturer).**

Environmental engineers

A role for those who want to reduce the impact of our human footprint

Environmental engineers assess the impact that a project will have on the environment or, in fact, whether the environment will have an impact on the project. They then work out ways to lessen that impact and find solutions to any problems.

Environmental engineers can work in a number of different areas, such as:

- on all sorts of construction projects
- on water projects, from the construction of pipelines to water treatment
- in the automotive industry, specialising in reducing carbon emissions, for example
- with companies using chemicals
- on defence projects, for example discovering the effects that different environmental factors might have on missiles and missile systems
- on projects involved with generating and providing power, energy, water and telecommunications
- controlling land erosion
- shipbuilding.

Opportunities available

At present, there are a few specialist environmental engineering apprenticeships and engineering environmental technologies apprenticeships. Some apprenticeships in the industries listed above cover environmental topics alongside more general engineering principles. There tend to be more graduate jobs available than apprenticeships.

Universities tend to offer environmental engineering courses either as a single honours or in combination with another discipline such as civil or chemical. It may also be worth investigating courses in environmental science or environmental management. Geography, biology or chemistry would be good A level (or equivalent) choices, alongside maths and physics.

A good choice if...

- **You care about the environment.**
- **You like the outdoors.**
- **You want to become an expert in a specialist area.**

Manufacturing engineers

Improve the process of making things

Manufacturing engineers basically make the process of making stuff better, whether that stuff is the latest must-have Christmas toy or a superconducting magnet for an MRI scanner. They aim to increase productivity, reduce the costs involved in manufacturing and ensure that products are made to a good quality in the timeframe needed. This might involve:

- evaluating processes
- designing a new piece of equipment
- putting new processes, procedures or equipment in place
- keeping an eye on costs
- buying and/or installing equipment
- responding to breakdowns
- diagnosing faults and solving technical problems
- repairing equipment or arranging for it to be repaired
- managing or giving direction to staff
- communicating with suppliers, customers, and research and development staff
- keeping accurate records
- writing up recommendations.

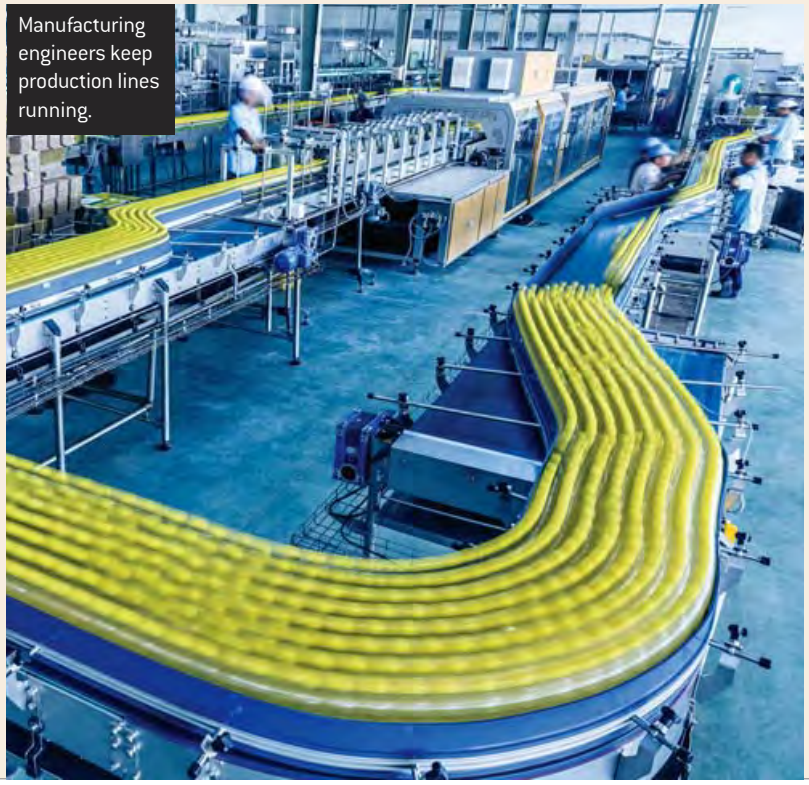
You might be based in an office, on a factory floor, in a laboratory or all three. If you are on a factory floor, you might need to react quickly to problems and make speedy decisions. Shift and 'on-call' work may be required.

Your options

There are apprenticeships available – including a project controls technician apprenticeship and a manufacturing engineer degree apprenticeship. At degree level, you can do a single honours course in manufacturing engineering or a joint honours course that combines manufacturing engineering with subjects such as product design or production engineering. There are also some courses that focus on an aspect of manufacturing, such as operations and maintenance. But you can become a manufacturing engineer with a degree in physics or mechanical, electrical or electronic engineering, among other subjects.

A good choice if...

- **You like making something better or finding new ways of doing things, but...**
- **You are also good at following a process.**
- **You can think on your feet.**
- **You don't mind writing reports.**



Manufacturing engineers keep production lines running.

Mechanical engineers

A role for those who like taking things apart to see how they work

Mechanical engineers design, build/assemble and test the quality of any kind of machine or mechanical component. They also investigate whether a mechanical device might solve a problem on a project. Therefore, as a mechanical engineer, you could work across a whole range of engineering industries, including aerospace, automotive, defence, construction, manufacturing, medicine, pharmaceuticals and utilities. You might find yourself designing a component for the Boeing 787 Dreamliner engine, installing heating systems in a football stadium, testing a robotic arm for amputees or working out how to make a factory's manufacturing process more efficient.

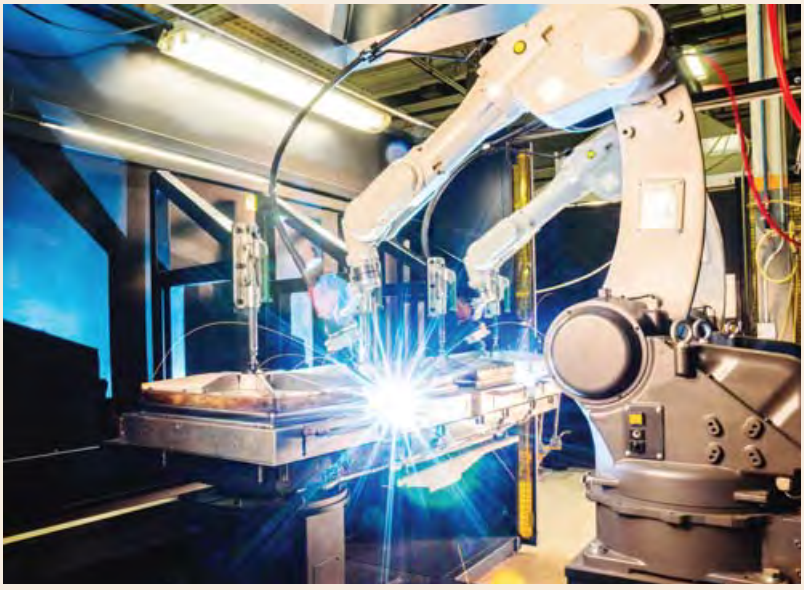
Mechanical engineering is closely related to electrical and electronic disciplines, as well as automotive and aerospace. You might work in a laboratory, out on a construction site, in an office or in a factory; it depends on which sector you choose to work in.

Look beyond the job title

Because they can work across a wide range of industries, mechanical engineers are in demand with employers. But the job title might not have the words 'mechanical engineer' in it, as it can be specific to the sector. For example, you might work in a mechanical engineering role but your job title might be aircraft technician (if you work in defence), process engineer (if you work in chemicals) or manufacturing engineer (if you work in manufacturing). Read job and apprenticeship descriptions carefully to make sure you don't overlook some opportunities.

A good choice if...

- **Your favourite toy was a Meccano set.**
- **You like taking things apart and putting them back together again just to see if you can.**
- **You don't mind fiddly work.**



Software engineers

A role for those who want to work with computers and electronics

Nowadays software engineering is an IT job. Some have argued that software engineers aren't, in fact, engineers at all as the job has changed so much over the years. However, software engineers can become chartered engineers, according to the Engineering Council, and they can be seen as using engineering principles when designing, developing, testing and evaluating software. The software could be for computers but also other electronic devices, such as cars or smartphones.

Software engineers design and program system-level software: operating systems, database systems, embedded systems and so on. They understand how both software and hardware function. The work can involve talking to clients and colleagues to work out what solution or system is needed, as well as full-on technical work. Software engineers can also be known as application programmers, software architects or system programmers/engineers.

Apprenticeships and university

Software engineers tend to work for IT companies but they can also work for the engineering companies in the automotive and defence industries, among others. Lots of apprenticeships are available. At degree level, there are a number of specialist software engineering degrees available, alongside computer science degrees that contain elements of software engineering. Useful GCSEs and/or A level subjects include computer science/IT, maths, further maths and physics.

A good choice if...

- **You like IT.**
- **You enjoy programming.**
- **You are good at explaining technical things to non-technical people.**

MORE THAN JUST SELLING HOUSES

DISCOVER WHERE A CAREER IN PROPERTY COULD TAKE YOU

You could end up planning multi-million pound developments, solving the housing crisis with innovation, or kick-starting the next property technology revolution.

Pathways to Property

Pathways to Property is a free programme introducing careers in property by connecting you with those already working in the industry.

Led by the Reading Real Estate Foundation at Henley Business School, University of Reading the programme is for GCSE and sixth form students and will help you find out where a career in property could lead.

Welcome bursaries of £1,000 for students who complete the Summer School then successfully enrol onto a Real Estate and Planning course at Henley Business School.

Opportunities include:

- A free residential Summer School at the University of Reading each July for Year 12 students
- Talks in schools throughout the year
- An e-mentoring programme
- Work experience placements in real estate firms
- A free OOC (open online course)
- Bursaries and financial support available.

'The experience at the Pathways to Property Summer School is one I will never forget. I have learnt so much about future options for careers, and speaking to industry professionals is an experience you can't get anywhere else.'

Lauren, Summer School participant 2017

For further information and to get involved visit www.reading.ac.uk/pathways-to-property or email pathways2property@rref.reading.ac.uk

THE SUTTON TRUST

Henley Business School
UNIVERSITY OF READING
Where business comes to life

RREF
Reading Real Estate Foundation

WHICH JOB ROLE?

Property defined

Property is all about making money out of land and real estate – that can mean farmland, a wind farm, a skyrise tower block or luxury apartments.

Making money

The property industry is not just made up of estate agencies. There are many firms that provide all sorts of services to clients (people or organisations who want to gain, lose or invest in property or land). Some of the ways a property firm makes money for its clients are:

- selling, buying, letting or renting real estate
- negotiating the terms of contracts for landlords and/or tenants
- valuing land or property and setting the price for it to be sold or let
- finding ways to increase a property's value or rental income
- conducting building surveys
- overseeing matters relating to planning and land development, eg getting planning permission
- assessing a property's impact on the environment.

Types of property

Property is divided into three types and property professionals usually specialise in one of these:

1. residential
2. commercial (any property with a business use, ranging from shops and offices to warehouses)
3. rural.

Property and construction

Property firms usually don't build construction projects themselves; they leave that to the construction professionals. Instead they are often the clients of construction professionals because they decide whether a project should go ahead (see page 16 for more information on the construction industry's clients).

The employers

Many property professionals work for property or chartered surveying firms. There are also some jobs with house-building companies, in which property professionals value, buy and make decisions about land that could be built on. There are vacancies in the public sector, particularly with regards to valuing land and property and with matters to do with planners. Other organisations that deal with or own large amounts of real estate may also hire property professionals: these organisations include retail chains as well as infrastructure companies such as Network Rail.

Find out more at **targetcareers.co.uk**

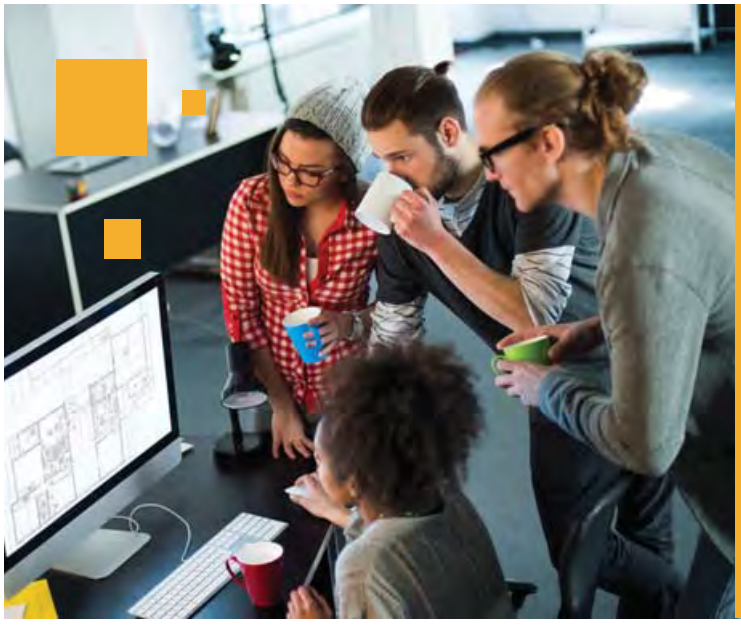
IN CONSTRUCTION, YOU CAN BE PART OF SOMETHING BIG

✗ Construction is just jobs for the boys.

✓ Over 320,000 women work in construction in the UK. Females working in construction are employed in lots of interesting and varied roles; including civil engineers and architects, why not put your skills to the test.

In Construction there's a role for everyone

Everywhere you look, you see construction. The built environment is the result of the talented people who work in the industry. With a career in construction, you'll be part of a global industry with loads of exciting and rewarding construction jobs to choose from.



✗ Working in Construction means doing a practical job, working out in the cold.

✓ There is a wide variety of careers in construction which can involve working in a whole range of different locations and workplaces; including a 'live' construction site, an office, a workshop or working from home.

GO CONSTRUCT
Industry led, funded by the CITB levy citb

There are hundreds of careers in construction, so be part of something big:

- Archaeologist
- Architect
- Bricklayer
- Carpenter
- Civil Engineer
- Crane Operator
- Design Manager
- Electrician
- General Construction Operative (Ground Worker)
- Highways Engineer
- Instructor/Assessor/Tutor
- Joiner
- Marketing & PR Coordinator
- Painter & Decorator
- Plant Operator
- Plumber
- Plasterer
- Receptionist
- Scaffolder
- Welding Engineer

Visit the whole range of careers at **goconstruct.org** and while you're there, take our personality quiz to find out what type of career will suit you!

