MECHANICAL ENGINEER

SALARY

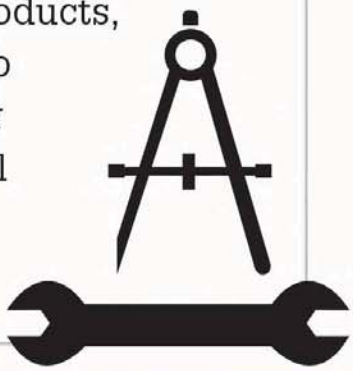
Junior mechanical engineer ★★☆☆☆
Lead mechanical engineer ★★★☆☆

INDUSTRY PROFILE

Broadest engineering discipline, covering hi-tech areas to everyday technologies • Excellent job opportunities overseas

JOB DESCRIPTION

As part of a production team, mechanical engineers design, build, test, and repair machinery that operate in many products, from dishwashers to automobiles to power stations. They use computer software to develop the mechanical devices, which they then build into working prototypes.



CAREER PATHS

Once qualified, a mechanical engineer is expected to join a professional engineering body and continue learning throughout their career. They may choose to specialize in one area of engineering or work on large-scale projects. Opportunities in sales and marketing, or a role in an independent consultancy, offer a path into the business side of the profession.

BUSINESS MANAGER Manages people and commercial activities in the engineering sector. These engineers usually have an interest in business, leading them to more corporate roles.

TECHNICIAN While in school, you may be able to find work as a trainee technician. This may involve installing and maintaining mechanical systems, but you will need to study part-time for a degree-level qualification if you wish to qualify as a mechanical engineer.

GRADUATE After completing an engineering degree, you can join a graduate training program at a large company or take an entry-level position in a smaller firm.

MECHANICAL ENGINEER You will have many choices in this field, from working on the design of aircraft engines to developing wind turbines or improving the performance of cutting-edge medical technologies, such as prosthetic limbs or artificial hearts.

SKILLS GUIDE

- Excellent communication skills for collaborating with colleagues on a range of projects.
- The creativity and innovation necessary to find working solutions to engineering problems.
- The ability to handle pressure while maintaining good working relationships.
- Good computer skills to work with Computer-aided Design (CAD) programs.
- A strong eye for detail and the ability to build and test working prototypes.

MATERIALS ENGINEER Develops and tests the properties of materials, such as their strength or resistance to corrosion, to see if they're fit for a specific purpose.

INDUSTRIAL PRODUCTION MANAGER Refines mechanical systems and deals with on-site problems that may arise at manufacturing facilities and production lines.

MINING ENGINEER Manages the safe operation of mechanized wells and mines for the efficient extraction of oil and minerals.

RELATED CAREERS

- **AEROSPACE ENGINEER** *see pp. 190–191*
- **AUTOMOTIVE ENGINEER** Works in production plants, designing and manufacturing road vehicles. An automotive engineer may also build race cars or other specialized vehicles.
- **BUILDING SERVICES ENGINEER** Designs, installs, and maintains machinery—such as heating, lighting, and plumbing systems—in buildings. Apprenticeships may be available to those with a high-school diploma.
- **MECHATRONIC ENGINEER** Develops products by combining mechanical, electronic, and computer components. These products include home appliances, cameras, and computer hard drives.

AT A GLANCE

YOUR INTERESTS Engineering • Science • Mathematics • Physical sciences • Design • Computers

ENTRY QUALIFICATIONS A degree in mechanical engineering is a minimum requirement; some employers require higher degrees.

LIFESTYLE Regular hours are the norm, though engineers in some sectors may need to travel or work overnight to meet project deadlines.

LOCATION Although the work is mainly office based, engineers may need to make frequent visits to manufacturing and testing sites.

THE REALITIES Higher education in mechanical engineering is notoriously tough. Ongoing learning is essential to keep up to date with new technologies.