Mechanical Engineer

Mechanical engineers design, develop, install and operate a wide range of machinery and mechanical equipment, ranging in size from small components to large plant and vehicles.

The Work

You could be:

- working on the construction and installation of new industrial equipment and machinery, and supervising their initial testing
- carrying out basic research into particular issues and problems in the design or manufacture of equipment
- using the results of research to modify the design of new equipment and machinery
- using computer-aided design and 3D modelling to create new designs
- testing and evaluating designs to ensure performance will be as expected
- responsible for maintaining equipment and machinery and ensuring that faults are diagnosed and put right as quickly as possible
- writing reports and giving presentations
- ensuring that health and safety procedures are followed and quality control is carried out.

Pay

The figures below are only a guide. Actual pay rates may vary, depending on:

- where you work
- the size of the company or organisation you work for
- the demand for the job.

The starting salary for mechanical engineers at graduate entry can range from £27,000 to £40,000 a year. With experience this can rise up to £65,000 a year or more.

Conditions

- Mechanical engineers work in a wide variety of locations, including offices, design laboratories, workshops and factories.
- If you work in production, the conditions can sometimes be noisy, dirty or dusty and you may have to wear safety glasses, footwear and headgear.
- Many engineers work normal hours, but if you are involved in continuous production in industry you may have to be on call outside normal working hours or to work shifts.

Getting In

- Most employers would expect you to have a BEng or MEng degree in mechanical engineering (SCQF Level 9). Other subjects with a high mechanical engineering content may be acceptable.
- For a degree course you would normally need 4-5 good Highers including Maths and Physics or a

technological subject.
- Studying for a Foundation Apprenticeship while in fifth and sixth year at school could give you entry to an HND (SCQF Level 8) or degree in Mechanical Engineering. Entry requirements vary between colleges, but you usually require 3 subjects at National 5 including English and Maths. You would be expected to have Higher Maths by the end of sixth year.
- A postgraduate qualification (SCQF Level 11) isn't a necessity, but can be useful, especially for registration as a Chartered Engineer.
- You may be able to qualify by other training routes.
- Relevant work experience, while studying, can be helpful.

There are job opportunities for mechanical engineers in a very wide range of organisations such as manufacturing companies, the construction industry, transport companies, defence industries, energy companies, the Civil Service and other public bodies such as local authorities and the National Health Service (NHS).

What Does It Take

You need to have:

- an interest in solving scientific and technical problems
- a creative, logical and practical approach to solving problems
- a high level of technical ability
- excellent IT and computer-aided design (CAD) skills
- good written and spoken communication skills
- business awareness.

You need to be able to:

- handle complex information
- plan, prioritise and organise programmes of work
- work to timetables and under pressure to meet deadlines
- write clear and concise reports and make presentations
- work on your own and also as part of a team
- lead and motivate others.

Training

- After gaining your degree and some further training with an employer, you can register with the Engineering Council as a professional engineer - either Incorporated Engineer (IEng) or Chartered Engineer (CEng).
- For IEng you need to have either a recognised Bachelor’s degree or a recognised HNC (SCQF Level 7) or HND plus further study to Bachelor’s degree level.
- For CEng you need to have a recognised Bachelor’s degree with Honours plus a recognised Masters degree (or equivalent), or a recognised integrated Master of Engineering (MEng) degree.
- The Institution of Mechanical Engineers (IMechE) operates the Monitored Professional Development Scheme (MPDS) which can lead to Chartered status.
- If you do not have any of the above qualifications, you may still be able to achieve IEng or CEng by other

approved routes. You can check these alternative routes with the Engineering Council or with the appropriate professional engineering institution.
- You might study part time for a postgraduate qualification.
- You must keep up to date with new developments throughout your career.

Getting On

- Mechanical engineers who first qualify as IEng can progress to CEng after further training and experience. This can open up a wider range of opportunities.
- All Chartered engineers can also apply for European Engineer Status (EurIng). This can be a distinct advantage as companies begin to operate more in international markets.
- You might also specialise in research and development, manufacturing and production, installation or maintenance.
- You might move into marketing or sales or general management.
- You could move into teaching and academic research in colleges and universities.
- Some highly qualified engineers become consultants offering specialist engineering services.
- There can be good opportunities to work abroad.

More Information

TheEngineering Council sets and maintains the standards of the engineering profession in the UK. It does so through over 30 professional engineering institutions which are Licensed Members of the Engineering Council.

The Tomorrow's Engineers website has more information on careers in engineering.

Contacts

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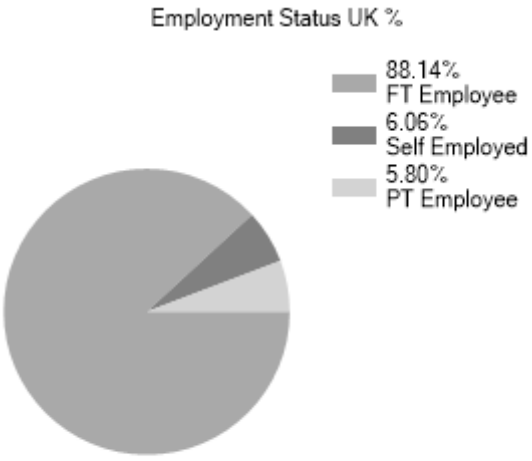
Facebook: www.facebook.com/imeche

Statistics



Past Unemployment - Scotland

No Claimant statistics available for Scotland.

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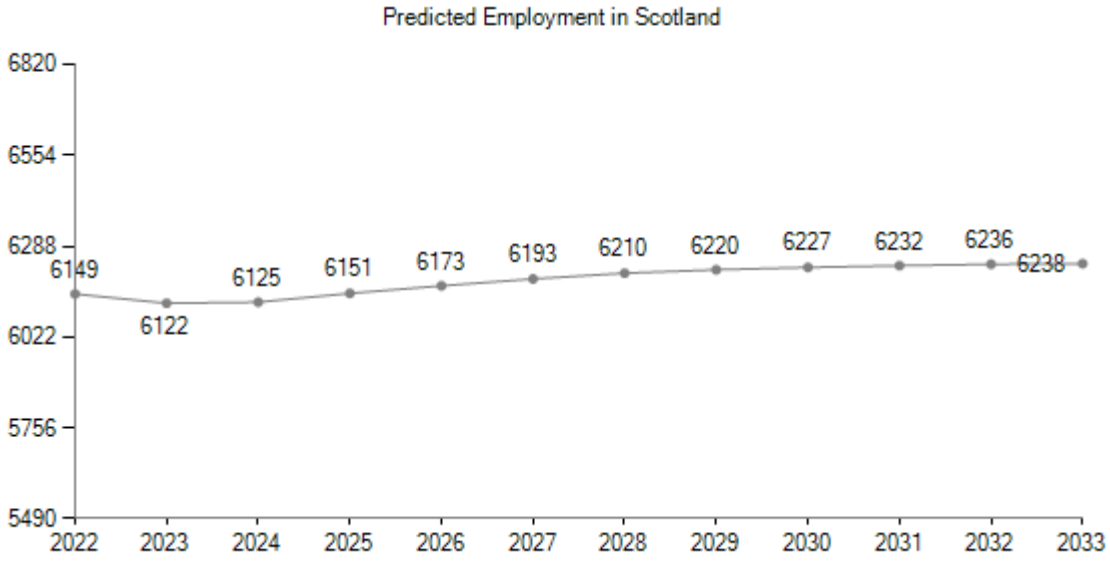

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