



Aerospace engineer

Aerospace engineers apply scientific and technological principles to the design, construction and maintenance of aircraft, missiles, weapons systems, satellites and space vehicles. They may be called aeronautical engineers.

What does the job involve?

- doing innovative research on new designs for airliners, helicopters, fighter jets or space vehicles
- developing new or existing products, components and systems
- investigating the use of new materials or improving existing ones
- using computer-aided design (CAD) to modify and create designs to improve safety or to reduce fuel consumption or pollution
- developing on-board systems such as navigation and flight controls
- overseeing flight and ground testing of prototypes and analysing test data
- planning and managing the manufacture of aircraft and components
- specialising in research, design, testing, manufacture or maintenance
- writing technical reports and manuals.

Routes and choices while at school:

You will need to try to get at least five GCSEs at grades 4 or C or better, or equivalent qualifications. These should include English, maths and science. Other relevant subjects include physics, design and computing.



Skills You'll need:

- knowledge of engineering science and technology
- maths knowledge
- design skills and knowledge
- to be thorough and pay attention to detail
- science skills
- analytical thinking skills
- knowledge of computer operating systems, hardware and software
- knowledge of physics
- to be able to use a computer and the main software packages competently



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How to get into this role:

You can get into this job through:

- a university course
- a college course
- an apprenticeship
- working towards this role
- applying directly

College

You could do a higher national certificate (HNC) or diploma (HND) in engineering before applying for a technician level job with an aerospace company.

Subjects include:

- Level 4 HNC Diploma in Mechanical Engineering
- Level 5 HND Diploma in Aeronautical Engineering
- Level 5 HND Diploma in Electrical Engineering

To become a fully qualified engineer, you would then need to do more training.

Entry requirements

- 1 or 2 A levels, a level 3 diploma or relevant experience for a level 4 or level 5 course

Further information

Career tips

You can apply for aerospace engineering jobs directly if you've got qualifications and experience. For example, you might have worked in mechanical, electrical or electronics engineering.

You can find out more about careers in aerospace engineering from [Careers in Aerospace](#).



Career path and progression

With experience, you could specialise in a particular field like:

- aerodynamics
- fuel efficiency
- space technology
- investigating air accidents

You could also move up to become a project manager or consultant aerospace engineer.

Rates of Pay

The starting salary for graduate entrants is usually around £22,000 to £28,000 a year. With experience this can rise up to £45,000 a year. Senior engineers can earn up to £65,000 or possibly more.