I did well at school, so construction is not for me.

There are lots of well-paid career opportunities for successful people who are educated to degree level in the construction industry. Managing a multi-million pound construction project or construction business requires high levels of skills and ability. If you are an undergraduate, many construction employers can sponsor you to gain a degree at work. Why not earn while you learn! Why not put your skills to the test.

Visit **goconstruct.org** to find out more about careers in one of the UK's most innovative and dynamic industries

Study routes to get you started in your career path

There are many routes into construction, find a learning style that suits you:

- if you want to go to college, you can gain an NVQ, moving into higher education to gain an HNC
- alternatively, you can earn while you learn by studying an apprenticeship after you leave school; this can be used to get into university if you wish to carry on with further study
- or you can complete a construction related degree at university such as construction management and work in a specialist field.

GoConstructUK

Building surveyors

A perfect job for those who want to work in property and construction

Building surveyors provide technical advice relating to construction and property. They typically:

- conduct building surveys (inspect properties on behalf of would-be buyers). They report on the building's condition, for example if there is damp, and what any repairs would cost.
- record dilapidations (changes) to a building's condition since its last inspection. They then need to arrange repairs with the owner's agreement.
- oversee, design and decide what needs to be done on simpler construction projects that don't require an architect – often small extensions or an office refurbishment.
- advise owners on 'party walls' (walls, floors or ceilings shared between two properties). They help owners alter or repair these and decide which owner pays for what.

Building surveyors usually work for property firms, housing developers or specialist surveying firms. They split their time between an office and their clients' properties.

What qualifications do you need?

Employers usually want you to have an undergraduate or postgraduate degree that has been approved by the Royal Institution of Chartered Surveyors or the Chartered Institute of Building. Some courses ask for a physics A level (or equivalent) but many don't require specific subjects. There are a few apprenticeships available. Alternatively, you could complete an HND and apply for a building surveying technician job.

A good choice if...

- **You want to get out and about, but return to a dry, warm office.**
- **You get bored doing the same thing all the time.**
- **You like to take charge.**
- **You are interested in the law and how it can be applied practically.**

Estate agents

Working with people and properties

Estate agents play a key role in the property industry as they manage the buying/renting and selling/leasing of property. They can specialise in a certain market, such as by only working with commercial, residential or rural properties.

Property surveyors who specialise in the buying and selling of property do a similar job to estate agents. The differences are that surveyors gain a professional qualification with the Royal Institution of Chartered Surveyors and can specialise in many other areas of property and land.

The job of an estate agent involves elements of marketing, sales and administration. Including:

- working with clients to market real estate in a way that boosts its value
- negotiating the sale and letting of property
- travelling to properties to value them and to conduct viewings
- creating reports, promotional information and other written material
- being responsible for the buying and selling of properties and making sure transactions are completed legally.

What do I need to do?

There are no formal requirements to become an estate agent, although employers may want to see experience of working with customers and an interest in the local property market. You may be able to apply for trainee estate agent or sales negotiator roles at local estate agencies.

You can choose to do a sales negotiator, estate agent or property services apprenticeship. The majority of these are level 2 apprenticeships, but there are a few level 3 opportunities. Through these you will work towards a vocational qualification such as an NVQ.

Requirements for these opportunities vary from employer to employer, but usually include GCSEs (or equivalent) and a driving licence. An undergraduate degree in a subject such as building surveying, real estate or planning can also be useful.

A good choice if...

- **You are skilled at negotiation.**
- **You enjoy travelling.**
- **You can build positive relationships with clients.**
- **You can juggle responsibilities.**

An estate agent conducts a viewing.

Planners

Decide how things fit together

Planners make decisions about how we use the space around us. They decide how many houses, hospitals, schools and shops we need, for example, and where they go. They balance the needs of the population with the need to protect the environment and historical buildings. They frequently communicate with politicians and members of the public.

The role of a planner varies depending on your employer. If you work in the public sector, you will decide whether construction can go ahead (looking at things such as the size of the planned project, the impact it will have on the environment or whether it will fit in with the surrounding area). If you work for a property or construction company, your job is to try to get planning permission for the project.

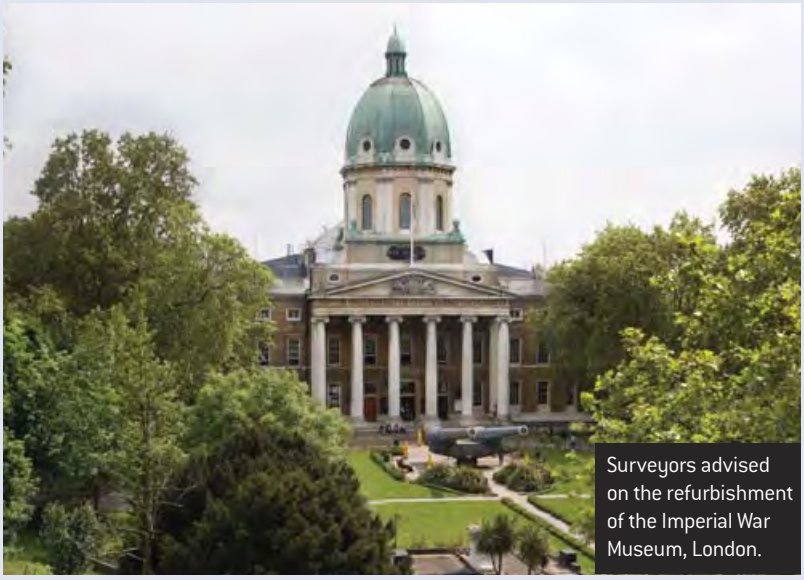
Routes in

To become a fully fledged planner, you need to have either an undergraduate or postgraduate degree approved by the Royal Town Planning Institute. Useful A level (or equivalent) choices for a planning degree include business studies, economics, geography, politics, history, art and psychology. If you choose a postgraduate planning degree, good undergraduate subjects include law, geography, politics or environmental sciences.

You can do an apprenticeship in town planning technical support, after which you could become a planning technician. From there you could become a planner by completing a degree or by completing a professional qualification after a number of years' work experience. Your employer may support you to do these. You could also get a job as a planning technician with a vocational qualification such as an HND.

A good choice if...

- **You get on with all types of people.**
- **You are comfortable making difficult decisions that not everyone will agree with.**
- **You can interpret and apply rules and regulations.**
- **You are organised.**



Surveyors advised on the refurbishment of the Imperial War Museum, London.

With thanks to Faithful+Gould

Property surveyors

Not stuck behind a desk all day

A property surveyor (sometimes known as a general practice surveyor) does a different role to quantity or building surveyors. Their role is to make the most money possible out of a piece of land or property. Clients include the land or property's owners; people or companies looking to rent or buy land or property; or wealthy individuals or investment management groups who want to invest in a property.

Property surveyors are based in an office but spend most of their time out visiting sites. They might:

- value a piece of land or real estate
- sell or let property, marketing it to possible buyers and negotiating to get the highest price possible
- find properties for clients to rent or buy, negotiating to get the lowest price possible
- work out how clients can pay the lowest business rates (taxes) allowed by the law
- manage properties on behalf of clients, overseeing everything from collecting rents to ensuring that the property is kept in a good condition
- help to turn a piece of land from an empty space into a housing estate or office block, for example
- advise clients on where best to invest their money in property.

The Shard in London.

With thanks to AECOM

Do you need a degree?

There are a few apprenticeships, during or after which you'll usually study towards a degree while working, but most opportunities are for graduates. Your degree needs to be approved by the Royal Institution of Chartered Surveyors: most university students study property or land management, but some complete a postgraduate course after studying an undergraduate degree in geography or economics, for example.

A good choice if...

- **You don't want to be stuck behind a desk all day.**
- **You are good at getting the best deal or your own way.**
- **You like strategising and planning.**
- **You are good with people.**

WHICH JOB ROLE?

Professional qualifications

It's more than a piece of paper: a professional qualification accelerates your career.

Professional qualifications are qualifications that can be gained while working to prove that you know your stuff. These qualifications are set and awarded by professional institutions (also known as professional bodies). Every profession within construction, engineering and property has an institution that acts as its voice, looks after its needs, gives careers information to students, shares the latest industry data or technological advances, and makes sure that standards are kept high. Have a look opposite for selected institutions.

About professional qualifications

These qualifications are, in theory, optional but they are, in practice, compulsory if you want to progress your career. Because they're recognised by the industry, they help you to prove your skills to employers and to gain promotions. You usually receive a pay rise after completing them and they may make it easier for you to work internationally, too.

To gain some qualifications, you need to be a graduate (or have spent a significant amount of time in the workplace). For others, apprentices can initially gain a lower qualification and then work up to a higher qualification afterwards. Check with the relevant institution. If you are going to university, ensure that the degree is accredited (approved) by the relevant institution.

Take advantage now

Professional institutions can help you to find out more about the careers in their fields. Some institutions offer help in finding work experience or arrange open days where students can visit employers. They may also have details of bursaries and funding sources for university.

Professional bodies directory

Below is just a sample of construction, engineering and property professional bodies. It's worth contacting the Engineering Council or Construction Industry Training Board to see if there are others in your chosen profession.

- Chartered Institute of Architectural Technologists (CIAT) **www.ciat.org.uk**
- Chartered Institute of Building (CIOB) **www.ciob.org**
- Chartered Institute of Plumbing and Heating Engineering (CIPHE) **www.ciphe.org.uk**
- Chartered Institution of Building Services Engineers (CIBSE) **www.cibse.org**
- Chartered Institution of Highways and Transportation (CIHT) **www.ciht.org.uk**
- Chartered Institution of Water and Environmental Management (CIWEM) **www.ciwem.org**
- Construction Industry Training Board (CITB) **www.citb.co.uk**
- Energy Institute (EI) **www.energyinst.org**
- Engineering Council **www.engc.org.uk**
- Institute of Carpenters **www.instituteofcarpenters.com**
- Institute of Electrical and Electronics Engineers (IEEE) **www.ieee.org**
- Institute of Marine Engineering, Science and Technology (IMarEST) **www.imarest.org**
- Institution of Civil Engineers (ICE) **www.ice.org.uk**
- Institution of Chemical Engineers (IChemE) **www.icheme.org**
- Institution of Engineering and Technology (IET) **www.theiet.org**
- Institution of Mechanical Engineers (IMechE) **www.imeche.org**
- Institution of Structural Engineers **www.istructe.org**
- Landscape Institute (LI) **www.landscapeinstitute.org**
- Royal Aeronautical Society (RAeS) **www.aerosociety.com**
- Royal Institute of British Architects (RIBA) **www.architecture.com**
- Royal Institution of Chartered Surveyors (RICS) **www.rics.org**
- Royal Town Planning Institute (RTPI) **www.rtpi.org.uk**
- Society of Environmental Engineers (SEE) **www.environmental.org.uk**

Seen a career you like?

Next try out a career for size to see if the shoe fits: follow our practical steps.

Find out more at **targetcareers.co.uk**

1 Find out more online

- Visit **targetcareers.co.uk** and the websites of relevant professional institutions.
- Check out **targetcareers.co.uk**, **ucas.com** and university websites if you're considering uni.
- Search for any careers fairs near you – or ask your teachers – so that you can go along and speak to employers in the industry.

2 Get chatty

- Find out whether someone you know is working in the industry or studying the subject at university. This could be a relative, a family friend or a contact recommended by your teacher.
- Draw up a list of questions to ask them. Aim to find out what they do day to day, the skills they use, the best and worst bits of the career, and different ways to get into it.
- Contact them to see whether they would be interested in answering some questions by email.

Take the next step

'Look for as many opportunities as you can to learn more about the career you're interested in, whether it's attending a summer school, arranging some work experience, taking an online course or speaking to relevant employers and organisations at careers events.'

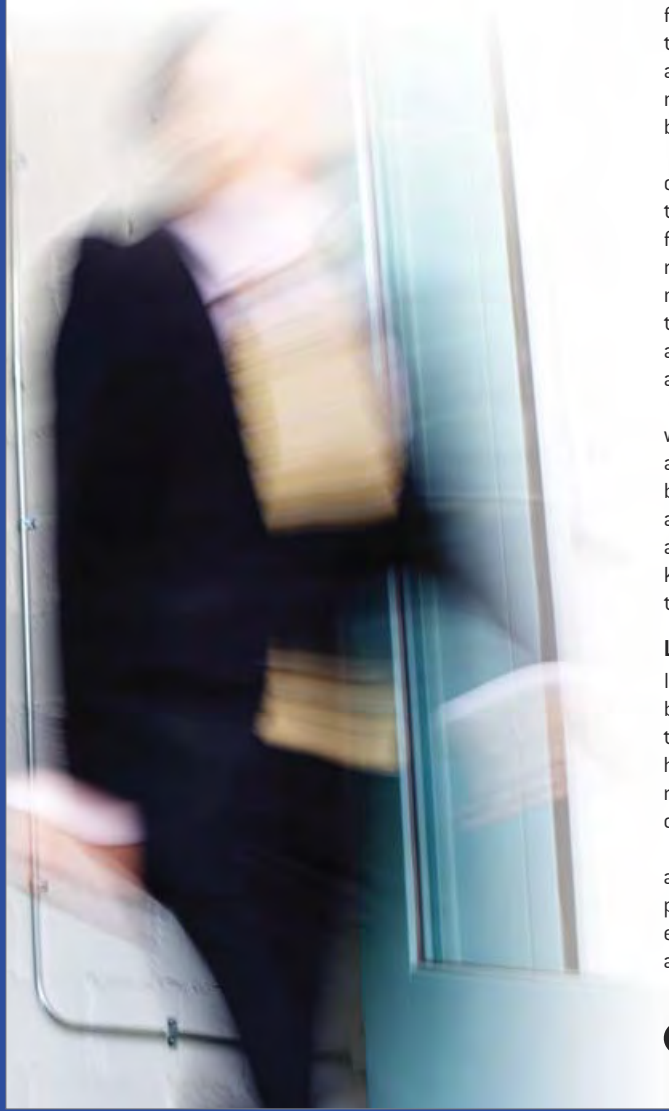
EMILY ARCHER, programme delivery manager, Pathways to Property

3 Try it out: get work experience

- If you have work experience or placement weeks coming up at school or college, talk to your teachers, tutors or careers officer about arranging one with an employer in the relevant career area.
- Seek out employers that offer work experience during the holidays. See the employer overviews from page 60 onwards to find opportunities. Your school or college will also have a list of local employers.

