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3 INDUSTRY SECTORS COVERED IN DETAIL:

- Engineering
- Mineral Extraction
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June 2019

Issue 12

Through her Apprenticeship Tasmin developed the skills to build a successful career. You could too.

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GET THE CAREER YOU WANT WITH THE SKILLS EMPLOYERS NEED

In 2018 Pearson partnered with the CBI* to ask representatives of over 28,000 UK businesses what skills they needed to thrive.

For young people ambitious for a fulfilling career, there was optimistic news: 79% planned to recruit for more roles needing higher skill levels and 85% indicated they would increase investment in workforce training.

The research painted a positive picture - but with a warning note: 66% of businesses feared there wouldn't be enough skilled candidates to fill those vacancies.

We've talked to successful young professionals across the UK about how they got the knowledge and skills they need for their chosen career. They took many different pathways, including Apprenticeships, university and FE College courses. And many combined those routes to suit their own unique ambitions and circumstances.

But they all had one thing in common: they chose a career-focused qualification offering practical learning in real-life scenarios.

THEY CHOSE BTEC.

So here's their advice to young people today choosing their options and taking the first steps into their future careers:



RYAN'S STORY:

"My confidence has shot through the roof after taking a BTEC"

Ryan Kenny took a BTEC in Information Technology and now travels the globe for Stanley Black and Decker as an IT Manager:

"BTEC has been crucial for preparing me for the career I have - and my career aspirations for the future."

"It's given me the confidence, the knowledge and the experience to take what I've learned and apply it. I'm holding meetings and conference calls with people who have 15 years in the industry. I'd like to be a Chief Information Officer by the time I'm 30."



YVAN'S STORY:

"My BTEC was like a training course for the career I have now"

Yvan Zahui sees his BTEC Level 3 in Sport and Exercise Science as the launchpad for his career as a fitness coach for elite athletes:

"BTEC is more practical in the way you learn - you can bring those skills straight into employment. If you want a course focusing on the skills and knowledge you need for your career, I'd definitely recommend a BTEC."



RACHNA'S STORY:

"BTEC lets you gain practical skills"

Rachna Udasi applied the skills from her BTEC Level 3 in Business to starting her own coffee business while still at school:

"A BTEC helps you know what's happening in the current world rather than just learning from a textbook. I had to research about consumer interactions and the market - and I applied it to my own coffee business."

"I think BTEC puts me one step towards where I want to be." cameraman with a BTEC."

It's reassuring news for UK PLC - young people with passion, ambition and drive are out there, and there are BTEC courses to help them fulfil their potential. So if Ryan's, Yvan's or Rachna's stories strike a chord with you, why not go to btecworks.com, and find out how to make a BTEC work for you.



* 11th CBI Education and Skills Annual Report 2018



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First 

ABOUT CAREERMAG

Careermag is designed to provide quality information about careers and qualifications. Careers are not a linear path and you cannot know what you don't know. We aim to inspire and inform about all sorts of careers and opportunities, now and in the future. We look at all the pathways you can take, be that vocational, academic and/or professional.

Look out for our Special Editions and Careermag for Parents!

We welcome your input! Please get in touch if you have any questions or something to contribute.

Contact the Editor at info@careermag.co.uk

ABOUT APPRENTICESHIPS

An Apprenticeship lets you learn and earn at the same time. You work for an employer and pick up professional skills on the job – in anything from accountancy to zoology – while also going to college. You can use an Apprenticeship to gain nationally recognised qualifications right from Level 2 to Degree level.

WELCOME TO CAREERMAG

Spring is here!

And so is exam season... but not to worry. The end is in sight! We have lots of useful articles to help you, whether you need support to get you through or information to help you plan what's next.

This issue has a big focus on all things engineering. You may be surprised just how vast this sector is. Our features this month dispel myths and misconceptions, as well as exploring many opportunities out there. Engineers do great things for the environment and help with many social issues.

