

Why choose a STEM career?

It can be hard for young people to make the link between what they study in the classroom and where these subjects can take them in the world of work. Here are three important points about where studying STEM subjects can take you:

- There is a huge variety of exciting career paths open to people with STEM based skills;
- Young people with STEM qualifications are in demand in the job market and have good long term career prospects;
- Young people with STEM skills can make a big contribution to many of the big challenges facing society today: from protecting the environment, discovering new medicines or developing new methods of communication.

It is often a surprise to people just how many different careers are based on STEM skills.

There are jobs to suit all personalities and all skill levels – including entry level opportunities with good GCSEs, BTEC Diplomas, degrees - right up to PhD level. There are opportunities to work in a range of different environments: from field work to manufacturing plants; offices to laboratories; schools to hospitals; the depths of the oceans to outer space.

Almost every organisation today relies on people with STEM qualifications – including technology skills to run their IT systems and mathematics skills to manage their accounts.

People with STEM qualifications are very employable. Choosing STEM subjects opens up options later in life. The CBI (Confederation of British Industry) estimates that:

- Between 2008 and 2014 the UK will need 2.4 million more people working in science and technology based jobs;
- 59% of employers expect to find difficulty recruiting enough people with STEM qualifications in the next 3 years;
- Graduates earn £160,000 more than non-graduates in their working life time, and STEM graduates tend to earn nearly £250,000 more;
- Chemistry and Physics graduates will earn on average over 30% more during their working lifetimes than other A-level holders;
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Many large businesses offer STEM based apprenticeship programmes paying for apprentices to go on to take a university degree – e.g. Telecoms - BT, Aerospace - Bombardier, Energy – Phoenix Gas, Accountancy – KPMG.

Most science and engineering companies provide training opportunities and map out long term career paths. There is a demand for people with STEM skills globally and careers can often include the opportunity for international travel. So, young people

who study STEM subjects are likely to be valuable and in demand in the local and global job markets.

Benefits of Choosing a STEM Career

We've already touched on some of the reasons why a career in STEM could be attractive to a young person currently in education. Here is a handy list with some supporting facts and figures to help explain the case further*. (*Source : European Schoolnet Parents' Guide to Careers in Science, Technology, Engineering and Mathematics - Oct 2014)

Excellent Job Prospects

Employment in STEM occupations is projected to grow almost two times faster than the average for all other occupations. The numbers break down as follows:

- All occupations (European average): 10% growth
- All STEM occupations: 19% growth
- Life science occupations: 27% growth
- Computer and mathematical jobs: 22% growth
- Physical science jobs: 15% growth
- Engineering positions: 11% growth

To put one of these figures into context, the European Union calculates that by 2015 there will be a shortage of over half a million Information and Communications Technology (ICT) workers in Europe.

Competition for jobs is decreasing

The European Union would like to see 40% of its citizens getting STEM qualifications at college or university level in order to plug the current skills gap. In fact, during the last decade the number of STEM graduates has actually fallen to around 17%, putting us behind China, India and Japan.

Although we are making every effort to reverse this trend, it seems that at least for now, what is bad news for the employer is good news for the graduate. This situation favours STEM professionals as companies in Europe struggle to attract highly skilled graduates from outside the EU.

STEM opens many doors

Technology and STEM skills are crucial to the modern world and will only become more vital with the advent of new technologies such as renewable energy and nanotechnology to name but a few. STEM skills will broaden options later in life, rather than narrow them. Many careers will be open to someone who continues with STEM subjects post-16, but someone who avoids STEM subjects past this age will probably find that it is very difficult to go back and study them later on. In addition,

Science and Mathematics are valued and useful for the majority of careers and are not in any way limiting.

STEM jobs are well-paid jobs

STEM careers provide good salaries. In addition to the technical skills required to work in the sector, students of STEM qualifications will acquire and develop additional skills which are highly sought after by employers in all fields such as problem solving, communication and analytical thinking skills. These skills are high value to any employer and as a result lead to well-paid jobs for young people who possess these skills and qualifications.

Diverse Entry Routes

Whatever the ability level of the young person, there is a viable entry route into the sector from GCSE level upwards. This can be achieved via an apprenticeship programme, employer-led training programme or by pursuing formal further or higher education qualifications at college or university level.

Challenging and Exciting Careers

Not all scientists wear white coats or work in laboratories! Equally, not all engineers wear dirty overalls, hard hats and work in factories! Scientists and engineers can be found in all types of employment areas from the more traditional offices, laboratories, building sites and factories to the less conventional - in a space station, in the depths of a rainforest, controlling the sound in a theatre or assessing athletes' performance on a running track.

Opportunities to Travel

In the 21st century world, the companies that have set themselves apart are the ones that are able to and willing to work internationally. Breaking down cultural and language barriers and sharing ideas have allowed businesses to come out ahead in innovation and creativity, particularly within the STEM sector. You just have to look at the international profile of many recent inward investors to Northern Ireland in recent years – Liberty IT, CME Group, Citi Group to name but a few.