Career stories

Nine apprentices, trainees and university students tell you about their experiences... and whether they're happy with their choices.



My quantity surveying degree apprenticeship

JESSICA ANGUS

JOB Degree apprentice
EMPLOYER Faithful+Gould (Atkins)
PREVIOUS QUALIFICATIONS
13 GCSEs, 3 A levels

Quantity surveying has interested me from a young age; my dad was a quantity surveyor and I always had an interest in what he had been doing at work. I knew what I wanted to do and was keen to fully immerse myself in the industry. Just studying from textbooks at university didn't appeal to me. With the help of my dad and by attending careers fairs held by my school, I did lots and lots of research into my options and decided that an apprenticeship was for me.

Applications and interviews

To keep track of applications I created a Microsoft Word document where I jotted down the companies I was interested in, the details of the apprenticeships they were offering and the deadline for applications. This helped me keep on top of applications, as I figured it would be best to submit my applications as soon before the deadline as possible. I reached the interview stage for one apprenticeship before being rejected. Rather than letting this get me down, this motivated me to see how I could improve and do better next time.

I applied to Faithful+Gould by uploading my CV and filling in an online application form. I was invited to a telephone interview and then to an assessment centre that included an interview. This time, I felt much more at ease and prepared. I felt the interviewers were really interested in me as a person. Most of the questions were about my interests and what I wanted to get out of the apprenticeship. I think I stood out by talking about the apprenticeship in the long term as the start of my career and how I was willing to be a blank canvas and take my time to learn as much as possible.

The assessment centre really reiterated to me why an apprenticeship was the right choice for me. I had the opportunity to ask questions and there were tasks designed to test my skills and how I would behave in the role. The recruiters weren't just looking at my academic achievements or my previous experience. The beauty of apprenticeships is that you're not expected to have all the knowledge and experience yet; the employer helps you develop those along the way.

Life as an apprentice

I'm still very new, as I joined Faithful+Gould in September 2017. I am based in an office, but there have been many opportunities for me to visit sites. One of my favourite aspects of quantity surveying is how varied the work can be. I can go from working on an office refurbishment, a care home or a school canteen to helping to design a new tiger enclosure for Twycross Zoo.

I've begun working towards my degree in quantity surveying and I have one day a week to dedicate to studying. The university provider is online, so when and how I study is very flexible. For example, if I'm visiting a site on what would be my study day I can always choose to study on another day.

ROUTE IN GCSEs ▸ A levels ▸ Degree apprenticeship

My real estate degree course

JAMES BROWN

DEGREE AND UNIVERSITY BSc (hons) property finance and investment, Nottingham Trent University
PREVIOUS QUALIFICATIONS
11 GCSEs, 3 A levels

My first experience of the property (or real estate) profession was in 2009. I did a week-long work experience placement at a property surveying firm. Even though I had no experience of property, I was given the opportunity to attend lots of meetings and visit many different development sites. I realised that a large part of the profession revolved around interacting with different types of people. I decided this was something I'd like to pursue as a career.

Exploring the industry

I applied to study real estate at Nottingham Trent University. During my first year at university I had around 16 contact hours a week. This was split between a number of hour-long lectures and two hour-long seminars with smaller groups for each module. The modules covered a broad range of topics and helped me to develop my wider knowledge of subjects such as planning and construction.

The modules became more specific in my second year. My favourite modules were development and economics. For the development module we were assessed through a project proposal that we presented to lecturers and industry professionals. Economics interested me as it affects so much of people's daily lives and the module felt very relevant to the events I would see on the news. I wanted to focus more on economics and property, so chose to do my final-year research project on the property investment market.

My placement and beyond

With my university's help I secured a placement year at property surveying firm Gerald Eve. I first found the opportunity on a database of available placements that is maintained by the university's placement team. Many of my lecturers used to work in property and so were able to provide me with lots of very useful advice. I also visited the careers service, where they reviewed my CV and covering letter and suggested how I could improve my application for property employers. During my placement year I worked within the specialist valuation team, where I assisted with valuations of national museums and NHS trusts all over the country.

Now, in my final year, I have around 11 contact hours a week and am also working on my final research project. The placement has definitely benefited my work ethic and how efficient I am in doing my work. Gerald Eve also offered me a graduate job at the end of my placement, which has allowed me to approach my final year with confidence – I know what I will be doing after I graduate and it has saved me time that I would otherwise spend job-hunting.

University was definitely the right choice for me. It gave me an opportunity to explore and gain a good understanding of the property industry as a whole before I was able to specialise in an area that interested me. The people I socialised with at university are all entering the property industry too, so I will have a ready-made network of people at firms all over the country after I graduate.

ROUTE IN GCSEs ▸ A levels ▸ University

My railway overhead lines apprenticeship

MARISA BAJERSKI

JOB Overhead lines apprentice
EMPLOYER Network Rail
PREVIOUS QUALIFICATIONS
12 GCSEs, 4 A levels

I work on the railway overhead lines. Trains have wires above them with 25,000 volts running through them and that's what makes the trains move. I love how what I am doing helps so many people: rail passengers but also companies such as freight trains that deliver goods and services to companies around the country.

I do a week of working days, followed by a week of working nights. In the days I'm generally in the office tracking equipment to make sure it is working. If there are ever any problems we have all the data to help us fix it. I'm also learning about the managerial side of the business and I do written work towards my qualifications.

When I work nights I'm out on the track. It's too busy to get out on the track during the day, so nights are when all the work gets done. Every piece of track needs to be patrolled every four weeks and the overhead wires need to be checked.

The experience so far

My apprenticeship is three years long. The first six months were spent on a residential stay with other apprentices at a training centre near Coventry, where I studied English, maths, electrical principles and mechanical principles. My next two-and-a-half years will be spent doing on-the-job training. At the end of it I'll get a BTEC level 3 and an NVQ level 3 in engineering.

Teamwork is probably the most important skill on the railway as you are always working as a group and not as an individual. Leadership is also a big one as it's a safety-critical job. If you can't be a leader enough to say 'I think you should step back – that's not safe,' that's when accidents happen.

Deciding my career path

To be an engineer you don't necessarily need a degree, but gaining knowledge will help you do the job better, so having one can be a good thing. When I finish my apprenticeship, I'm thinking about doing a higher national certificate (HNC), which Network Rail would pay for, because it helps if you want to go into management.

There are many opportunities here and you don't have to stick with the path you are currently on. So if, for example, I didn't like overhead lines, I could go and work on signals. I'd definitely like to go down the managerial route eventually, focusing on thinking about what's wrong and how to change and improve it, rather than the actual fixing. But, while I'm new, I most enjoy going out on the tracks because I'm learning to do the jobs that need doing. You can't be a manager without knowing the job itself.

Advice for school leavers

Having a part-time job is really good for your confidence. It puts you in the real world and it makes you realise what adult life is like. I was nervous in my apprenticeship interview but having had a couple of interviews for part-time jobs helped.

ROUTE IN GCSEs ▸ A levels ▸ Advanced apprenticeship

My automotive degree apprenticeship

ALICE BELCHER

JOB Degree apprentice
EMPLOYER Jaguar Land Rover
PREVIOUS QUALIFICATIONS
11 GCSEs, 3 A levels

When I was in sixth form, I applied to university but I wasn't passionate about the subject and was put off by the fees. My brother, who had a degree in mechanical engineering and worked for a power company, suggested I consider engineering careers. I'd always been interested in cars and so I looked into apprenticeship schemes with car manufacturers; when I read about my employer, I knew this apprenticeship was something I really wanted to do.

Application advice

The application process involved an online application form with several questions where you'll also need to upload your CV. After that there are online aptitude tests and an assessment day, which included a group discussion exercise, a practical exercise and an interview. I applied in the October of year 13 and the assessment day was held at some point between February and April. Some applicants panic about application questions that ask about engineering experience, but there are many ways you could have been involved in engineering without realising it: I wrote about doing up a house with my family.

During the assessment centre, make suggestions in the group discussion and use your common sense in the practical exercise; mine involved wiring a steering pump. My dad had given me a practice interview beforehand, which was helpful. Before you answer a question, take five seconds or so to think about it.

Study, work and chatting to royalty

I'm six years into my apprenticeship: my first two years were spent completing a foundation degree and I've just started the final year of a BEng in applied engineering. I'm also completing an NVQ level 4 in engineering leadership. It can be difficult to combine studying with full-time work, especially as I also play football. What's worked for me is to study for one very focused hour most evenings.

I'm based in the vehicle configuration and testing systems department, which has four sub-departments: coding, hardware, forward-planning, and data. We run tests to ensure that our vehicles are electrically sound. I completed a placement with our research team in Warwick University last year, and spent time doing placements in our sub-departments. For example, in hardware, I dealt with the equipment used to test the vehicles and learned how to fix issues while the vehicle was on the track. I worked on the Jaguar F-Pace and I enjoyed taking it from when it was first built to seeing it being mass-manufactured.

Apprenticeships aren't just work and study. I met Prince Charles when I was picked to represent the company during his visit. I was also named a rising star in *Autocar*'s Great British Women in the Car Industry awards. I also go to schools, including my old school, to spread the message about engineering and apprenticeships. People from my school are now on our apprenticeship schemes, which is brilliant.

ROUTE IN GCSEs → A levels → Degree apprenticeship

My civil engineering apprenticeship and beyond

KIERAN REIDY

JOB Assistant technician
EMPLOYER Arup
PREVIOUS QUALFICATIONS 11 GCSEs, 3 A levels, 1 City & Guilds award level 2

I applied for the apprenticeship scheme at Arup three times – it took a while before I was successful. Civil engineering appealed to me because I would be working on projects that directly benefit the public, such as highways and bridges. The first time I applied was after I had completed my GCSEs. After being informed I was unsuccessful following an interview, I decided to enrol in sixth form. Alongside these I also completed a City & Guilds qualification in computer-aided design (CAD), which is a core part of the day-to-day job of a civil engineering technician.

Halfway through my A levels I reapplied to Arup, but I was again unsuccessful. After college I worked at BT and the Ministry of Justice for a year each. These jobs made it clearer that civil engineering was the career for me. I do value these experiences: I gained experience of the working environment and gained useful organisation skills. With the benefit of these experiences, I applied once more to the apprenticeship and was successful. I'd advise students, if there's something you want to do, not to be put off by setbacks and to grasp every opportunity. Perseverance and patience are valuable qualities and hopefully, like with me, your efforts will pay off.

Projects and qualifications

During my apprenticeship, I worked my way up from using CAD to produce 2D models and drawings to more complex 3D design models and getting involved with design reports and specifications. I am involved in the life of a project from design to construction. This can take a long time and, even after three years, I've not seen a project completed yet. I joined the highways team and typically work on three or four projects at a time. The first project I worked on, the A120 bypass, has only just recently started finding a contractor to begin construction.

I attended college for one day a week, where I initially worked towards a level 3 BTEC. There were some days when I had to stay late to finish college work, but it did not take long for me to get used to balancing work and study. Through providing evidence of what I do at work, I also completed a level 3 NVQ. This laid the ground work for my professional qualifications with the Institution of Civil Engineers (ICE). After an interview, I qualified as an engineering technician (EngTech), which I am very proud of.

Designing my future

After my apprenticeship, I was offered an assistant technician job. I haven't stopped learning. I am still attending college and am working towards a HNC in civil engineering. I 've also been recognised for the work that I've put in; I've received two ICE QUEST Technician scholarship awards, which have pushed me to progress further. After my HNC, I plan to work towards a degree through a degree apprenticeship and to qualify as an incorporated engineer (IEng) and then as a chartered engineer (CEng).

To find out more about engineering professional qualifications see page 29.

ROUTE IN GCSEs + A levels → School leaver jobs → Advanced apprenticeship → EngTech job

inspiring futures

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Angela Young, Parent

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My bricklaying apprenticeship and beyond

LIAM SARGEANT

JOB Assistant site manager
EMPLOYER Redrow Homes
PREVIOUS QUALIFICATIONS
8 GCSEs, NVQ level 1 diploma

It's amazing how in house building you take an empty field and create a community; I love looking at a finished project and seeing how happy the clients are. I was never the most academic and always enjoyed more practical subjects so I did an NVQ level 1 in construction alongside my GCSEs. I spent some time in each of the construction trades, including bricklaying. I loved it so, when I left school, I went to college to study for a level 1 diploma in bricklaying. It was then that my course leader suggested I'd benefit from doing an apprenticeship. It was lucky how I got one: an employee of Redrow came into college and my course leader asked him if he'd pass on my CV.

My apprenticeships

In three years, I completed both an intermediate apprenticeship and an advanced apprenticeship, achieving NVQs levels 1, 2 and 3 in bricklaying. I loved my apprenticeships. I worked on new-build homes across six sites. In bricklaying, you usually work in a 'gang' of two bricklayers and one labourer. We wouldn't do the foundations but we did everything from the damp course (a layer of waterproof material in the wall near the ground) up. It wasn't just bricklaying: I learned setting out, which is when you take the drawings by the site manager and turn them into reality, and I also did a little bit of stonemasonry.

Although you never get used to working out in all weathers, the job satisfaction is amazing: you can look back on a day's work and actually see what you've achieved. My highlight so far has been winning the CITB English Apprentice of the Year and the CITB Great British Apprentice of the Year Awards. My employer put me forward for a regional award and things just went from there.

My training programme

At the end of the apprenticeships, my manager suggested I become a site management trainee, which I also enjoyed. I inspected the quality of work on houses due to be completed: I might have needed to arrange with the subcontractors to redo something or order materials. When I was first giving feedback to subcontractors, it felt a bit awkward – it can be hard transitioning from 'being one of the lads' to 'management' – but it gets easier with experience.