Feeling creative? Ever thought about working in the advertising industry. We have a look at what a creative career in advertising looks like.

If you are thinking about going to university, have a look at our features on what to find out before you go, what to do if your grades don't quite pan out and how to finance going.

It is exciting times. We wish the best of luck and hope you have a fantastic summer.

Best wishes

The  careermag Team

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Whether you're just about to start on an IET accredited course at university, are already enrolled on one, or even if you are working through an IET approved apprenticeship, we have funding available to support your engineering passion.

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theiet.org/scholarships

THE ENGINEERING INDUSTRY

Engineer your way to success

Engineering is at the heart of how we live and essential to our future. From renewable energy to communication and managing climate change to sustainable mobility, it's all in the hands of engineers. Why not join them in finding the solutions to tomorrow's problems?

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ABOUT THE ENGINEERING INDUSTRY



From your morning coffee to the bed you sleep in at night, you have an engineer to thank for the experience. Pretty much everything you use or consume will have been generated with the help of an engineer, whether it's at the design stage, processing or actual production. And as the world and technology evolves, the need for engineers grows ever stronger. Become an engineer and you'll never be short of a challenge.

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WHAT CAN I DO?

The beauty of engineering is that there are so many strands. Because its use can be traced back from so many things, engineering allows you to specialise in an area that fits with your own interests.

Like your cars and have a thing for aircraft or boats? Then step this way and choose a career in engineering manufacturing, which could see you working in the aerospace, automotive, marine maintenance or mechanical engineering industries. Specifically, you could be the mastermind behind a revolutionary turbocharger on a supercar, the driving force behind a plane's auto pilot technology or the person who ensures that a submarine and its occupants can take the pressures of diving thousands of feet underwater.

Maybe you want to build your career in more ways than one, so choose a role in engineering construction. It could, for example, see you managing the construction of a cutting edge manufacturing facility, drawing up the plans for a complex air conditioning system or using specialised welding techniques to make a structure, pipe or machine practically unbreakable.

But while most people associate engineering with heavy industry and the use of large machinery, there's also the domestic sector. This is everything to do with the home, such as the installation and maintenance of central heating to fitting cookers and ensuring the all-important Wi-Fi network is up and running.

No matter whichever area you choose to pursue or specialise in, you'll learn invaluable skills that will give you the grounding for a lifetime career in an industry that never stays still.



1

203,000 PEOPLE WITH LEVEL 3+ ENGINEERING SKILLS ARE NEEDED EVERY YEAR TO MEET DEMAND

(Source: The state of engineering, key facts 2018, EngineeringUK)

