

Green Career

Job of The Week

Civil Engineer

Key Skills

- Maths knowledge
- Design skills and knowledge
- Thinking and reasoning skills
- Complex problem-solving skills
- To be thorough and pay attention to detail
- Excellent verbal communication skills
- Knowledge of engineering science and technology
- Knowledge of building and construction
- To be able to use a computer and the main software packages confidently

Salary

£29,000 - £63,000

Working hours

40 – 42 per week
Evenings/weekends
Occasionally

Aspire | Challenge | Achieve

Civil Engineer



University

You can do a foundation degree, higher national diploma or degree in civil engineering. Many universities specialise in particular areas of civil engineering, like:

- transport engineering
- environmental engineering
- coastal and maritime engineering

You can [search for accredited courses](#) through the Institution of Civil Engineers. Some courses include a work placement, which can be useful for making industry contacts to help you find work after university.

You can also do further study for a postgraduate master's qualification in civil engineering, if you've got a degree in a related subject like maths, science or geology.

Entry requirements

You'll usually need:

- 2 or 3 A levels, or equivalent, including maths and a science for a degree
- a degree in a relevant subject for postgraduate study

College

You could take a course at college, which might help you to get work as a trainee civil engineer, or to apply for further study at university.

Subjects include:

- civil engineering
- maths, physics or geography
- construction and the built environment

Entry requirements

Entry requirements for these courses vary.

Work

You could work as a [civil engineering technician](#) and study on the job for a degree or apprenticeship.

You'll usually need 5 GCSEs at grades 9 to 4 (A* to C), or equivalent, including English, maths and science. Employers may also look for 1 or 2 A levels, or [equivalent qualifications](#).

Apprenticeship

You can apply to do a Civil Engineer Level 6 Degree Apprenticeship with an engineering or construction company.

This takes around 5 years to complete.

Entry requirements

You'll usually need:

- 4 or 5 GCSEs at grades 9 to 4 (A* to C) and A levels, or equivalent, for a higher or degree apprenticeship

Career path and progression

With experience, you could also:

- specialise in a particular engineering field
- work in research
- become an engineering consultant
- work with international development organisations or disaster relief agencies

Green Career

For a civil engineer to be a green job, you could:

- use sustainable materials like recycled concrete or bamboo
- design with energy efficiency in mind, like using natural light
- minimise waste by re-using or recycling materials

Day to Day tasks

- Assess the risks and environmental impact of projects
- Monitor progress at each construction stage
- Work closely with clients to understand what they need
- Map and analyse data using mathematical modelling methods
- Create design plans and models with computer software
- Lead a team of engineers, co-ordinate work and manage a budget

Working conditions

You could work in an office or on a construction site.

Your working environment may be outdoors in all weathers.

You may need to wear protective clothing.

Labour Market Information

In the Careers section of the school website you can find the useful comparison tool the 'Labour Market Information widget'.

Use the widget to compare different job roles in any employment sector or relating specifically to the 'Job of the Week'.

Civil engineers	Building and civil engineering technicians	Production managers and directors in construction
<p>Weekly Pay £940</p> <p>Hours/Week 41h</p> <p>Annual Pay £48,880</p> <p>Hourly Pay £23</p>	<p>Weekly Pay £800</p> <p>Hours/Week 47h</p> <p>Annual Pay £41,600</p> <p>Hourly Pay £17</p>	<p>Weekly Pay £920</p> <p>Hours/Week 43h</p> <p>Annual Pay £47,840</p> <p>Hourly Pay £21</p>
<p>Workforce Change (projected)</p> <p>Growth 9.9%</p> <p>The workforce is projected to grow by 9.9% over the period to 2035, creating 12,300 jobs.</p>	<p>Workforce Change (projected)</p> <p>Growth 6.5%</p> <p>The workforce is projected to grow by 6.5% over the period to 2035, creating 500 jobs.</p>	<p>Workforce Change (projected)</p> <p>Growth 8.6%</p> <p>The workforce is projected to grow by 8.6% over the period to 2035, creating 15,200 jobs.</p>
<p>You might find this job in</p> <ul style="list-style-type: none"> Construction Architectural & related Civil engineering Specialised construction Head offices, etc 	<p>You might find this job in</p> <ul style="list-style-type: none"> Construction 	<p>You might find this job in</p> <ul style="list-style-type: none"> Specialised construction Construction Civil engineering Architectural & related Real estate
<p>More info Clear card</p>	<p>More info Clear card</p>	<p>More info Clear card</p>



Labour Market Information



Civil engineers

Civil engineers undertake research and design, direct construction and manage the operation and maintenance of civil and mining engineering structures.

Common tasks in this job:

- undertakes research and advises on soil mechanics, concrete technology, hydraulics, water and waste water treatment processes and other civil engineering matters
- determines and specifies construction methods, materials, quality and safety standards and ensures that equipment operation and maintenance comply with design specifications
- designs foundations and earthworks
- designs structures such as roads, dams, bridges, railways, hydraulic systems, sewerage systems, industrial and other buildings and plans the layout of tunnels, wells and construction shafts

Back

Clear card

Building and civil engineering technicians

Building and civil engineering technicians perform a variety of technical support functions to assist civil and building engineers.

Common tasks in this job:

- sets up apparatus and equipment and undertakes field and laboratory tests of soil and work materials
- performs calculations and collects, records and interprets data
- sets out construction site, supervises excavations and marks out position of building work to be undertaken
- inspects construction materials and supervises work of contractors to ensure compliance with specifications and arranges remedial work as necessary

Back

Clear card

Production managers and directors in construction

Production managers and directors in construction direct and co-ordinate resources for the construction and maintenance of civil and structural engineering works including houses, flats, factories, roads and runways, bridges, tunnels and railway works, harbour, dock and marine works and water supply, drainage and sewage works.

Common tasks in this job:

- liaises with other managers to plan overall production activity and construction activities, sets quality standards and estimates timescales and costs
- receives invitations to tender, arranges for estimates and liaises with client, architects, Chartered architectural technologists and engineers for the preparation of contracts
- plans, directs and co-ordinates the construction and maintenance of civil and structural engineering works, including demolition, pipelines and pilings
- receives reports upon work in progress to ensure that materials and construction methods meet with specifications and statutory requirements and that there are no deviations from agreed plans

Back

Clear card

Keep looking...

Use these links to learn more about our Job of The Week, consider the various pathways leading to the career, what you can be doing now to help yourself and other roles in the industry...

Take a look at these short videos for inspiration...

NCS: Meet Voirrey



[Civil engineer: Voirrey's story](#)

Green Careers – Canal & River Trust



[Engineering a Sustainable Future | Canal & River Trust | Green Careers Hub](#)

Technician Apprenticeship



[Civil Engineering Technician | Make, build and fix things after leaving school](#)

Network Rail Graduate Scheme



[Day in the Life: Mohammed – Civil Engineering Graduate at Network Rail](#)

Useful Websites

[Explore green careers | National Careers Service](#)

[Develop Your Career – ICE Resources for Engineers | Institution of Civil Engineers \(ICE\)](#)

[What is a Civil Engineering Technician? | Technicians](#)

[Civil Engineering Subject Guide | Why Study Civil Engineering? | UCAS](#)

[Design, Surveying and Planning for Construction | T Levels](#)