I worked towards a BTEC level 3 in construction and the built environment, and an NVQ level 3 in site supervision. I studied on block release, going to college every six weeks for a week. It was challenging at first to balance work and study, but you learn to make time. One tip is to action something today if you can – don't leave it to tomorrow.

I am now an assistant site manager. I'm pleased I went down the apprenticeship route: I've gained lots of confidence, met lots of great people and built skills, all while being paid. This year I'll begin a BSc degree in construction engineering management – housebuilding, which my employer will sponsor me through!

ROUTE IN → GCSEs + NVQ → Intermediate apprenticeship + advanced apprenticeship → Site management training programme + sponsored degree

My electrical fitting apprenticeship

DARBIE HUGHES

JOB Electrical fitting apprentice
EMPLOYER UK Power Networks
PREVIOUS QUALIFICATIONS
11 GCSEs, 1 BTEC level 2,
3 BTECs level 3

I'd always been into IT and science, so I knew I wanted to do something technical; with my A levels it wouldn't have made sense if I suddenly decided to become a dancer! I was sure that I didn't want to spend another three years sat in a classroom, so I decided to look for something more practical than university. My uncle works for UK Power Networks and so I was lucky he was able to sit me down and run me through what his job involved and how the company owned and maintained power cables and substations, which deliver electricity to more than 8 million homes and businesses across the south-east, London and east of England. Electrical fitting wasn't an area that I had been interested in before, but after speaking to him I felt comfortable that UK Power Networks would be a place where I could have a career. I applied for an apprenticeship.

After uploading my CV to an online application form, I had an online video interview, an interview with a group of other candidates and an interview with a panel of recruiters. This was followed by a residential assessment centre, in which we did exercises designed to assess our skills. The whole process was unlike anything I'd done before, but it gave me a chance to meet and bond with the people I'd be spending the apprenticeship with.

Life as an apprentice

Most of the first year of my apprenticeship was spent in training, which involved a lot of travelling to different training centres and staying in hotels. I also attended college in Somerset to work towards my professional qualification in power engineering, which I did in month-long blocks. Balancing studying with training and work was never an issue for me, but it did take a while to get used to spending so long away from home. It was definitely a big, sudden change, but I'm glad I took this risk. I've gained qualifications in areas such as street works, confined spaces and manual handling. My highlight of the apprenticeship so far was when my entire intake found out we had passed our qualifications at the same time. It was a real relief to find that all our effort had paid off.

Now I'm in the second year of my apprenticeship, I spend my time out on site being supervised by crafts people, helping to keep electrical substations up and running. I love that I am getting a real taste of what working in fitting is like. When a fault occurs, I'm able to put the theory that I've learned into practice and fix the problem. I'm gaining experience and qualifications and it's a foot in the door at a massive company. I would love to take my ambition as far as I can, and aspire to one day become a fully qualified engineer.

Advice to students

Put yourself out there and talk to people! Hearing first hand from people is the best way to learn about the opportunities open to you. In a new situation, stand out and impress employers by talking to your colleagues and be the most helpful person you can be.

ROUTE IN → GCSEs → BTECs → Advanced apprenticeship

My civil engineering degree apprenticeship

GEORGINA GOULDING

JOB Civil engineer apprentice
EMPLOYER Balfour Beatty
PREVIOUS QUALIFICATIONS
13 GCSEs, BTEC, 2 A levels, 2 BTECs

I wasn't sure what to do after school nor whether I should go to university: I'd passed my GCSEs with grades A*–C , but I'd also enjoyed the practical aspects of my BTEC in electronics. While I was doing my GCSEs, my mum was studying a foundation degree in engineering and I became interested in the cool stuff she was learning. For that reason, although I took A levels, I decided to focus my studies towards a level 3 extended diploma course in construction and the built environment.

From work experience to apprenticeship application

While at college, I wrote to companies asking for work experience and applied to formal schemes. I was offered work experience with Balfour Beatty. I spent February half term in London visiting Crossrail and talking to the team working on it. I kept in touch with some of them via LinkedIn and they told me when there was an apprenticeship vacancy in the company. Some students may be reluctant to give up their holiday for work experience, but I wouldn't be where I am without it.

I applied for the apprenticeship online by submitting a CV and covering letter and was then invited to a face-to-face interview. I was asked questions about my interest in construction, what my future goals were, what I did in my spare time and my strengths, weaknesses, likes and dislikes. I think I was successful because I wasn't afraid to show how keen I was.

My first year

My apprenticeship will last six years: four for my BEng degree and two for my professional qualification. During my first year I worked on the Sellafield nuclear site. We were constructing a 'box encapsulation plant' worth £440m, which is part of the process of making nuclear waste safe. I was directed by two graduate civil engineers and spent 80 per cent of my time out on site. I conducted surveys, set out (marking out the plans for the building on site) and took photos. I worked 7.00 am to 4.30 pm, and I only lived five minutes away from work.

I go to university once a week and am currently studying three modules; my lectures start at 9.00 am and finish at 4.00 pm, although I have a two-hour commute. My company also trains me: last year I went on a setting out course and a CAD course after that.

Looking back

Being the only girl on site – and the only apprentice in my team – could have been intimidating, but everyone has been very supportive and happy to answer my questions; my line manager has even agreed to me having exam revision days if I need them. I feel that everyone is willing me to succeed. I was torn about my next step after college, but I made the right choice. I am getting a degree and getting paid: I may be missing out on a uni social life, but I can afford a car to take me to see friends at weekends!

ROUTE IN GCSEs → BTEC + A levels → Degree apprenticeship

My quantity surveying degree apprenticeship

KIERAN HOLCOMBE

JOB Trainee quantity surveyor
EMPLOYER AECOM
PREVIOUS QUALIFICATIONS
10 GCSEs, 3 A levels

My school was keen to get us thinking about our careers quite early on, so from around the age of 14 I knew that I wanted to become a quantity surveyor. I had some knowledge of the building industry, but didn't know that I could become a quantity surveyor without university. My business teacher suggested I could look at apprenticeships. I did some research online, where I found out about AECOM and its opportunities.

Learning through work

I began my apprenticeship by building up my knowledge and experience through shadowing the more qualified surveyors in my team. This included using models in computer-aided measurement software to measure and price materials used in designs. I also help to carefully check documents before they are issued to clients, which is part of the quality assurance procedure. I'm currently based in an office and have been involved with a number of different projects across London that I tend to visit on a monthly basis to carry out valuations. Projects I've worked on include Battersea Power Station and the residences in The Shard.

Working on big projects can be intimidating, but it means I've learned quickly. Everything we do is checked by another surveyor, so I know that I'm not going to be responsible for anything disastrous. I always try and explain my thought processes, so, if I make a mistake, a colleague can understand where I went wrong and I can learn from it. After three years I've been given quite a lot of responsibility, which has motivated me to continue to learn, to improve and justify the trust that people have placed in me. Last year I was shortlisted for the Royal Institution of Chartered Surveyors' Young Surveyor of the Year award. It was a great feeling to be recognised for my work.

Studying for the future

Alongside work, my company gives me one day a week to study towards a degree in quantity surveying. Visiting projects I'm working on helps me establish what I am studying. I can see how walls are constructed and can appreciate the smaller details that I might miss in a textbook. My colleagues at work often tell me they were shocked about how little they knew when they came straight from university; they didn't have the practical experience I'm getting. Some have told me they wished they'd done the apprenticeship route, if given the chance.

Surveyors take a professional qualification called 'chartership', for which they need two years of practical experience and to complete an assessment interview. I've helped my colleagues prepare for this interview and have been able to sit in on practice interviews. I've even been able to share study notes from my degree with them. Achieving chartership takes the same amount of time for an apprentice as it does for a graduate but I feel I've got a head start by knowing what to expect.

ROUTE IN GCSEs → A levels → Degree apprenticeship

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APPLYING TO UNI

Perfect your uni personal statement

Admissions tutors use the UCAS personal statement to decide who to invite to an interview or to make offers to directly, so use the space wisely. Here's what you need to include in your 4,000 characters.

What admissions tutors want to see

Admissions tutors want to know the answer to these three questions, which you can use to structure your statement:

- why do you want to study the course?
- what have you done that makes you suitable for the course?
- what else have you done that means you will do well on the course and contribute to the university?

Tutors want to see examples of what has sparked and developed your interest in the subject, and that you have the skills to cope with the demands of the course and university life. They also want you to explain *how* or *why* they have influenced you.

Don't be tempted to copy another's statement: UCAS has software to pick up on this and the tutors genuinely want to hear about you. 'Draw upon your experiences and hobbies and let the university know what has inspired you to study your chosen subject. Pick out and highlight specific real-life examples of projects which demonstrate this,' advises James Brown, a BSc real estate student at Nottingham Trent University.

Universities want to see that your interest in your chosen subject extends to your hobbies and free time. For example, you might enjoy reading industry magazines or websites. James advises that you should show how extracurricular activities and hobbies have made you a better student: 'Show that the reason you've done something is to better yourself and explain how you've learned from these experiences.'

If you are applying for a number of courses, you should avoid the specifics of individual courses and talk about what interests you about engineering, construction or property as a whole. You can find more tips at **targetcareers.co.uk** and **ucas.com.**

Find out more at **targetcareers.co.uk**

Do write about...

- What you find interesting about the subject (you don't need to define the subject).
- Anything practical you've done that ties into your course: if you are applying for an automotive engineering course and you've rebuilt engines in your spare time, say so.
- Any industry work experience – but relevant work experience *isn't* essential.
- Anything about your previous subjects that made you feel this course is right for you.
- Any topics you have read about that are relevant to the subject, including articles published by professional bodies, or any discussions you have had with professionals in the industry.
- Specific career goals if you have them (use pages 19–39 to find out more about job roles).
- How any work experience, part-time jobs or extracurricular activities have developed skills that will help you on the course and at university. For example, many construction, engineering and property courses include group assessments so you could write about how your time playing football has developed your teamworking skills.

Find out more at targetcareers.co.uk

APPLYING TO UNI

Impress on your interview day

Before deciding to offer you a place, some universities invite you for an interview (sometimes known as a recruitment day or assessment). This is more likely if you are applying for an engineering course and will definitely be the case if you are applying for a course that is sponsored by an employer.

Format of the interview day

Many universities invite a number of students on the same day and give them a tour of the faculty and campus and lots of opportunities to meet current students. You are often also given a group exercise to complete and an individual interview, which can last between 20 minutes and an hour. Your interviewers will be admissions tutors/lecturers but, if the course is employer sponsored, you will also meet and be asked questions by different HR managers to match you to an employer.

The interview days vary in how formal they are, but it's wise to dress smartly. At heart, the interview is just a conversation, so prepare answers to likely questions (see box opposite) but don't be afraid to ask your own questions to find out more about the subject, the course and what recent graduates do now.

Knowledge and passion

The interviewers want to see how passionate you are about the subject and whether you have the ability to learn while on the course. So they may use group exercises to see how you would discuss topics in class (be friendly, be interested, contribute, but don't talk over others) and may ask you technical questions (don't worry if you go wrong: the lecturers are more interested in your workings and whether you respond to their hints).

Typical interview questions

You might be asked about your reasons for applying, for example:

- Why do you want to study this subject specifically (as opposed to a similar one)?
- Why have you applied to this university in particular?
- Tell us about a construction/engineering/property news story you've read.
- What do you expect to get out of the course and the university?
- Why did you choose your A levels (or equivalent)?
- What are your interests outside of studying?

You might be asked for your thoughts about your future career, for example:

- Do you have any career goals? What are they?
- What roles would this degree qualify you to do?
- What does a [eg quantity surveyor] do? What would you do day to day in the role?
- What skills would you need in order to be a good [eg quantity surveyor]?

If you have applied for an engineering or another maths-based degree, you might also be asked:

- Maths or physics questions (typically from the A level syllabus).
- To apply your knowledge of maths or physics to the outside world – an example question from the University of Oxford requires you to consider the engineering design of a vertical-faced gravity dam wall and discuss the forces acting on the wall.

APPRENTICESHIP APPLICATIONS AND INTERVIEWS

How to prepare for writing your application

Once you've found the perfect apprenticeship for you, it's time to apply! You will usually need to fill out an application form and/or submit a CV and covering letter. If you're successful, you will then likely be invited to an interview or assessment centre. But, before you do any of that, you need to…

Think about the employer

Employers want to see that you have good reasons for applying to them. You should think about your reasons for applying and be ready to talk about them in your covering letter. They might directly ask you 'Why do you want to work for us?' in an application form. Before you begin typing your covering letter or open the application form, you need to have done your research. This will give you evidence of your interest in the employer that you can use in applications.

Make sure you know what the employer does. Visit the company's website and make a note of the products and services it offers. Find two or three projects that particularly interest you and think about how you would use this information in your answers to questions such as 'what do you know about us?' or 'why do you want to work for us?' Read up on industry news and make a note of any recent news stories that the employer has been involved in.

Consider what you personally will get out of the apprenticeship. Look carefully at the apprenticeship listing and pay attention to the qualifications and the training you will receive. Be ready to explain what about the apprenticeship interests you in your covering letter and to answer application form question such as: 'why do you want to become an apprentice at this employer?' To prepare, come up with three reasons why this opportunity will help you to reach your career ambitions and why the structure and content of the apprenticeship makes it perfect for you.

Think about your skills and strengths

Show that you have the skills and qualities that you need to do the job. At every stage of the application process, employers may ask you directly about skills that they are looking for. To prove that you have these skills, you need to have examples of times when you have demonstrated these skills in the past. Employers may ask how you would react to a workplace situation. Think about how you can show off your strengths in your response.

Find out more at targetcareers.co.uk

Recruiters will be looking to see whether you have the skills and qualities you need for the job. Start thinking about times when you have demonstrated these skills and qualities. These examples can be from a part-time job, work experience, hobbies or school. Apprenticeship and job listings will commonly list the skills that are especially important. This table shows some of the common skills that employers are looking for and what they involve. Take some time to think of one or two examples of times when you've demonstrated each of these.

If you've got technical skills, be prepared for employers to ask about these. Apprenticeships typically don't need you to have technical qualifications (such as a level 2 or 3 NVQ), but if you do, employers will want to see these in action. Brush up on your technical skills and get ready to show them off in your application and during interviews and assessment centres.