2

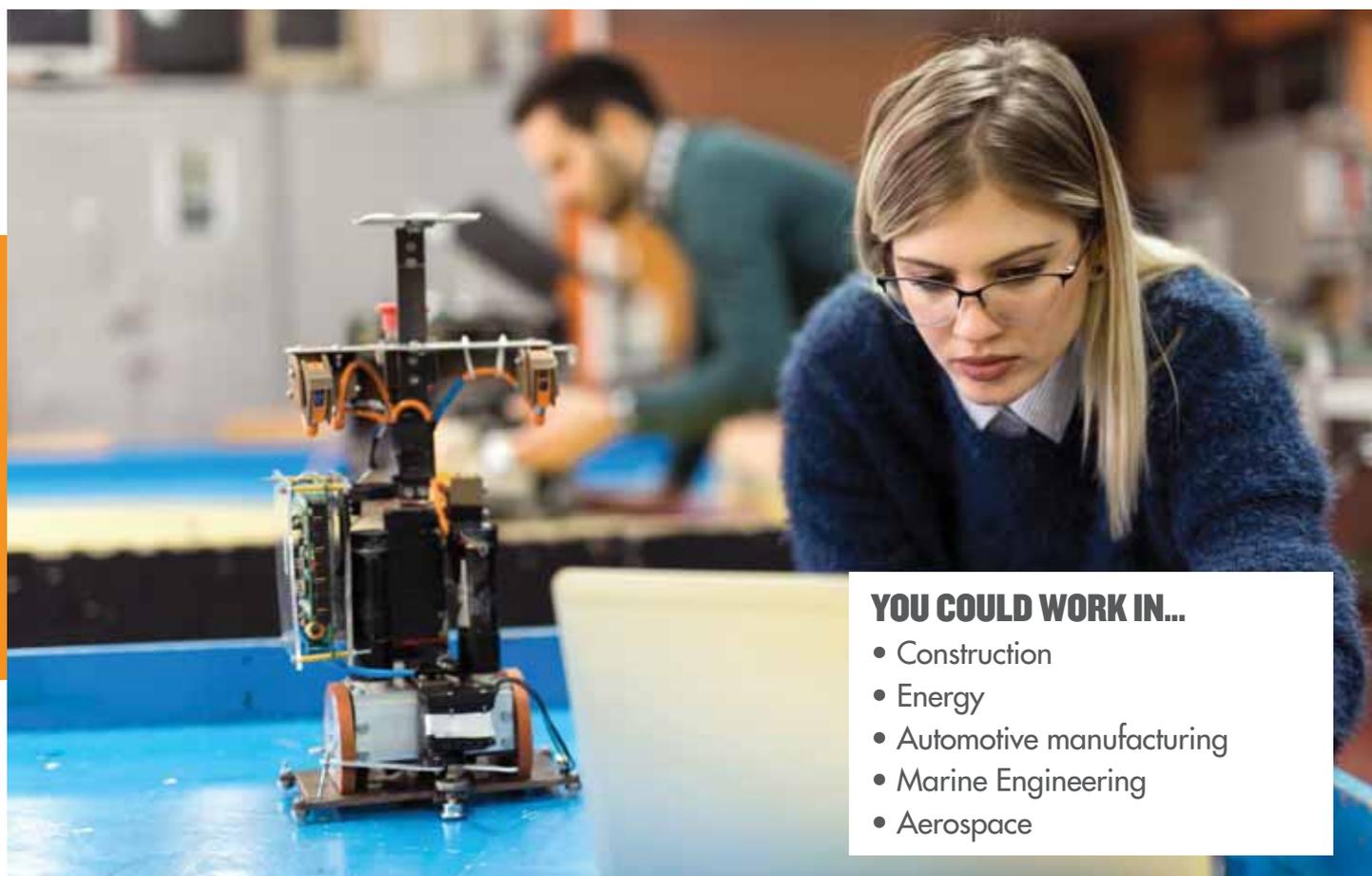
ENGINEERING GENERATES 23 PER CENT OF THE UK'S TOTAL TURNOVER

(Source: The state of engineering, key facts 2018, EngineeringUK)

3

ENGINEERING EMPLOYS 5.6 MILLION PEOPLE IN THE UK

(Source: The state of engineering, key facts 2018, EngineeringUK)



YOU COULD WORK IN...

- Construction
- Energy
- Automotive manufacturing
- Marine Engineering
- Aerospace



EVERY TIME A NEW JOB IN ENGINEERING IS CREATED, 1.74 JOBS ARE CREATED ELSEWHERE. (SOURCE: THE STATE OF ENGINEERING, KEY FACTS 2018, ENGINEERINGUK)

ENGINEERING SKILLS

The skills you learn will vary depending on the engineering sector you choose, but there are those that are shared amongst them all. Every engineer is creative and methodical in their approach, thinking through any problems or tasks and identifying the solution.

IT skills have become increasingly commonplace in engineering, while the ability to understand complex calculations is another trait of many working in the field. Many engineers will have a science and maths background.

To begin though, you won't need to be a technical whizz. You'll learn as you pursue an engineering career, whether it's initially through an apprenticeship or further education. And, as with the size of the engineering sector, the amount of opportunities to enter it are huge. If you've got an eye for detail, a head for figures and a passion for how things work or are formed, then engineering could well be for you.

