

# AERONAUTICAL AND AEROSPACE ENGINEERING: A FUTURE IN FLIGHT AND SPACE EXPLORATION

Explore an exciting career that blends creativity, problem-solving, and technical skills to shape the future of air and space travel. Aeronautical and aerospace engineers work on innovative projects, designing everything from sustainable aircraft to cutting-edge spacecraft.



## QUALIFICATIONS AND PATHWAYS TO BECOMING AN AEROSPACE ENGINEER

1. **GCSEs:** Aim for strong grades in Maths, Physics, and Chemistry.
2. **A-Levels or Level 3 Qualifications:** Choose subjects like Maths, Physics, Further Maths, or Engineering.
3. **University Degree:** Most aerospace engineering roles require a bachelor's degree (BEng or MEng) in aerospace engineering, aeronautical engineering, mechanical engineering, or a related field.
4. **Apprenticeships:** Higher and degree apprenticeships offer an alternative pathway, combining work with study for qualifications.
5. **Professional Development:** Joining institutions like the Royal Aeronautical Society (RAeS) and Chartered Engineer status can support career growth.

## TYPICAL DAY IN AEROSPACE ENGINEERING

Aerospace engineers work in diverse settings, including offices, labs, and airfields. Here's a glimpse of a typical day:

- **Design & Testing:** Collaborate with teams to design new aircraft and test parts in simulators or wind tunnels.
- **Problem Solving:** Troubleshoot technical issues in live projects, from engine tests to materials research.
- **Research & Development:** Innovate sustainable materials, efficient engines, and advanced navigation systems.
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## GOOD TO KNOW



## STEPS TO GET STARTED

**Connect with STEM Groups:** Join aerospace clubs, engineering societies, and online communities.

- **STEM Events and Fairs:** Attend events like AeroDiscover or engineering career fairs to explore the field.
- **Get Practical Experience:** Consider internships or volunteer in engineering-related fields.
- **Explore Apprenticeships and Graduate Schemes:** Look for opportunities with aerospace firms to gain on-the-job training and real-world experience.

## LIFESTYLE AND BENEFITS

- **Job Stability:** The aerospace industry is expanding globally, offering long-term opportunities.
- **High Salary Potential:** Entry-level salaries start around £28,000-£32,000 in the UK, with higher earning potential as experience grows.
- **Travel Opportunities:** Aerospace projects often involve international travel to collaborate with global teams.
- **Impactful Work:** Engineers in aerospace contribute to life-changing technology, from safer planes to future space exploration.

YOU COULD WORK WITH  
**AIRLINES, AEROSPACE  
MANUFACTURERS,  
GOVERNMENT AGENCIES,  
OR SPACE EXPLORATION  
COMPANIES.**

## CAREER PROGRESSION AND SALARIES

- **Graduate Engineer:** Starting salary of £28,000-£32,000, focusing on foundational skills and hands-on training with real-world engineering tasks.
- **Junior Aerospace Engineer:** £32,000-£45,000. Engineers in this role work more independently, handling small projects or specific design aspects within a larger team.
- **Experienced Aerospace Engineer:** £45,000-£60,000. By this stage, engineers may lead technical teams, oversee large project components, and are often responsible for coordinating between departments.
- **Senior Aerospace Engineer/Team Lead:** £60,000-£80,000. With leadership roles, engineers manage entire projects or teams, handle client relationships, and shape strategic direction.
- **Chief Engineer/Director:** £80,000-£120,000+. Top roles involve overseeing company-wide engineering decisions, setting industry trends, and leading the next generation of engineers.

## CAREER PROSPECTS AND INDUSTRY GROWTH

The demand for aerospace engineers is robust and expected to keep growing. Key drivers include:

- **Sustainable Aviation:** A focus on greener aircraft and fuel-efficient engines.
- **Space Exploration:** Expanding programmes from agencies like NASA and ESA, as well as private companies.
- **Defence and Security:** Innovation in unmanned vehicles and surveillance aircraft.
- **Urban Air Mobility:** Development of air taxis and drones as urban transportation options.

## WORKPLACE ENVIRONMENT AND OPPORTUNITIES

Aerospace engineering offers both hands-on and research-focused roles in various environments, from high-tech labs to open-air testing fields. You could work with airlines, aerospace manufacturers, government agencies, or space exploration companies. Top Employers include Airbus, BAE Systems, Rolls-Royce, NASA, SpaceX, and the European Space Agency (ESA).



**AeroDiscover**  
Inspiring aviation & aerospace pioneers