



Llywodraeth Cymru  
Welsh Government

# Spotlight on Science, Technology, Engineering & Maths

[www.cymru.gov.uk](http://www.cymru.gov.uk)

## QUALIFIED FOR LIFE: FOCUS ON SCIENCE

You've probably heard the term STEM? But what does it actually mean? Well, STEM subjects are Science, Technology, Engineering and Maths.



## SO WHAT DOES THAT MEAN TO JOBS AND THE ECONOMY?

A strong economy needs people with STEM qualifications, skills and knowledge to enable it to grow, and to bring prosperity to Wales. Industries need to use innovative technology to remain competitive and profitable in a difficult world market.

## SO WHAT'S INVOLVED?

The development of cutting-edge technologies, communications, advanced manufacturing and creativity are the drivers of future growth in the Welsh economy, leading to higher wealth and more jobs. Developments in science and engineering help to reduce the country's carbon footprint and provide opportunities for successful entrepreneurship.

## WALES WILL NEED...

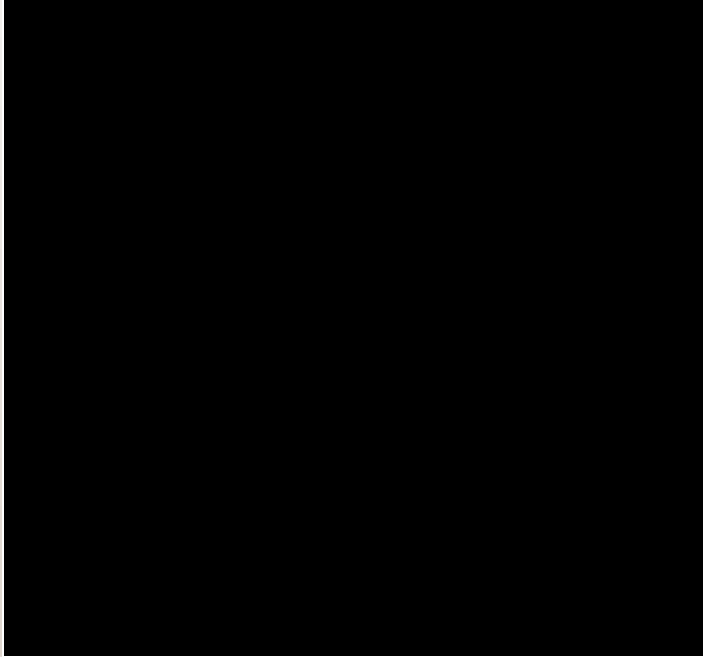
Engineers of all types, chemists, biologists, physicists, geneticists, ICT engineers and technicians, computer programmers, mathematicians, designers, and technologists.

But it's not only Welsh STEM employers that need STEM skills...

All employers in science, high-tech and IT industries, and the majority of employers in banking, finance, manufacturing, engineering, energy, construction, and the creative industries, need the technical competencies that STEM graduates have. Over half of employers from all industries value the general skills, like problem solving, analytical skills and numeracy, that studying a STEM subject helps develop.



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## WHAT DOES THE FUTURE HOLD?

### **Jobs of the future will increasingly rely on STEM qualifications.**

The demand for STEM graduates and postgraduates will grow much faster than for other subjects. Growth in employment is expected to be fastest for those qualified at the highest levels. **But...** employers will also need STEM trained people for technical, process operative and skilled trade roles that depend on the recruitment of apprentices.



## WHAT SKILLS DO I NEED?

Employers struggle to recruit STEM people, and we expect this demand to continue. There is currently a shortage of people with STEM skills at every level.

Employers report difficulty recruiting STEM trained staff at all levels including graduate, apprentice, technician and, especially, postgraduate level. Graduates with STEM related degrees are in demand in Wales. STEM graduates are more likely to be employed or go on to further study than graduates as a whole.

## DID YOU KNOW?

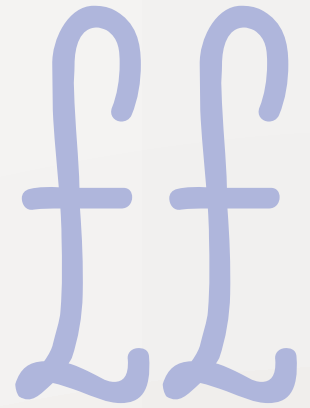
- There are over 300 Life Science companies in Wales employing 10,000 people.
- Wales is home to some of the world's largest aerospace and defence companies like Airbus, GE Aviation, BAE Systems, Contour and Nordam.
- Future demand for engineers in Wales will be high, with 8,000 needed up to 2022.
- 30,000 people work in the Creative Industries in Wales.
- The technical skills most needed in West Wales, the Valleys and North West Wales are: Broadcast engineering, Multi camera direction, Dubbing Editors, Archiving and high level crafts like Riggers, Electricians and Lighting Specialists.
- There are 226 renewable energy companies in Wales, and fast growth is expected.
- Females consistently achieve higher grades than males in IT-related subjects, but they fill just 16% of IT & Telecoms professional occupations.

## DO I NEED WELSH LANGUAGE SKILLS?

If you work in Wales, having Welsh Language skills is often an advantage. In the STEM related industries the demand for Welsh varies, being relatively low in the high-tech, advanced manufacturing, engineering and other global industries, but quite high in service type industries like Banking and Finance, Media and Film Production and Education.

## WHAT CAN I EARN?

STEM graduates earn more on average than non-STEM graduates – but only if they work in STEM or Finance. The earnings of graduates in medicine, physical sciences, mathematics, computing and engineering are higher than average, whereas biology, biological sciences (e.g. Psychology) and nursing tend to have lower than average salaries. Medicine, Dentistry & Veterinary Science, Architecture, Building and Planning, Mathematics, Computing and Physical Science, are the STEM subjects with higher than average earnings...



## WHAT DO I NEED TO DO?

If you've got the right skills, STEM related jobs can be a good career option for anyone.

From reading this, you will know that you need to get as qualified as possible. Remember that it's not just university that could be an option. Apprenticeships and vocational courses could also be available. So whether you're interested in training, further education, apprenticeships or Jobs Growth Wales opportunities, you can search for all of them at: [www.careerswales.com](http://www.careerswales.com)

**Research, research, research!** You wouldn't download music without sampling first. One of the biggest keys to your success is to know as much as you can about the work you're interested in. Ask friends and family if they know anyone that works in a STEM related job and speak to them. Speaking to a careers adviser can really help, especially once you've done lots of research! Careerswales.com can really help get your research underway!

Don't forget, one of the 3 main reasons employers give for not employing applicants is lack of work experience. So, if you want to wow your employer and get the advantage you need, start finding out about Work Experience opportunities.

Connect with Careers Wales  
to find out more about working in STEM...

Connect with Careers Wales: [www.careerswales.com](http://www.careerswales.com)  
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