Smart Futures: Working in Maths $^{2+2}$

What skills are needed?
What are the career paths?
What subjects should I study?

Smart Futures is a government-industry programme providing secondary school students in Ireland with FREE access to **role models** working in **science, technology, engineering and maths** (STEM).

Keeping up to date on the many career paths available in STEM isn't easy. It's a fast-moving area, with multiple routes to entry and a high demand for graduates. From designing video games to medical devices, improving food science and sport, and even saving lives through cancer research, students need real insights into the many exciting and diverse STEM career opportunities in Ireland.

Smart Futures offers **free career talks** to all secondary schools in Ireland to give students the chance to ask practical questions about working in STEM and encouraging them to look beyond stereotypes.

DID YOU KNOW ?
The online payments company Stripe, founded by two Limerick brothers, Patrick & John Collison, has been valued at €4.5 billion

Teachers, guidance counsellors, TY coordinators etc. can register via the '**Resources**' section of **www.SmartFutures.ie** and request career talks at any time of the year. Talks are typically 40 mins, taking place in your classroom.

These talks are great for inspiring students to think differently about how they choose their school subjects, life after school and preparing for jobs of the future!

Why not invite a STEM volunteer to attend your parent evenings?

Visit **www.SmartFutures.ie** to read 100+ STEM career stories, watch videos, download posters and career infographics.

Smart Futures is managed by Science Foundation Ireland in partnership with Engineers Ireland.

DID YOU KNOW ?
Financial giants like Citigroup, Mastercard and State Street all have Research and Development (R&D) innovation labs in Ireland

Working in Data Analytics

Data analysis is all about collecting, organising, and understanding statistical information to make it useful to a range of businesses and organisations. A data analyst examines information using data analysis software tools. The results they pull from the raw data helps their employers or clients make important decisions by identifying various facts and trends.

Also look up: Data Science, Data Visualization, Quantitative Research, Statistics

What does the job involve?
- Using computerised models to extract data of interest
- Performing initial analysis to assess the quality of the data
- Removing errors or corrupted data
- Interpreting data to identify trends or patterns
- Using data to make predictions on future trends or behaviours

What skills are needed?
- Excellent IT skills
- A high level of accuracy and attention to detail
- Strong skills in code like SQL and Oracle
- Ability to analyse, model and interpret data

Typical employers
- Consultancy firms
- Public sector organisations
- Social media companies
- Telecommunications firms
- Universities and Research bodies
- Banks and insurance companies

Typical qualifications
Typically, a degree in statistics, mathematics or a related subject, like economics or data science. Other degrees with modules on statistics e.g. social science or computer science etc. may also provide an entry route. Alternative routes may include Post-Leaving Certificate (PLC) qualification in a related subject area.

Working as a Financial Controller

A financial controller ensures that the accounts of a business are correct and meet regulatory and tax requirements. They work directly with the finance director of a company and are involved in the day-to-day financial activities of the business, including bank and balance sheet reconciliations and VAT returns. A financial controller is responsible for setting and monitoring targets, while keeping an eye on the performance of company departments to ensure they meet goals.

Also look up: Credit Controller, Financial Analyst, Management or Chartered Accountant

What does the job involve?
- Financial modelling and analysis
- Cash management and preparing VAT returns
- Responsible for payroll process, budgets and forecasts
- Overseeing and managing the finance team

What skills are needed?
- Strong numerical skills
- Proficiency in IT
- Crisis management skills
- Analytical skills
- Leadership
- Business intelligence

Typical employers
- Professional accountancy firms
- Commercial organisations
- Industry
- Government departments

Typical qualifications
You must be ACA, ACCA, QFA, CFS or CIMA qualified. Typically, a degree in business or accountancy is required. Subsequently, a Qualified Chartered Accountant (QCA) qualification. Alternative routes include a Post-Leaving Certificate (PLC) qualification in a related course or a financial services-related apprenticeship.

DID YOU KNOW ?
Fintech, or Financial Technology, refers to technology used to make banking and financial services more efficient

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Working in Computer Science

Computer scientists are scientists and mathematicians who develop new ways to process, understand, store, communicate and secure data online. They design software and computing procedures, and work on the physical components of large computer systems.

Also look up: Computer Engineer, Information Scientist, Software Scientist

What does the job involve?
- Solving computing and maths-related problems and challenges
- Researching/developing new products and designing hardware
- Researching modelling procedures
- Working as part of a research team with programmers, IT professionals, and mechanical, electrical or software engineers to solve problems
- Investigating technology such as artificial intelligence, robotics or virtual reality
- Improving performance of existing computer systems and software

What skills are needed?
- Excellent maths and computer skills
- Ability to organise large amounts of information
- Logical thinking / analytical thinking
- Excellent attention to details

Typical employers
- Research centres
- Financial service providers
- Large computer/software companies
- Government agencies
- Social media companies
- Large manufacturers

Typical qualifications
A computer science or information technology degree is the norm. Gateway degrees include Electronic Engineering, Software Engineering, Physics and Mathematics. Alternative routes can include a Post-Leaving Certificate (PLC) qualification in a related course e.g. general computing/IT, progressing to a degree course.

Explore more STEM career pathways at **www.SmartFutures.ie**

Next Steps?

So now you've read some examples of STEM careers, there are so many more still to explore! From nanotechnology to games development, robotics, artificial intelligence and even Space exploration, maths offers a number of fulfilling career opportunities, to help improve lives and the world we live in.

Thinking about #STEMcareers? Follow your passion and #DoWhatYouLove!

Who can I talk to?
Before choosing your school subjects, CAO options or PLC course, ask your teacher, guidance counsellor or TY coordinator to register on **www.SmartFutures.ie** for FREE career talks. Real people working in STEM can visit your class and answer your questions. The website also has 100+ examples of people's STEM career stories, videos and more!

How can I get involved?
There are hundreds of free STEM-related events and activities going on around the country, here are just a few:

- ScienceWeek.ie (November)
- EngineersWeek.ie (March)
- SpaceWeek.ie (October)
- SciFest.ie
- MathsWeek.ie (October)
- TechWeek.ie (April)
- CoderDojo.com
- GirlsHackIreland.org

Further resources?
Looking for information on PLCs, apprenticeships, course points or subject requirements? Visit:

www.CareersPortal.ie
www.CareersNews.ie
www.Qualifax.ie
www.Collegeaware.ie

www.GradIreland.ie
www.plccourses.ie
http://FIT.ie
www.STEPS.ie

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