Find out more about writing a convincing cover letter on page 56, answering application form questions on page 57 and creating a clearly impressive CV on page 54–55. ◎

The skills worth showing off about

COMMUNICATION	Can you choose the right form of communication for the situation in hand (eg face to face, phone call, email)? Can you adapt your communication style depending on who you are talking to (eg a friend, a customer, your boss)? Can you adapt your communication style according to what you need to achieve (eg to inspire teammates before a game)? Are you able to talk confidently in front of a group? Can you write a report?
TEAMWORK	Have you worked successfully in groups? Do you help your teammates out if they are struggling or encourage quiet members to speak up? Do you consider how your actions affect others? Can you create a positive atmosphere?
PLANNING AND ORGANISATION	Do you think ahead and set out action plans? Do you make a 'plan B' in case 'plan A' doesn't work out? Can you prioritise and juggle tasks to meet deadlines? Can you give examples from outside your academic work?
COMMERCIAL AWARENESS	Do you understand how the company you are applying to makes money? Do you know how your job would contribute to that?
SELF-MOTIVATION	Are you able to motivate yourself to do something? Have you set yourself a personal target and then achieved it?
PROBLEM SOLVING	Have you found ways around obstacles? Do you suggest solutions and figure out new ways of doing things? Can you judge when to ask for help?
CUSTOMER SERVICE	Have you had experience of working with clients or customers? Do you know how to communicate professionally? Have you successfully handled angry or troublesome customers?

APPRENTICESHIP APPLICATIONS AND INTERVIEWS

The building blocks of a great CV

Whether you're thinking of applying for work experience, an entry-level job, an apprenticeship or a training programme, chances are you'll need to put together a CV. This is a standard part of the application process and helps to give employers a clear idea of whether your written communication skills are up to scratch. Your CV needs to be easy to read and understand; it should cover all the necessary information and shouldn't include any spelling and grammar mistakes that will put the recruiter off.

There is no one right way to put together a CV. There are some standard headings that you will find useful and there are some common errors you need to avoid. However, you can adapt the format to suit you and reflect your strengths. A CV is a personal document and everybody's CV is different.

You should also update your CV for each job application and adapt it to show you have the qualities and qualifications the employer is specifically looking for.

What should you include?

Our example CV will give you ideas and help you get started. It has notes on the level of detail you need to include, how your CV might evolve over time, and some optional extras. This is the basic information you need to cover:

- **Personal details and contact information** – this is essential.
- **Education** – again, essential. Our CV uses 'Education and qualifications' as a heading. If you have done a relevant training course you could highlight this by using 'Training' as a separate heading.
- **Employment history and work experience** – another must-have. You could present this as two separate sections.
- **Voluntary work**. You could give this its own separate heading, create a 'Work experience and voluntary work' section, or give details of your voluntary work in your 'Interests' section.
- **Skills**. When you are describing your work experience and voluntary activities, look for ways to highlight skills such as communication and teamworking. If you have specific relevant skills you can draw attention to them by putting them in a section of their own.
- **Strengths and achievements**. You could give these a section of their own, or cover them in the other sections.

And a few don'ts...

- Most importantly of all, don't lie. If you're found out you could lose your job and, even worse, in some cases you might be liable for criminal prosecution.
- Don't waffle. Your CV should be no longer than two pages and at this stage it's more likely to be one page, as in our example. You can use bullet points and you don't have to use full sentences.
- Don't be too fancy or too informal. Describe what you can do in a direct, confident way. Use a professional-looking font such as Times New Roman, Arial, Verdana or Cambria.
- Don't leave in typos. Check your spelling and grammar and get somebody you trust to read your CV and check it again. Employers spend 30 seconds on average scanning a CV, so make sure you don't give them any reasons to reject you based on a silly mistake.

You don't need to say 'Curriculum Vitae' at the start of your CV. Begin with your name.

Include contact details: phone numbers, an address and an email address (make sure this is sensible and sounds professional). You don't need to include your date of birth, your age or a photo.

If you've attended more than one secondary school or college, list the most recent first. You don't need to include your primary school.

If the work experience or job you are applying for specifies that you need specific exam grades, show that you have them. If you haven't achieved much in the way of qualifications and have shown you meet the requirements, you could list the subjects you studied without including your grades and concentrate on highlighting your strengths in other areas.

Employers will be keen to find out about your skills, for example, IT skills, team working, customer service and communication skills. If it's relevant to the role, mention that you have a full clean driving licence (if you have).

Putting any voluntary work you have done on your CV helps to create the impression that you are committed and motivated. Include any fundraising, involvement in teams, positions of responsibility and awards.

Find out more at targetcareers.co.uk

JOHN THORPE

17a Christmas Way, Abingdon, Oxon OX99 2PQ

Email: johnthorpe@inter.net

Tel: 01449 123456 Mobile: 07759 234567

Education and qualifications

2011–present *Abingdon Secondary School*

A levels (predicted): maths (B), physics (C), chemistry (C)
BTEC level 2 diploma in engineering (Merit)
GSCEs: maths (A), physics (A), chemistry (B), biology (C), English literature (C), English language (B), geography (C), IT (B)

Employment and work experience

2017 (two-week placement, August) *Civil Engineers & Building Design, High Street, Abingdon*
Shadowed design team and attended design meetings. Used technical computer programs, including AutoCAD 2016. Helped to compile reports for clients. Performed necessary administrative tasks and gained an understanding of all departments.

2017 (July) *South Oxfordshire Holiday Park, Wallingford*
Helped caretaker with repairs and maintenance, including cleaning and gardening.

2014–present *Customer service assistant, Tesco, Abingdon (part time)*
Working on the checkout and at the customer service desk. Has helped develop my commercial awareness and communication skills.

IT skills

Good working knowledge of AutoCAD 2016, Excel and Word.

Interests

I am a keen footballer and have played in the school team for the last five years. In the year I was captain (2015) we came second in the county league. I have volunteered as a football coach at local primary schools' after-school clubs and have tried and enjoyed many other outdoor activities, including kayaking and climbing.

References available upon request

If you aren't writing a covering letter, you can include a personal statement at the beginning of your CV that describes your strengths and why you are interested in the career. If you do this, keep it brief – ideally two to three lines and not more than 60 words. We've started this CV with education and qualifications instead. Employers will expect to see education and qualifications covered near the top of your CV.

Employers won't expect you to have lots of relevant work experience, but they will be interested in any that you do have. Give some details about what you learned and contributed.

You can provide a brief description of any full-time or part-time jobs you have had, explaining your responsibilities and achievements.

You don't have to include a section on your interests, but this can be a good way to tell employers about your strengths and give them a sense of what you might be like to work with.

You don't have to include this. Employers will assume you have references and will follow them up if you get through to the next stage. You definitely don't need to include contact details for them.

How to write an eye-catching covering letter

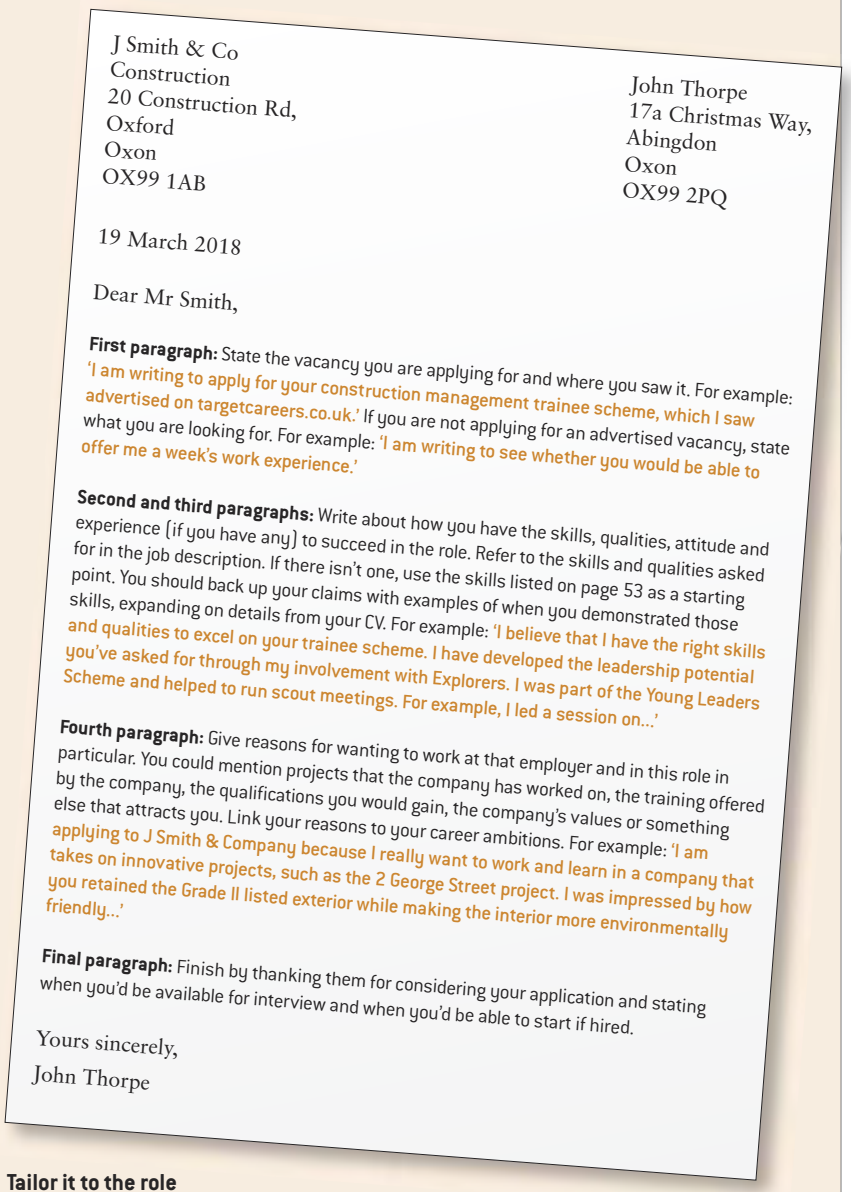
A covering letter is a letter or email that you send in with your CV to explain why you are the right person for the vacancy and why you want to work for that employer in particular. If you are sending your CV via email or through the post (rare nowadays), you must also send in a covering letter. If you are applying for an apprenticeship via an online application form, you might be given the option of uploading a covering letter – if so, do so. It's an opportunity to show employers how much you want the role.

There are two ways to send your covering letter via email and both ways are equally fine unless the employer has specifically asked for one way:

1. Attach both the CV and the covering letter as MS Word documents or PDFs to your email. Make the email a brief message saying that your application for the vacancy (give the relevant details) is attached.
2. Write the whole of the covering letter directly into the email. Attach your CV.

Get the formatting right

If you can, address it to a specific person responsible for hiring, eg 'Dear Mr Smith'. If you aren't given a name, address it to 'Dear Sir/Madam'. Sign off the letter with 'Yours sincerely' if it is to a named person and 'Yours faithfully' if to Sir/Madam. Include your home address and the date in the top right corner of the letter if the covering letter is in a separate document. If your covering letter is the text of an email, include your contact details at the end. Your letter shouldn't be longer than one page of A4.



J Smith & Co
Construction
20 Construction Rd,
Oxford
Oxon
OX99 1AB

John Thorpe
17a Christmas Way,
Abingdon
Oxon
OX99 2PQ

19 March 2018

Dear Mr Smith,

First paragraph: State the vacancy you are applying for and where you saw it. For example: 'I am writing to apply for your construction management trainee scheme, which I saw advertised on targetcareers.co.uk.' If you are not applying for an advertised vacancy, state what you are looking for. For example: 'I am writing to see whether you would be able to offer me a week's work experience.'

Second and third paragraphs: Write about how you have the skills, qualities, attitude and experience (if you have any) to succeed in the role. Refer to the skills and qualities asked for in the job description. If there isn't one, use the skills listed on page 53 as a starting point. You should back up your claims with examples of when you demonstrated those skills, expanding on details from your CV. For example: 'I believe that I have the right skills and qualities to excel on your trainee scheme. I have developed the leadership potential you've asked for through my involvement with Explorers. I was part of the Young Leaders Scheme and helped to run scout meetings. For example, I led a session on...'

Fourth paragraph: Give reasons for wanting to work at that employer and in this role in particular. You could mention projects that the company has worked on, the training offered by the company, the qualifications you would gain, the company's values or something else that attracts you. Link your reasons to your career ambitions. For example: 'I am applying to J Smith & Company because I really want to work and learn in a company that takes on innovative projects, such as the 2 George Street project. I was impressed by how you retained the Grade II listed exterior while making the interior more environmentally friendly...'

Final paragraph: Finish by thanking them for considering your application and stating when you'd be available for interview and when you'd be able to start if hired.

Yours sincerely,
John Thorpe

Tailor it to the role

The secret to a covering letter is to make it very specific to the company and the vacancy you are applying to. If you can send in the same covering letter to a different company purely by changing the name of the company it is addressed to, your letter isn't specific enough. The example above should help you to 'tailor' your letter to the role and make recruiters want to interview you.

APPRENTICESHIP APPLICATIONS AND INTERVIEWS

Tips for tackling application forms

Application forms are an incredibly common first stage in apprenticeship and training programme applications. The format and details of the form will change depending on the employer and the opportunity. Most forms will firstly ask you to fill in your contact details and information about your education, your personal background and your work experience history. The form may also give you the option of uploading your CV and covering letter.

Take your time to answer application questions. Make sure that there are no simple mistakes in your answers. You may want to type your answer into a word processing app or program. You can see if your answer meets a word count and print off a copy to check for mistakes. Pay attention to the employer's branding and make sure you've not misspelled the name of a product, for instance. It is also worth saving a copy of your answers so you can refer back to them later in the application process.

Know why you're applying

A common application question will ask you about your motivations for applying and your interest in the employer, the apprenticeship and the career sector. Employers want to see that you have good reasons for applying. Think about hobbies, work experience and school activities. Talking about what you're good at and what you enjoy will help you explain why you are interested in a certain industry or career path. Refer to specific details of the work or training that the employer is offering and match these to your career ambitions.

