# Dukies Careers Week Resources – Wednesday 16th March

# MEDICAL, ENGINEERING, SCIENCE & MATHS

*Good morning, and welcome to Wednesday's resources for our Careers Week. Today, we will be looking at careers in the medical and healthcare sectors, and in Engineering, Science and Maths.*

## Medical and allied professions

The National Health Service (NHS) is the largest employer in the United Kingdom, with over 1.5 million people currently working here – in over 350 different occupations. Many people, when talking about careers in the NHS, will only think of doctors and nurses, but there are so many different opportunities in the NHS.

Yes, of course, there are doctors and nurses, but also careers available in dentistry, healthcare science, midwifery, pharmacy, psychology and mental health, public health, the ambulance service, occupational therapy, radiography – the list is almost endless, and this doesn't even include the many 'non-patient facing' roles, such as Domestic Services (cleaning, catering and hygiene), Estates Services – maintenance, buildings, electrical, health and safety – and Support Services, such as transport, porterage, repairs, human resources, finance, payroll, marketing and public relations. There are even Hospital Chaplains and Librarians who work in the NHS.

The main NHS website, where you can start to discover these 350 career options is here: Health Careers |. From this site, you can access all sorts of different information, including a quiz to 'help you find your career, which takes about 5 minutes to complete: Take our careers quiz | Health Careers.

Turning specifically to Medicine – a five-year university course (usually followed by further training). This is normally the most competitive subject to enter at age 18. The usual A level requirements will be at least an A in both Chemistry and Biology, normally with a further A grade in either Maths or Physics (some Medical Schools will accept Psychology or other, usually science related subjects as a third A level). Even with these grades, entry is not guaranteed – there will be other stages, including taking the BMAT (Biomedical Admissions Test), or the UCAT (University Clinical Admissions Test) examinations, usually early in Year 13. Gaining some relevant work experience during Years 11 and 12 will also be required to demonstrate a passion for helping others.

So, entry into Medical School can be extremely challenging, but there are many other related subjects on offer with slightly lower grade requirements. For full details, see: Medicine and allied subjects (ucas.com)

However, there are other ways of entering the medical and allied professions other than the traditional five-year university route. See this link for details of apprenticeships that are available to move into medical, dentistry and nursing routes: Medicine, dentistry and nursing (ucas.com) – in the last 5 years, over 70,000 students have started apprenticeships within the NHS.

Here is a short video clip from Will, who is currently studying medicine at University. Here he talks about his motivations and the challenges of living with strangers, and has some useful tips for anyone considering university in any subject. Meet Will - Medical Student at University - YouTube

Paramedics – quite literally, lifesavers – are a vital part of our emergency services. Hear from Nicola, who realized a life-long ambition to be 'on the front line': https://youtu.be/EEs4JvhkvMI

Finally in this section, here is a slightly longer clip, showing a variety of young people who are studying nursing and occupational therapy. There are also comments here from a Nursing Manager, discussing how much authority and responsibility nurses now have. Inspiring Males Occupational Therapy and Nursing - YouTube

# Engineering

Firstly, we should understand that the term 'Engineering' is so wide, we need to actually look at how many different types of engineers there are. From working through a high-powered microscope (genetic engineering) to designing and building the next craft to land on the moon (aerospace engineering), the range is huge - there is not even any recognised or agreed number of how many categories there are. Some say five – chemical, civil, electrical, industrial, and mechanical – but look at this, which suggests at least 18 different disciplines – and even this list is not exhaustive: Types of Engineering | NACME - NACME Meanwhile, this article suggests 46 different categories: 46 Different Types of Engineering, Career Options for Engineers | Types of All

So, how could we start to narrow down these terms to find the type of engineering we might be interested in? A good place to start would be the UCAS website, which has plenty of information about the range of courses available: Engineering and technology (ucas.com)

Of course, there are lots of other ways to explore what type of engineering might suit you. Here's a short quiz which might give you some ideas: Meet the future you | Home (mtfy.org.uk)

The IET – Institute of Engineering and Technology – has a lot of useful information on careers within engineering: Career & Learning - The IET

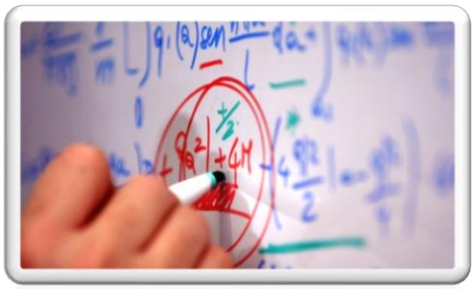
Another short video, this one explaining how engineering is an integral part of STEM (Science, Technology, Engineering, Maths): https://youtu.be/3bnMBhO0LnU

Think engineering is just for boys? Think again. https://youtu.be/-S7gtpLI0RE is an interview with Diana, a Chief Technician at the Dyson Centre for Engineering Design.

Not only are more and more women considering a career in engineering (remember our profile of Dukie Daisy Yorke on Monday), it is plain that many large companies are now actively looking to recruit here: https://youtu.be/RSHP_XW8Dak

Finally in this section, the STEM Hub – based locally at Canterbury Christ Church University – has lots of profiles of engineers – female and male - who all volunteer their time to support the next generation to make informed choices. STEM Career Profiles (thestemhub.org.uk)

# Science & Maths



If trying to sum up careers in healthcare and engineering in one information sheet is difficult, then covering the vast array of careers available for students who study sciences and Maths is even more of a challenge. The Science Careers pathways website: www.sciencecareerpathways.com/a-z-of-roles/ has a list of 200 different roles, with information for all of them showing the sorts of qualifications you would need to gain to follow these paths.

Home - Maths Careers – gives an overview of the many different types of careers that can be linked to Maths. Rather like English, it is known as a 'facilitating' subject, meaning that it can go with many other subjects to offer lots of opportunities – particularly sciences and business studies.

Each of the three main sciences have their own Royal Societies offering lots of ideas and careers advice:

Chemistry career decisions (rsc.org)

Royal Society of Biology (rsb.org.uk)

Phys.org - The Royal Society

Institute of Physics - For physics • For physicists • For all : Institute of Physics (iop.org)

Career Talks (thestemhub.org.uk) – this is a wonderful resource, full of lectures and talks with scientists and mathematics experts on subjects as wide as windfarms, how BT actually works, and what a Biomedical Scientist actually does.

There are literally hundreds of clips of scientists taking about their careers on Articles Archive - icould. However, my favourite is this, where Maggie talks about her work as a Space Scientist and Scientist Communicator https://youtu.be/IbdRGKfPhfY - she actually designs and builds satellites.

Meanwhile, this link will take you to 83 stories of where Maths could take you: Articles Archive - icould

*So, whether you think your career might be in medical, engineering and scientific careers, hopefully there is something here to get you thinking. Tomorrow, we will look at careers in business and law. If you have any questions, email me, or drop into the Library for a chat.*

*Stephen King, Careers Leader*