

## Mathematician

Mathematics underpins scientific research and development, as well as finance, engineering, economics and ICT. Graduates in either pure maths or applied maths use mathematical calculations in a wide range of work sectors to help describe, analyse and solve problems. Many jobs that require a high level of expertise in maths don't have the word 'mathematician' in the title. Terms such as analyst, modeller, programmer and even engineer may be used.

### The Work

You could be:

- identifying problems in discussion with colleagues or business clients
- collecting data from statistical, experimental or other sources
- designing experiments and research projects to test mathematical theories
- making calculations, using the relevant information available, often using computer programs
- designing mathematical models to interpret data
- analysing results to provide information on different areas such as how materials behave in production, weather patterns, efficient aircraft design or future trends in economic development
- presenting the results using tables, graphs, diagrams, computer models or written reports.

### 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 mathematics graduates range from £30,000 to £35,000 a year. With postgraduate qualifications, salaries can rise to around £40,000 a year or more. Maths graduates earn some of the highest salaries.

After a few years' experience, applied mathematicians working in IT can earn up to around £55,000 a year. With more experience, and moving into a senior position, you could be earning £70,000 or more, especially in the financial sector.

### Conditions

- You would work mostly in an office or a laboratory, using computers.
- Hours might vary depending on the type of work you do – you may have to be flexible to meet the needs of a particular type of work.
- In some jobs you may have to attend conferences and visit other institutions or companies, so some travel may be involved.

## Getting In

- You would need a degree in mathematics (SCQF Level 9). For entry to a degree you need 4-5 Highers including Maths with English at least to National 5.
- For some jobs, you may need a specialist postgraduate qualification (SCQF Level 11).
- Experience in computing is helpful and may be necessary for entry.

With a mathematics degree you can work in a wide range of jobs including business, accountancy and finance, teaching, engineering, electronics, scientific work (including meteorology and oceanography), economics, ICT and operational research.

You might work in a research institution, a university, the Civil Service, in business, finance or industry. There are also opportunities in information technology.

## What Does It Take

You should be able to:

- handle abstract ideas and complex information
- manipulate numbers
- process data clearly and accurately
- make sound judgements.

You should have:

- a logical and methodical approach to your work
- good written and spoken communication skills
- an analytical mind
- an interest in numbers and mathematical processes
- good reasoning skills
- excellent problem solving skills
- computing skills.

## Training

- You do specific training on the job.
- You would keep up to date with research techniques and developments in your field by attending seminars and training events.

## Getting On

- There is a wide range of jobs for mathematicians and you would probably specialise in one area of work.
- With experience and ability, you could move into senior and management positions.
- You can do further postgraduate study – it may be required for your job.
- If you do follow the higher education route and have significant experience you can gain chartered status as a Chartered Mathematician (CMath) or a Chartered Mathematics teacher (CMathTeach). See the

website for the [Institute of Mathematics and its Applications \(IMA\)](#) for more details.

## Contacts

### **Civil Service Fast Stream**

Website: [www.faststream.gov.uk](http://www.faststream.gov.uk)

Facebook: [www.facebook.com/faststream](http://www.facebook.com/faststream)

### **London Mathematical Society (LMS)**

Website: [www.lms.ac.uk](http://www.lms.ac.uk)

X: @LondMathSoc

### **Mathematical Association (MA)**

Tel: 0116 221 0013

Email: [office@m-a.org.uk](mailto:office@m-a.org.uk)

Website: [www.m-a.org.uk](http://www.m-a.org.uk)

X: @Mathematical\_A

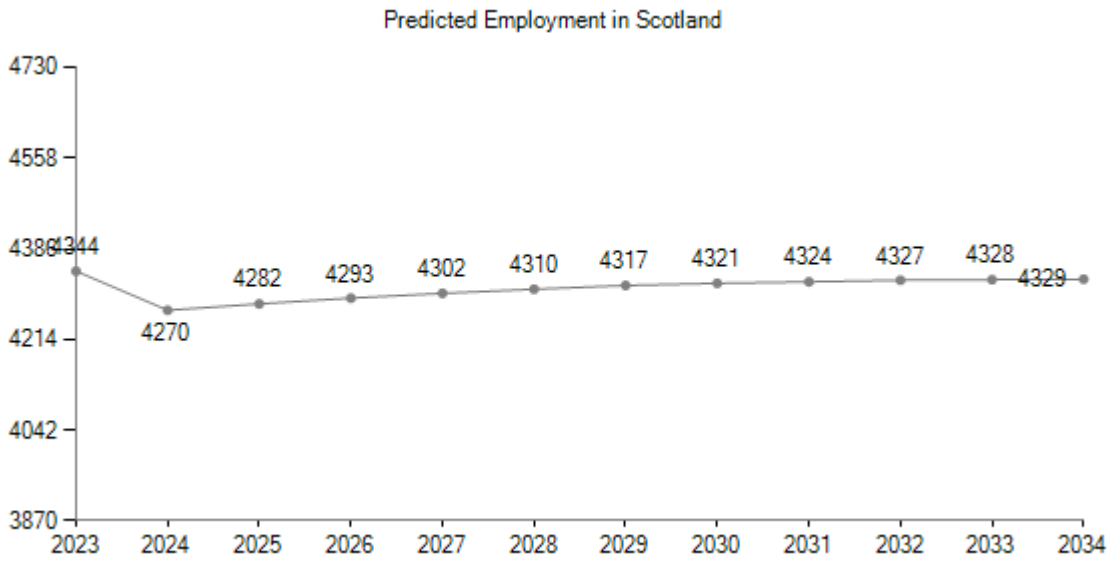
Facebook: [www.facebook.com/groups/136275943093334](http://www.facebook.com/groups/136275943093334)

**Statistics**

Employment Status : Not available this career.

**Past Unemployment - Scotland**

No Claimant statistics available for Scotland.



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