Prove you're the right choice

Show employers you've got the skills for the job and back up your statements with evidence. These examples don't have to be from work experience: you can talk about extracurricular activities, school, volunteering, hobbies or things you've done with your family. When talking about times when you've worked in a group, focus on what *you* did to contribute to the team's success.

Online assessments

Unfortunately, just because you're leaving education, it doesn't mean you've seen the end of assessments. It's likely you'll need to complete at least one online assessment test as part of your applications. These tests tend to be short, but you should always check if there is a time limit or not. Common tests you may encounter include:

- **Numerical reasoning tests**. These tests will check your basic maths skills, as well as your ability to understand graphs, data and statistics. If maths isn't your strong point, a GCSE maths revision guide can help you prepare.
- **Verbal reasoning tests**. These see whether you can understand complex written information. Can you pick out and interpret information from written statements and arguments?
- **Situational judgement tests** and **personality questionnaires**. Rather that testing a specific skill, these assessments ask how you would behave in a specific situation and what you would be like to work with. It's always best to answer with an honest response.

You can find out more information about application forms and online assessments at **targetcareers.co.uk**. You may also be able to find practice tests through your school, college or online.

APPRENTICESHIP APPLICATIONS AND INTERVIEWS

The perfect interview and assessment day

If recruiters like what they see in your applications, you may be interviewed on the telephone and face to face by a member of human resources and/or senior management. In both cases, they will ask you why you want to work for the company and what makes you suitable for the role.

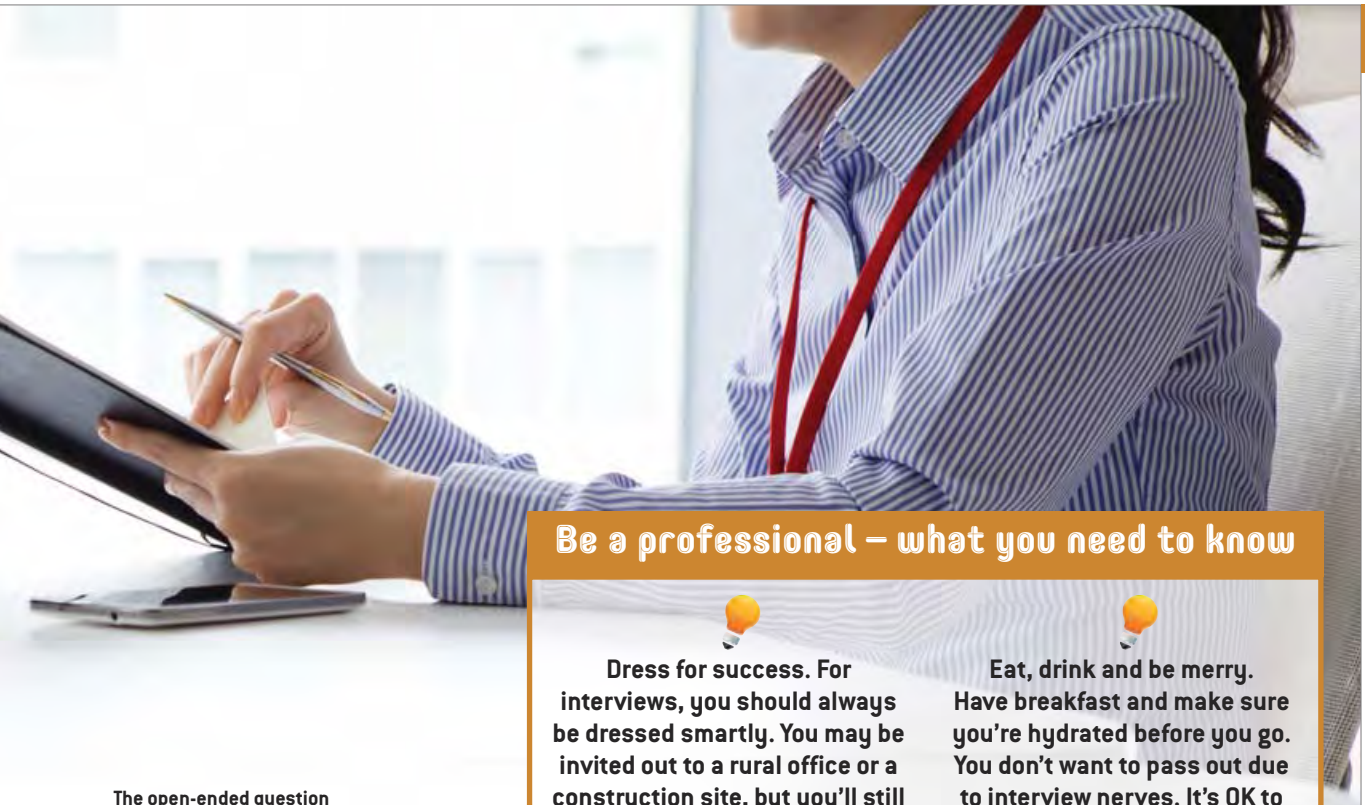
If you are applying for a technical role or have already undertaken some relevant study (eg as part of a vocational course), the recruiters may question you on some specialist areas of knowledge.

Possible interview questions (and how to answer them)

Why do you want to work for us?
This question is testing how much you know about the company and your motivation. Use what you have read on the website (don't just parrot) and link it with your own future career goals.

What makes you suitable for the job?
If you've done well in your studies, mention it, but also talk about the soft skills that you have and use examples from your past experiences to back them up. For example, if you say you're determined, you need to give evidence. You might have fought your way through martial arts tournaments out of school for instance. Go back over your own experiences and find examples of skills to impress the employer.

Give an example of a difficult situation you have faced and how you dealt with it.
This doesn't need to be a nuclear standoff that you resolved. Perhaps you've had to deal with infirm relatives or a friend who got into trouble. Break down the situation using the STAR (situation, task, action, result) method and explain to the recruiter all the steps you took.



Be a professional – what you need to know

Dress for success. For interviews, you should always be dressed smartly. You may be invited out to a rural office or a construction site, but you'll still need a smart trouser/skirt suit.

Give yourself time. Nothing makes a bad impression like turning up late. Practise the journey beforehand if you can.

Bring your papers, please. Your initial application or CV, personal statement (if you have one) and any related coursework could come in handy if you can't remember exact details in the interview.

Eat, drink and be merry. Have breakfast and make sure you're hydrated before you go. You don't want to pass out due to interview nerves. It's OK to ask for a drink of water in your interview.

Think about the little things. It's safer not to post on social media about the company as they may see it. Also: does your mobile have an offensive ringtone or voicemail? A voicemail should just contain your name and a polite message requesting a name and number for the caller. Keep your phone off or on silent during an interview.

The open-ended question
You may be asked to speak a little about yourself, about one specific event listed on your CV or even about your last holiday. While the recruiter does want to know more about you, this is more of a test of your communication skills. Speak clearly, confidently and concisely and be ready to provide more details if necessary.

Technical questions
These are rare, but if you have done a related qualification you may be given an example problem related to the work that the company does. For example, if you were going for a trade apprenticeship, you might be shown a blueprint of a particular piece of equipment and asked to explain how it works.

An assessment centre – a longer interview
Think of an assessment centre as a full working day (9.00 am to 5.00 pm) of interviews, tests and other exercises to test your suitability for a company. As a general rule, it is the larger engineering and construction apprenticeships and school leaver schemes that use assessment centres, such as Ford or Balfour Beatty. Assessment centres bring groups of candidates together and can include some or all of the following:

Aptitude tests
A short exam set to a tight time limit. These are often multiple choice and are designed to test your natural ability with numbers, logic, verbal reasoning or other aptitudes.

Behavioural exercises
These aim to discover how you'll work as part of a team and the business. Common tests include presentations, group exercises and tests of your reaction to certain scenarios. For example, in scenario situations, an employer may ask you what your reaction would be to a mock client email or what you would do to organise a list of pressing issues.

Social time
Sometimes structured, sometimes not, there is normally an opportunity to talk (although not too informally!) with recruiters, managers and current apprentices at the company.

Find out more at targetcareers.co.uk

A–Z of organisations who want to hear from you

Opportunities

Profile page		Intermediate apprenticeships	Advanced apprenticeships	Higher apprenticeships	Technician/foundation training programmes	Undergraduate placements/internships	Graduate programmes
61	**Arcadis**			•		•	•
62	**Arup**	•	•	•		•	•
63	**BAE Systems**	•	•	•	•	•	•
64	**British Airways**	•	•	•		•	•
65	**CITB**	•	•	•			
66	**DSTL**		•	•			
67	**JLL**		•			•	•
68	**Laing O'Rourke**	•	•	•	•	•	•
69	**Redrow Homes**	•	•	•	•	•	•
70	**UK Power Networks**	•				•	•
71	**Wates**	•	•	•	•	•	•

Find out more about the employers

Arcadis

Business facts

Arcadis is the leading global natural and built asset design and consultancy firm working in partnership with our clients to deliver exceptional and sustainable outcomes through the application of design, consultancy, engineering, project and management services. Our diverse, talented and passionate people and our specialist combination of skills makes us unique.

The market presents many challenges, as well as opportunities for our clients, as they increasingly look to us to help them optimise their business plans and strategies and make best use of their assets and investments, in a sustainable and safe way. For example, we have supported Shell, Tube Lines and Sellafield Ltd to reach impressive safety records; we have been involved in all major rail programmes since the 1980s including the Jubilee Line Extension, West Coast Main Line, Thameslink, Crossrail, IEP, HS1, Northern Hub, HS2, and Euston Redevelopment; we work with Thames Water, Network Rail, Crossrail 2, Thames Tideway Tunnel, and Imperial College London to help them maximise the value of their assets and investments and we are making education more affordable, benefitting more than 10,000,000 children in the UK. These are a selection of just some of the initiatives we are working with our clients on, to help them achieve the best possible outcomes from their built and natural assets.

Opportunities

Level 3 & Level 6 Surveying (Quantity Surveying and Building Surveying)

Project Management – Level 6 Construction management

Level 3 & 6 – Engineering

Over 2–5 years you will benefit from on the job experience and formal training, earning nationally recognised qualifications and developing skills that will see you go on to thrive and succeed. Our promise to you is that you will:

- Gain transferable skills
- With leading industry professionals
- Competitive salary
- Fees paid by us
- Day release for training
- Tailored induction programme

We also offer work experience weeks during July and October in London, Birmingham, Manchester and Bristol.

"I am collaborating with some of the best people in the industry."

Jerome Roberts

Jerome started with Arcadis as an intern and has rapidly progressed to a Graduate: "I am really excited about my future with Arcadis. I enjoy global opportunities and the ability to work abroad and continual development through professional qualifications and on-the-job experience.

What do you love about working for Arcadis?

"I get to work on exciting projects that inspire me. Arcadis' teams work to deliver the best for clients, not just what will work, but what would exceed expectations and bring about long-term improvement."

How does Arcadis help your professional development?

"I love knowing I have a future within the company. I always feel if I work hard, I will be able to have a rewarding career in the firm with excellent prospects for the future."

How do you see Arcadis values coming to life?

"I am collaborating and working with some of the best people in the industry. They all have a willingness to help me develop and impart knowledge, making Arcadis an incredibly rewarding place to work."

My favorite projects

1. Olympic & Paralympic program team, UK
"During my placement year, I was on the program team helping to deliver London 2012 Olympic and Paralympic Games. It was working on this program that cemented my desire to work for Arcadis. Working on such a high profile scheme is incredibly rewarding, especially when the outcomes are a resounding success and the team so willing to help you develop and give you opportunities."

2. Electricity supply substation
"My first assistant project manager role was working on an ongoing redevelopment of a 132kV substation critical to supplying a consistent electricity supply to many high-profile users in London. The project meant fully relocating to the client's offices and team. Being seconded directly into a client team helps you develop strong consulting skills and acquire excellent understanding of the client's requirements."

Contact details

Emerging Talent Team
10th Floor, Three Piccadilly Place,
Manchester, M1 3BN
Tel: 0161 245 8818
www.arcadisukgrads.com
Social media: @arcadisuk
Arcadis LinkedIN

Job roles:

- building surveyor
- civil engineer
- quantity surveyor (cost consultant)
- project manager

Salary

£14,000 - £18,200

Opportunities on offer

– ALL APPRENTICESHIPS ARE FUNDED

- degree apprenticeships
- higher apprenticeships
- undergraduate placements/internships
- graduate programme

Sponsorship throughout university

- bursaries offered to high performers
- sponsorship payment in final year of university

Work experience offered to

- school students
- further education college/sixth form students

Application deadline

15/2–30/4 Apprentices
15/2–30/4 Work experience
10/9–30/11 Graduates
1/10–15/1 Undergraduates

Locations

■ Regions with opportunities

Arup

Business facts

We shape a better world

Arup is a global firm of designers, planners, engineers, consultants and technical experts. We use our skills to make a positive difference in the world.

What we offer

Our apprenticeships allow you to study for an academic qualification while working and learning alongside respected, technical professionals. As an apprentice, you'll study at a local college or university on day release, and combine this experience with real responsibilities in the workplace. A dedicated mentor, and our learning and development advisor, will guide you through your personal and professional development.

From your first day, you'll join an unrivalled community of experts, where everyone is supported in their career path and encouraged to work towards an accredited qualification.

You'll help us to deliver effective and professional design services for a range of varied and high-profile clients. While you'll have a great deal of responsibility from day one, we'll give you the chance to take on more as you progress and broaden your skills.

To find out more and apply

Full details are on our website so visit the early careers section now.

At Arup we are committed to providing the ideal start to your development. Your growth is our focus from day one.

Contact details

Contact tel: 0207 755 3350
Website: www.arup.com
Social media:
Twitter: @ArupJobs @ArupGroup
Facebook: www.facebook.com/ArupGroup
LinkedIn: www.linkedin.com/company/arup
YouTube: www.youtube.com/arupgroup

Job roles

• civil engineer • digital• electrical engineer • electronic engineer • environmental engineer/consultant • mechanical engineer • quantity surveyor • rail • software engineer • structural engineer • town planner • transport planning

Salary

Competitive

Opportunities on offer

• intermediate apprenticeships • advanced apprenticeship • higher apprenticeships • undergraduate placements/internships • graduate programme

Sponsorship throughout university

• none

Work experience offered to

• school students • further education college/sixth form students • university students

Application deadline

Dependent upon vacancy – please see our website for details

We've been ranked in the 200 most popular employers for SCHOOLLEAVERS

Locations

■ Regions with opportunities

BAE Systems

Business facts

At BAE Systems, we provide some of the world's most advanced, technology defence, aerospace and security solutions.

