

Materials Scientist or Engineer

Materials scientists or engineers research, design and develop a range of materials. This could be plastics, metals, polymers and ceramics. They aim to make materials stronger, lighter and more environmentally friendly.

They may be called metallurgists or polymer engineers if working with one type of material.

The Work

You could be:

- examining the structure and properties of materials
- testing materials to see how they perform under conditions, such as heat or prolonged use
- choosing the best materials for a particular product
- developing prototypes and carrying out tests
- analysing test data using specialist computer software
- designing manufacturing processes and ensuring they run smoothly
- investigating reasons for component or structural failure
- researching how products and processes impact on the environment
- supervising a team of technicians and working with other professionals.

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 salaries for graduate materials scientists are in the range £22,000 to £26,000 a year. With experience or a postgraduate qualification starting salaries can be from £24,000 to £34,000 a year, rising to around £50,000 a year.

Conditions

- Materials engineers mainly work in a laboratory or an office.
- You will probably visit manufacturing sites and suppliers of materials.
- You would usually work regular hours, but some overtime may be required to meet deadlines.
- At times you might have to wear protective clothing, such as a lab coat, safety goggles and face mask.
- There will be strict health and safety procedures to follow.

Getting In

- You usually need a degree (SCQF Level 9-10). Relevant subjects include materials engineering, materials science, polymer engineering, metallurgy or applied chemistry or physics.

- Entry to a degree is usually 4-5 Highers including Maths and a science or technological subject.
- If you wish to gain incorporated or chartered engineer status you must make sure that the degree you study is accredited by the [Engineering Council](#) or one of their affiliates.
- Edinburgh Napier University offers the MSc Advanced Materials Engineering postgraduate degree accredited by the [Institute of Materials, Minerals and Mining](#).
- You may be able to get in with an HND (SCQF Level 8) or through other training routes at technician level.

Materials scientists or engineers work in a wide range of industries. These can include construction, aerospace, plastics, paper, textiles, oil and gas. There are also jobs in engineering companies to design and build production plants.

What Does It Take

You need:

- an aptitude for maths, science and IT
- analytical and problem solving skills
- excellent attention to detail
- good organisation and planning skills
- the ability to work in a team and on your own
- the ability to make decisions
- good communication and presentation skills
- commercial business awareness
- a willingness to keep up to date with new developments.

Training

- After gaining your degree and some further training with an employer, you can become an Incorporated Engineer (IEng) or Chartered Engineer (CEng) with the [Engineering Council](#).
- You could register with the [Science Council](#), either as a Registered Scientist (RSci) or Chartered Scientist (CSci).
- You must be willing to keep up to date with changes in a fast moving industry.
- [The Institute of Materials, Minerals and Mining \(IOM3\)](#) offers training courses for Continuing Professional Development (CPD).

Getting On

- Materials scientists or engineers who first qualify as IEng (or RSci) can progress to CEng (or RSci) after further study, training and experience. This can open up a wider range of opportunities.
- With experience and ability, you may be able to move on to senior scientific or management positions.
- You might go into teaching and academic research in colleges and universities.
- You might become a self-employed consultant, offering specialist engineering services.
- You may be able to work abroad.

More Information

The [Tomorrow's Engineers](#) website has more information on careers in engineering.

Contacts

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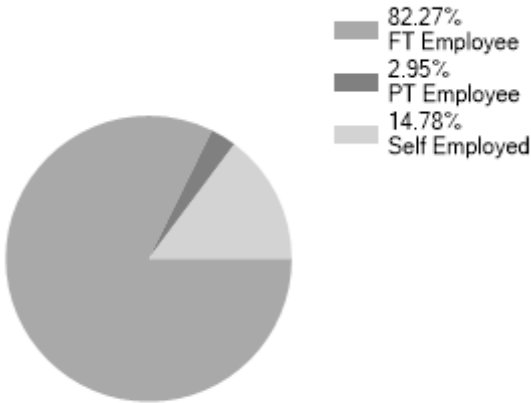
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Statistics

Employment Status UK %



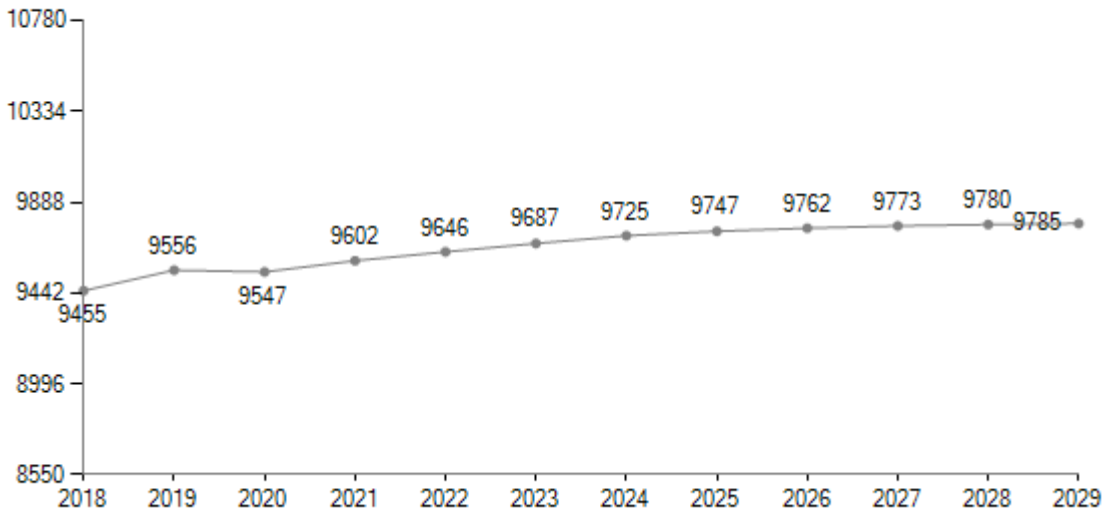
Past Unemployment - Scotland

Date	Unemployed
Dec 2018	0.02%

LMI data powered by [EMSI UK](#)

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Predicted Employment in Scotland



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