



JOB of the Week



Job name: Design Engineer

Job description: Design engineers use technical knowledge, mathematical expertise and design skills to create innovative solutions to problems across a range of industries. You will be involved in the initial concept, design, development and management of projects in a range of sectors such as construction and the built environment, materials, software, components, machinery and vehicles. You can usually specialise in one area of design engineering, such as: chemical engineering; civil engineering; electrical engineering; electronic engineering; mechanical engineering; product/industrial design engineering; software engineering.

Tasks you will undertake in the job:

As a design engineer, you'll need to:

- Liaise with clients to identify their requirements
- Investigate and undertake analysis on how to improve existing projects or components
- Summarise scientific and engineering principles in an easy to understand manner
- Write technical reports to summarise findings
- Cover the concept, specification, tender and development of new projects or components
- Design the aesthetics, materials and functionality of components
- Use CAD, CAM and CNC systems to design and visualise projects
- Undertake model making, prototyping and product testing
- Identify new systems and processes to drive quality, efficiency and save costs
- Undertake complex calculations
- Communicate effectively with the clients, colleagues and contractors involved in a project
- Lead a team of engineers
- Plan effectively to ensure projects are delivered on time, to standard and to budget.

Qualifications you will need for this job: You can enter design engineering by both vocational and academic routes. Graduate-level engineers will in most cases be required to have a degree in a relevant technical subject such as civil, mechanical, electrical or chemical engineering. To become a professionally incorporated engineer (IEng) or chartered engineer (CEng), you'll first need an undergraduate degree (BSc, BEng). Some degree courses will offer the opportunity to undertake a year's work placement in industry. C

Completion of a Masters (MSc, MEng) is a requirement of working towards becoming a fully chartered engineer, and can allow you to specialise in a particular area. Some employers may allow you to study part-time towards your Masters degree (or you could enter the profession with a HNC, HND or foundation degree and become an engineering technician). You could undertake a top-up degree, to progress to incorporated or chartered status. It's also possible to undertake an engineering apprenticeship, which involves on the job training while working towards a qualification.

Skills required for this job (core competencies):

Communication	Resilience	Organisation	Teamwork
Problem Solving	Initiative	Creativity	Digital literacy

Sectors in which Design Engineers would normally work: Employers range from blue chip companies to SMEs, in both the private and public sector. Self-employment is possible when you are an experienced design engineer. Employers include: aerospace and automotive industries; computing and software development; construction and building services; design and engineering consultancies; energy utilities, including nuclear government agencies, local authorities, hospitals & educational institutions; medical engineering and transport industries

Type of work (location and diversity): Design work is typically office based, however you'll go on visits to meet clients. Site and plant visits will also be required (depending on your engineering specialism). Design and consulting work is to client deadlines, so at times you'll be required to work extra hours to meet these. Work opportunities are available nationwide. If working for international organisations, there may be opportunities to travel. Females, workers with disabilities and ethnic minorities are under-represented across the engineering industries. Diversity issues are recognised by professional bodies and employers. Many employers are seeking new ways to diversify their workforce.



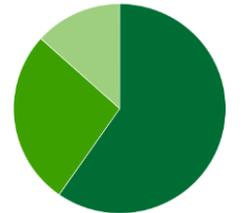
Salary: Average salary for a design engineer is £33 800, average salary in the UK is £28 758



Working hours: 36 average working hours in the week (37.5 working hours in the average working week).

Workforce in the UK: 53% male / 47% female workforce

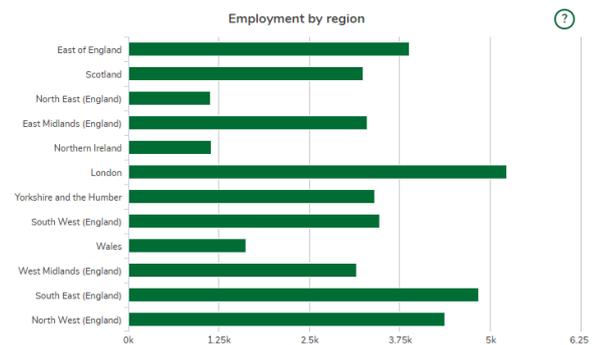
Top 10 industries for this job			
Retail trade	19423	Food products	9267
Wholesale trade	2937	Food & beverage services	2252



■ Full-time employee ■ Part-time employee ■ Self-employed

This job in the future:

The workforce is projected to contract by 11.6%, losing 4 600 jobs however, in the same period, 52.5% of the workforce is likely to retire, creating 20,400 job opportunities.



- www.icould.com
- www.successatschool.org
- www.nationalcareers.service.gov.uk
- www.prospects.ac.uk/jobs-and-work-experience/job-sectors
- www.ucas.com/careers-advice
- www.kudos/cascaid.co.uk/#/ (you all have a log on for this service)
- www.careersbox.co.uk (careers videos)

Helpful sites for careers information
GAT careers links
<http://airhead.io/public/launchpads/XqbuOMJgb0OfqvMPCykzA>