We design, manufacture and maintain some of the world's most complex engineering platforms such as the Astute nuclear submarine, 65,000t aircraft carriers and Typhoon military aircraft.

We employ a skilled workforce of 83,100 people in over 40 different countries and over 33,000 in the UK. Working with customers and local partners, our products and services deliver military capability, protect people and national security, and keep critical information and infrastructure secure.

We are passionate about apprenticeships and are proud that our programmes are recognised as some of the best available. Apprentices are an essential part of developing our future workforce. We do everything possible to help our apprentices develop into skilled and valuable employees.

We offer a range of award-winning programmes across our many sectors and sites in the UK. So, whether you are interested in engineering, project management, engineering and manufacturing or business administration, we have a variety of exciting roles for you in a range of levels – all the way up to degree and master's level apprenticeships.

Our Apprenticeship programme comprises a combination of academic study and vocational skills learnt off the job and on the job. We know real learning is achieved first hand by putting learning into practice and this is the cornerstone of our Apprenticeship. You will have real work placements directly within our businesses and this is supported as well with substantial enrichment experiences such as Outward Bound (team building activities in the countryside) and promoting careers with local schools and supporting community groups.

Your learning does not stop on the completion of your Apprenticeship. BAE Systems continues to invest in its people and provides exciting and diverse opportunities as they progress through the company. It is important to understand that an Apprenticeship is just your first step onto the career ladder within BAE Systems.

For more information and to apply for one of our apprenticeship schemes visit www.baesystems.com/apprentices.

The work that Apprentices at BAE Systems undertake have a real impact in the business and there are plenty of opportunities for help, guidance and development. I have thoroughly enjoyed the first year of my Apprenticeship and am looking forward to carrying on my development through many more years in the business. Miles Eastwood – Higher Apprentice, BAE Systems.

Contact details

www.baesystems.com/apprentices

Social media
Twitter: twitter.com/BAESApprentices
Facebook: facebook.com/BAESApprentices

Job roles

• aerospace engineer • automotive engineer • electrical engineer • engineering craft machinist • manufacturing engineer • mechanical engineer • painter and decorator • scaffolder and/or steeplejack • software engineer

Salary

Competitive – please refer to the website at www.baesystems.com/apprentices

Opportunities on offer

• intermediate apprenticeships • advanced apprenticeship • higher apprenticeships • technician/foundation training programme • undergraduate placements/ internships • graduate programme

Work experience offered to

• school students • university students

Application deadline

28th February 2018

Locations

■ Regions with opportunities

British Airways

Business facts

Join one of our apprenticeship schemes and you'll earn a real wage while learning the work-ready skills to make your future career a success. We have programmes in three key business areas (Customer, Operations or Professional Services & Business support) – each of them structured to enable you to make a real contribution to our business and work towards a nationally-recognised qualification.

Our apprenticeships don't just give you a job. They're designed to properly prepare you for the world of work. With rotations through different business areas, plenty of hands-on experience and the training to carry out your role, you'll build the professional and soft skills you need to be a valuable member of any team.

Our apprentices often talk about the variety, challenge and the chance to learn on the job. But if you put in the hard work, it's also fun and really rewarding, with plenty of responsibility, and even the chance to raise money for charity. What's more, you get all the benefits and rewards you'd expect from a world-renowned company – including genuine career prospects.

"The British Airways apprenticeship stands out because the support and training is tailored to ensure every apprentice can fulfil their potential."

Geetika, Head Office Apprentice

Contact details

British Airways plc, Waterside (HBAG), PO Box 365, Harmondsworth, West Drayton, UB7 0GB

Social media:
linkedin.com/company/british-airways

Job roles:

- Aerospace engineer/Aircraft Maintenance Engineer

Salary:

£7,925 + Company Benefits

Opportunities on offer

- intermediate apprenticeships
- advanced apprenticeships
- higher apprenticeships
- undergraduate placements/internships
- graduate programmes

Work experience offered to

- school students
- further education college/sixth form students

Application deadline

Visit website

Main city location

London

How you select

- application form including CV
- assessment day
- group exercises

We've been ranked in the 200 most popular employers for SCHOOL LEAVERS

Locations

Regions with opportunities

CITB

Business facts

CITB is the largest provider of construction apprenticeships in Britain, supporting around 15,000 people each year.

Why choose construction?

The construction industry is so much more than large men, digging and operating heavy machinery - whether you enjoy working with your hands, planning and organising, or doing something creative, there is a role for you and you'll get paid while you learn your trade.

There are other benefits too;

- **Loads of variety**
  Every day on a construction project will bring new and interesting challenges, so no two days will be the same and you'll never be bored
- **You'll get to build the stuff people depend on**
  How many professionals in other industries can point at a new hospital, school or sports stadium and say "I helped to build that"?
- **You'll get to see immediate results**
  Regardless of your role on site, seeing the progress that you've made at the end of every day is one of the most rewarding parts of a job in construction
- **You'll be part of a team**
  Strong working relationships are formed on construction projects because everyone on the team depends on everyone else to get the job done.

We'll support you

From the day you submit your application form, a dedicated apprenticeship officer will be on hand to co-ordinate your training programme and support you throughout your apprenticeship.

The apprenticeship officer is the link between you, the college (or training provider) and your employer. It's their job to monitor your progress on site and in training through reviews of your progress to make sure you achieve your final goal.

We're great at what we do

We've been rated as an 'outstanding' apprenticeships provider by Ofsted for the second consecutive inspection – this means we're awesome!

Theo Brogan (CITB Apprentice of the year 2017) – "I get massive support from the CITB officers, they've been there to give me advice when I needed it and to support me through my journey as an apprentice."

Contact details

Website: www.citb.co.uk/bconstructive

England: 0344 994 4010 ffl
myapprenticeship@citb.co.uk

Scotland: 0344 994 8800 ffl
scotland.apprenticeships@citb.co.uk

Wales: 0300 456 5700 ffl
wales.office@citb.co.uk

Job roles

Project Manager
Civil Engineer
Carpenter
Stonemason
Bricklayer
Roofer
Scaffolder
General Construction Operative
Painter and Decorator
Tiler
Plasterer
Plant Mechanic
Plus many more...

Salary

Competitive

Opportunities on offer

Level 1
Level 2
Level 3

DSTL

Business facts

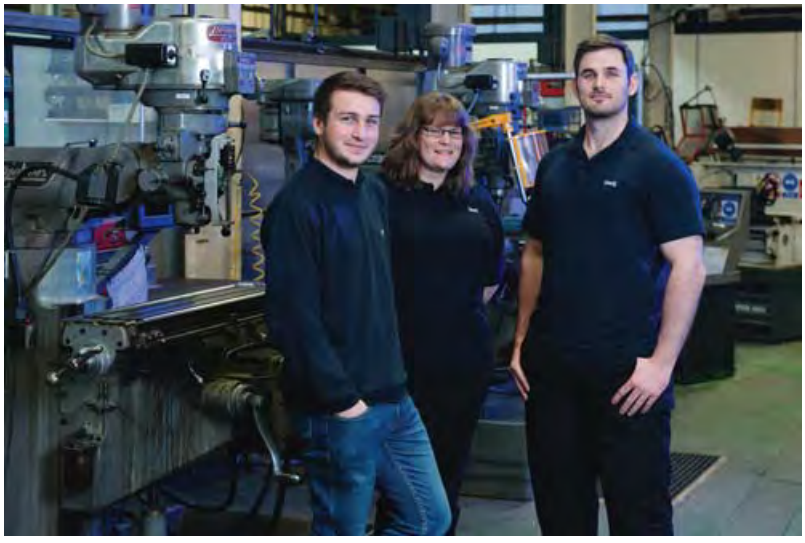
The Defence Science and Technology Laboratory (Dstl) is at the heart of the UK's defence and Security capabilities, ensuring that our vital and unique innovative science and technology contribute to current and future challenges. We provide the UK Government with specialist science and technology research, advice and analysis – much of which is operationally critical with the potential to save many lives. Like creating digital honeypots that replicate petrol pump systems to discover hackers' methods, our ideas and solutions can come from anywhere.

Our work base is predominately scientists and engineers working on real life project work, with some being world leaders in their field. If you join dstl you will gain a wealth of knowledge, learning from some of the best engineers and work on real life exciting work.

We currently have apprenticeship opportunities in the following areas:

Electrical Engineering – advanced level

Embedded Electronics System and Design Engineer – degree level



"There is so much involved in the course itself. We are already covering a wide range of practical and theoretical skills and I am particularly looking forward to the industry placements where I will put my learning into practice."
– Wreford, Electrical Engineering apprentice

Contact details

Jade Ward
G01, Building 5, Dstl Porton Down
SP40JQ

www.gov.uk/dstl

Facebook: facebook.com/dstlearlycareers
Twitter: @Dstlmod
LinkedIn: company page – Dstl
You Tube: DstlMOD

Job roles

- aerospace engineer
- electrical engineer
- electronic engineer
- mechanical engineer
- software engineer
- structural engineer

Salary

Starting salary is £12,500 but can be more depending on the apprenticeship level

Opportunities on offer

- advanced apprenticeship
- higher apprenticeships

Sponsorship throughout university

- for your final year

Application deadline

1st April 2018

Locations

Regions with opportunities

JLL

Business facts

Where are you reading this right now?

At home... at college... or even your favourite coffee shop?

Property professionals play an essential role creating buildings and places we find ourselves in every day.

The industry interacts with so many aspects of life, bringing together individuals with different backgrounds and skills. You don't have to have a building or surveying background to find a career in property that's right for you.

The property sector is dynamic and its people are its heartbeat.

More about us:

We are a professional services firm specialising in commercial property and investment management, and ambitions are really what make us tick.

Our people underpin our success so we think it's important to celebrate them. Whether you want to one day lead a high performing team, work on some of the UK's most iconic buildings or run the London Marathon, our culture thrives on achieving ambitions for our clients, our communities and our people.

It's not just us saying it. Our clients agree that the exceptional quality and dedication of our teams really differentiates us from our competitors.

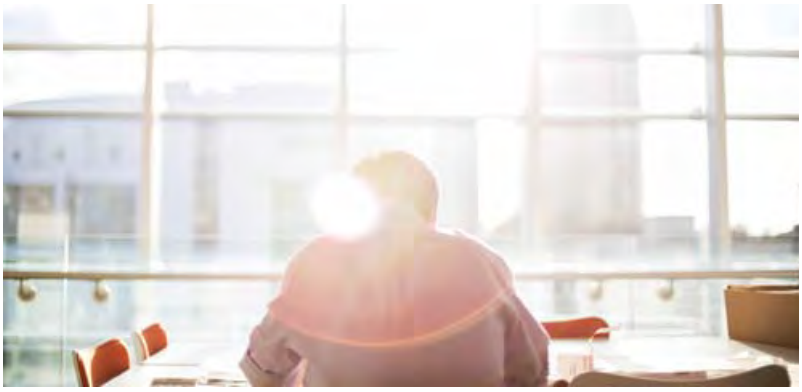
Of course, it's not all work. Whatever your interests, we have a variety of clubs, sports teams, volunteering opportunities and staff networks that you can get involved in.

Our school leaver opportunities:

As part of the 'Changing the Face of Property' initiative, our mission is to raise awareness of the great opportunities available across the property professions.

The JLL Apprenticeship is a great opportunity for someone who would like to kick start their career in property, allowing you to gain a qualification and experience whilst earning a wage.

There are number of different schemes you can apply for via our website – including Surveying, Business Administration, Finance and IT Apprenticeships.



"My confidence in giving presentations to an audience and general property knowledge has improved massively whilst being at JLL. The main benefit for me is being able to work in an environment where people want you to succeed and give as much help as possible to take you to the next level."

Oliver Brighton – Surveying Executive in Shopping Centre Management

Contact details

Luke Lavery
30 Warwick Street, Soho, London, W1B 5NH
Contact tel: 020 7493 4933
Website: jll.co.uk/apprenticeships
Social media: twitter.com/JLLUKGraduates

Job roles

- Property surveyor
- Quantity surveyor

Salary

£13,000+ Travel Year 1

Opportunities on offer

- Advanced apprenticeship
- Undergraduate placements/internships
- Graduate programme

Work experience offered to

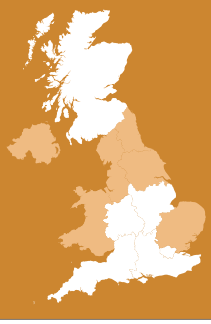
- Further education college/sixth form students
- University students

Application deadline

31/05/2018

Locations

Regions with opportunities



Laing O'Rourke

Business facts

We are Laing O'Rourke. We design and build iconic buildings and complex infrastructure projects used by millions of people every day - and we're always looking to create structures that will help build a better future for everyone. Our expertise allows us to work on some of the largest and most complex projects in existence. Join us as a School & College Leaver and you'll have the opportunity to work on some amazing projects with some exceptional people.

Our five-year School & College Leaver programme combines studying for an accredited degree with on-the-job experience. You'll work alongside experienced professionals on live projects, and attend university at the same time. Throughout you'll learn innovative engineering and construction techniques, and get to know colleagues who'll continue to support you throughout your career at LOR.

We have opportunities for School & College Leavers in areas from Civil Engineering and Design to Planning and Quantity Surveying. We'll pay for all your university fees, and there's even an achievement award when you complete the relevant professional qualification. If you're on track or already have a 96 UCAS points or more, apply now.

We also run a two-to-four year Apprenticeship+ programme for people leaving school with at least three GCSEs (preferably A-C/4-9 in Maths, English and Science). There are opportunities around the UK and include roles such as scaffolding, steel fixing, electricians and site operatives.

"I found LOR by doing a Google search of the top construction firms in the UK. They came out as one of the top three; so I looked on their website and found the School and College Leaver programme and applied straight away.

"I love the fact that you can be involved on a number of projects of historical significance like Crossrail, and you get to see the latest building technology in practice.

"My biggest highlight so far has been the final pour on the Elephant Road project structure, I had been working on this since the very first excavations. I got to see a complete project go from a hole in the ground to a complete structure with one tower over 23 stories tall.

"Whatever I've been doing, I have learnt lots from working here about my job role and the construction industry in general. The main thing that I have learnt is that you can never 'know it all'; there is always something new to learn or something someone can show you or help you with.

"So if you're thinking of applying, think carefully about what you enjoy and what you're good at and research the varied job roles in construction, as there are so many that can suit certain people better than others."

Anthony, Trainee Quantity Surveyor.

Contact details

Early Talent Team
Bridge Place, Anchor Boulevard,
Crossways, DA2 6SN
Email: earlytalent@laingorourke.com
Contact tel: 01322 730730
Website: laingorourke.com/careers

Social media
Facebook: facebook.com/earlytalentLOR
Youtube: youtube.com/user/laingorourkeltd
Twitter: twitter.com/Laing_ORourke

Job roles

• civil engineering • building services engineering • quantity surveying
• construction management • procurement
• estimating • planning • business admin
• electrical • piling/scaffolding/steel fixing

Salary

£16,500

Opportunities on offer

• School and College Leaver Programme

Sponsorship throughout university

• Sponsorship throughout university

Application deadline

Applications open November 2017 and close March 2018, but will remain open until all roles filled

How you select

• Application form including CV
• Online tests
• Telephone or video interview
• Assessment day (group discussion, presentation, 1 to 1 interview)

We've been ranked in the 200 most popular employers for SCHOOL LEAVERS

Locations

Regions with opportunities

UK wide depending on current projects

Redrow Homes

Business facts

Redrow is a housebuilder with an award-winning reputation. We pride ourselves on creating beautiful homes that people love to live in. And we apply the same level of care and attention to developing our apprentices too.

Provided you're willing to apply yourself, it's an exceptional opportunity. Earning while you learn, you'll gain a nationally recognised qualification and acquire invaluable work experience. You'll also be part of a friendly, supportive team that takes your future seriously. We offer a wide range of apprenticeships, too.

It doesn't matter whether you want to learn a manual trade or work in an office: there could be an exciting future for you here.

Perform well and impress us, and you could find yourself building a successful long-term career with Redrow.

We currently employee over 2,100 staff across England & Wales, including a large trainee base.

- Divisional offices in Lancashire, North Wales, South Wales, Yorkshire, Staffordshire, Northamptonshire, Devon, Kent, London, Essex, Hampshire.
- Redrow has a dedicated training centres in London, Tamworth and Warrington offering tailored training courses to all of our staff
- We were named in the 2015 CITB Apprenticeship Awards: Great Britain Large Employer of the Year and were named on the top 100 apprentice employers list in 2017 for the fifth consecutive year.
- We are a proud member of the prestigious 5% Club. a campaign focused on creating momentum behind the recruitment of apprentices and graduates into the UK workforce. By joining the club, we have committed to the aim of ensuring that 5% of our UK workforce are apprentices, graduates or sponsored students on structured programmes within the next five years.

Your career options don't stop after you complete an apprenticeship with Redrow. Perform well and you could earn the opportunity to progress further within the company.

- Our trainee site assistant programme takes the best and brightest and helps develop them into our site managers of the future, including many former trade apprentices.



"I'm pleased I went down the apprenticeship route. I always wanted to be up doing stuff instead of sitting in class & I've gained lots of confidence, met lots of great people and built skills, all while being paid."

Liam Sargeant, Assistant Site Manager & former apprentice Bricklayer with Redrow.

Contact details

Learning & Development Team
Redrow Homes
Redrow House
Kinsall Green
Wilnecote
Tamworth
Staffs
B77 5PX

Job roles

• Apprentice Bricklayers • Apprentice Carpenters / Joiners • Apprentice Plumbers • Apprentice Electricians • Apprentice Quantity Surveyors • Apprentice Architects & Civil Engineers • Office Aprentices

Salary

Competitive

Opportunities on offer

• intermediate apprenticeships • advanced apprenticeship • higher apprenticeships • technician/foundation training programme • undergraduate placements/internships • graduate programme

Sponsorship throughout university

• throughout • for your final year

Application deadline

Trade apprentices will be end of June 2018. Office apprentices are recruited on a rolling basis as required.

Locations

■ Regions with opportunities

UK Power Networks

Business facts

Did you boil a kettle to make a coffee this morning? Or charge your iPod? Or turn on the lights while you brushed your teeth? Have you jumped on the Tube recently or jetted off from one of the major airports in the South East? All of these events could not have occurred without UK Power Networks.

UK Power Networks distributes more than a quarter of the UK's electricity through its networks of substations, underground cables and overhead lines making sure the lights stay on across London, the South East and the East of England, regardless of who customers pay their energy bills to. A range of other companies deliver power to the rest of the country.

The UK Power Networks Trailblazer Apprenticeship Programme, provides the opportunity for individuals with an interest in pursuing a career in engineering to become fully trained, qualified and competent "craft" persons in an electrical distribution industry in one of the following trade's cable jointing, overhead lines or electrical plant fitting. Our programme is a unique and exciting opportunity to join a highly respected company.

Apprentices will learn all aspects of their chosen craft and apply the knowledge, skills and techniques gained through the Apprenticeship Programme competently, safely and in accordance with Network standards. Apprentices will follow a Trailblazer Apprenticeship Framework which will include a Certificate in Electrical Power Engineering and a competency based qualification in Electrical Power Engineering.

We were the first electricity distributor named in the Sunday Times' 25 Best Big Companies to Work For, and also hold the title of Utility of the Year (2016, 2015 and 2012). We're striving to become an employer of choice, a responsible and respected corporate citizen and sustainably cost efficient. Achieving such objectives means we have embraced a culture based on values of integrity, continuous development, diversity and inclusivity, respect, unity and responsibility.

If you share these values, enjoy working outdoors and want to play a role influencing the energy industry's future and want to join a critical sector at a critical time of change then we believe our unique combination of classroom training, hands-on work and real life experience as well as competitive benefits will get your career with us off to a flying start!

Inspiring the next generation for a brighter future.

Contact details

futuretalent@ukpowernetworks.co.uk
www.ukpowernetworkscareers.co.uk
Social media @UKPNnews

Job roles

- electrical engineer
- electrical craftsperson

Salary

£14,996 per annum for school leaver progamme

Opportunities on offer

- intermediate apprenticeships
- undergraduate placements/internships
- graduate programme

Application deadline

Monday 2nd April 2018

We've been ranked in the 200 most popular employers for SCHOOL LEAVERS

Locations

Regions with opportunities

Wates

Business facts

More about us:

Wates Group is one of the largest privately owned construction, development and property services companies in the UK.

Our school leaver opportunities:

Our early careers programmes are designed to provide you with the right knowledge, skills and experience to develop your career.

We offer a wide range of career routes including Production, Quantity Surveying, Building Services, Estimating and Planning.

Higher Apprenticeship

Our Level 4 apprenticeship offers individuals the chance to develop the skills and experience required for a career in Site Supervision, Building Services or quantity Surveying. This industry recognised programme offers structured development and experience as well as support in achieving a HNC

Degree Apprenticeships

Our degree-level apprenticeship is a progression pathway for those who have already achieved a level 4 construction apprenticeship or HNC.

They include support with your degree combined with on the job experience.

The programmes are industry recognised and designed to provide you with the experience necessary to become Quantity Surveyor, Estimator, Planner, Building Services Manager or Site Manager.

How do we select?

The development I have received so far is excellent. My Apprenticeship, placements and various workshops planned by Wates provide me the backbone knowledge I need to progress forward my career"

Hamza El-Mhamdi (Estimating Management Trainee)

Contact details

Wates House, Station Approach
Leatherhead, Surrey KT22 7SW
Contact tel: 020 7061 3435

www.wates.co.uk/careers/early-careers
Social media: twitter.com/WatesGroup

Job roles

• Production (Operations – Site Manager) • Quantity Surveying (Commercial) • Building Services(Mechanical and Electrical Services) • Estimating • Planning • Electrical (Level 3) • Mechanical (Level 3)

Salary

Competitive

Opportunities on offer

• intermediate apprenticeships
• advanced apprenticeship
• higher apprenticeships
• undergraduate placements/internships
• graduate programme

Sponsorship throughout university

• throughout
• for your penultimate year
• for your final year

Work experience offered to

• school students • further education college/sixth form students • university students

Application deadline

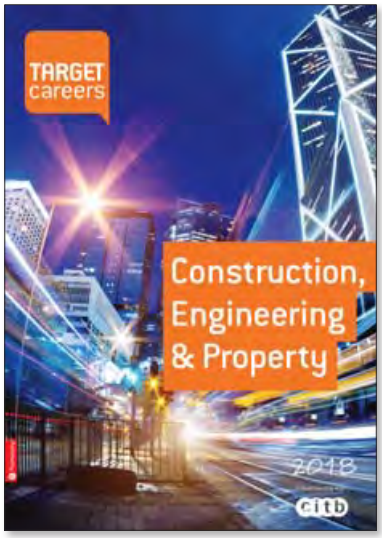
February 2019

Contractor of the year 2017

Locations

■ Regions with opportunities

The Level 3 apprenticeships are available in the North. The remainder are nationwide.



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Jaguar Land Rover ..... Alice Belcher 44
Network Rail ..... Marisa Bajerski 43
Nottingham Trent University ..... James Brown 43, 50
Pathways to Property ..... Emily Archer 41
Redrow Homes ..... Liam Sargeant 47
UK Power Networks ..... Darbie Hughes 47

Index of organisations who want to hear from you

Key:
IFC = inside front cover
IBC = inside back cover
OBC = outside back cover

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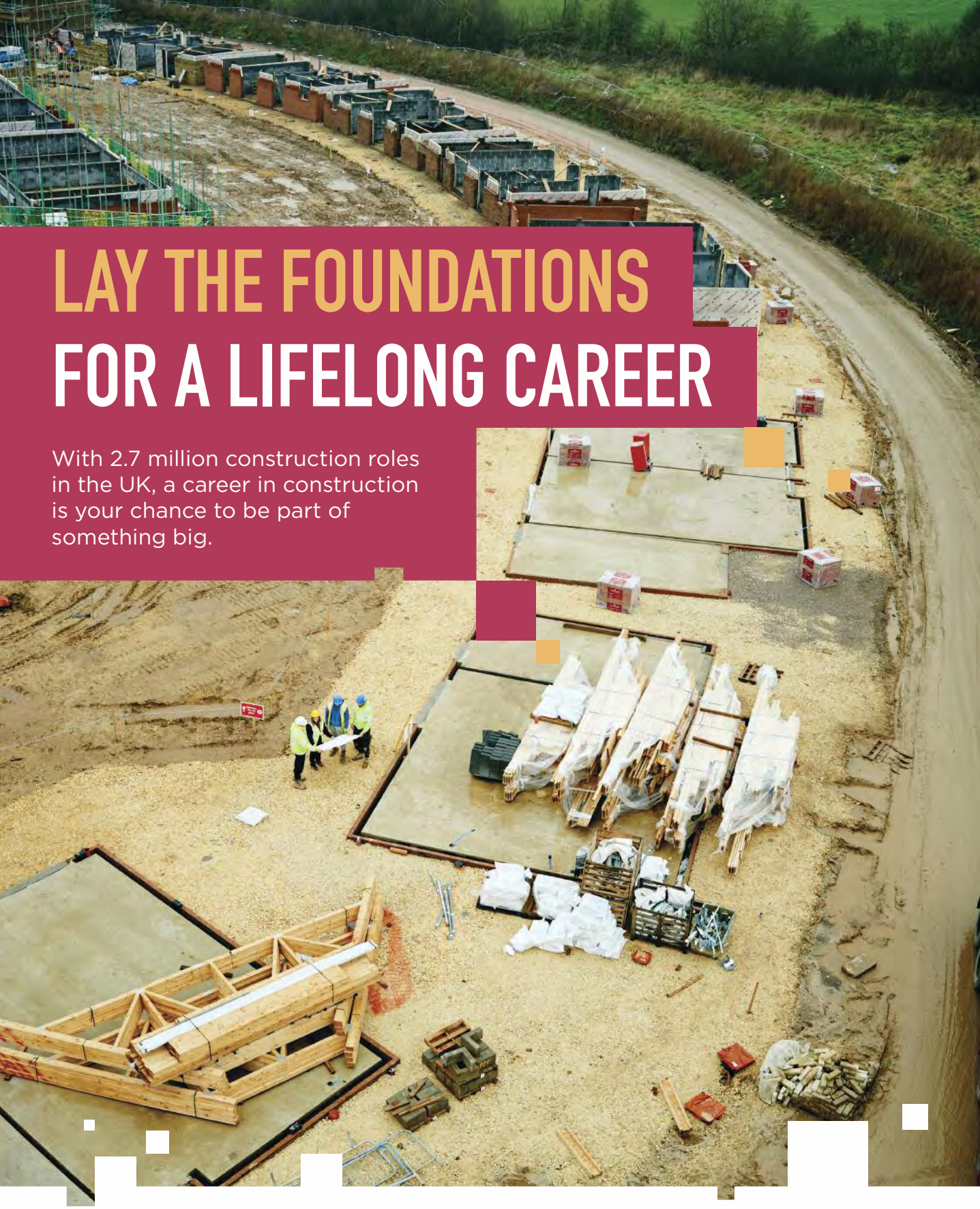
EARLY TALENT PROGRAMMES

INNOVATIVE ICONIC INSPIRING

Every day, we design, manufacture, engineer and build iconic buildings and complex infrastructure projects that go on to be used by millions of people. We're challenging the industry with innovative design and delivery techniques. We're changing the way we work, using the very latest digital tools and techniques. And we're always looking to create structures that will help build a better future for everyone. We are the employer for school and college leavers looking to work on iconic projects and industry-leading innovations within a hugely talented team.

ENGINEERING THE FUTURE

www.laingorourke.com/careers



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With 2.7 million construction roles in the UK, a career in construction is your chance to be part of something big.

Construction is a career like no other.
Find yours at **goconstruct.org**

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