ENGINEERING CAREERS

Here are some of the different sectors in the engineering industry where you could find a job:

Mechanical – production manager, CAD technician, automotive engineer, aerospace engineer, maintenance engineer

Civil – Building control surveyor, site engineer, structural engineer, water engineer

Electrical – naval engineer, electrical and electronics engineering technicians, medical engineer, electrical installers and repairers, network and computer systems administrators

Chemical – Analytical chemist, energy manager, materials engineer, mining engineer, chemical engineer, product process development scientist

There are many more engineering opportunities available, including those in project management, and there's scope to use your skills to guide a whole team of engineers in a senior role.

TRAINING

Another great thing about the engineering sector is that there are plenty of ways to break into it. Degree courses provide the best prospects for a fast track to senior roles, but each path is designed to give you the skills for an engineering career.

Work-based & work-related qualifications

Relevant NVQ and BTEC programmes include:

- Electrical and electronic engineering
- Marine engineering
- Mechanical engineering and engineering maintenance
- Performing engineering operations
- Construction and engineering

To work in the industry at a senior level, relevant programmes in management and business technology could also prove useful.

APPRENTICESHIPS

There are plenty of apprenticeship opportunities in the engineering sector, although those with high-profile businesses – many of which are household names – are exceedingly sought after and attract a great deal of competition. Many small businesses will have apprenticeships and it's a good way to join the industry.

Engineering apprenticeships are offered at three levels:

Level Two (Intermediate) –

Equivalent to GCSEs/Standard Grades

Level Three (Advanced) –

Equivalent to A Levels/Highers

Level Four (Higher) –

Equivalent to Foundation Degree/Advanced Highers

Apprenticeships include:

- Maintenance technician
- Design engineer
- Engineering
- Electrical field service engineer
- Traffic planner
- Fabricator/welder
- Network engineer

A Levels, Highers and Bachelors Degrees

Useful A Levels/Scottish Highers might include:

- Science, technology, engineering and maths (STEM) subjects
- ICT (information, communication, technology)
- Chemistry
- Design technology

A degree will give you a sound understanding of the industry and a recognised qualification to help get your career up and running, especially if you're looking to quickly move into a senior role. A vast amount of courses are available throughout the country and to see what best suits you and what qualifications (A Levels/Scottish Highers/Scottish Advanced Highers/IB modules) are required to secure a place, visit the UCAS website.

Examples of the industry-specific degrees available include: general engineering, medical engineering, integrated mechanical and engineering, manufacturing and production engineering, fabrication, welding and inspection and industrial design.



**MORE
INFO**

The Institution of Engineering and Technology – www.theiet.org

Engineering Council – www.engc.org.uk

British Engineering Manufacturers Association – www.bema.co.uk



LIFE IN THE ENGINEERING INDUSTRY

To say life as an engineer can be varied is an understatement! You could be onsite at the building of a power station, fixing someone's central heating or be behind a desk using your computer skills designing life-saving medical equipment. Alternatively, you might be servicing heavy manufacturing machinery, developing a water irrigation system or playing a part in the safety of autonomous vehicles.

Wherever you are and whatever you're doing, you'll be attentive, a sharp thinker and a good team worker. As an engineer you'll be dealing with things that make a difference – whether to the whole world or on an individual level – and you'll have a lot of responsibility.

Evolving technology means that many engineers carry out their work from a computer screen, but also be prepared to get your hands dirty onsite where there's plenty of noise and, depending on the whether and location, difficult working conditions.

As with any job, there are parts that can be repetitive and seemingly unexciting, but as an engineer you'll be looking to link a whole host of individual elements together to create a whole that will have a major impact on people's lives. That's the beauty of being an engineer and it can be incredibly rewarding to see your efforts have a positive effect, whether your work enables people to do something never possible before or simplifies every day tasks.

And fast-evolving technology, such as sustainable energy and self-driving cars and the rise of artificial intelligence mean that engineers will always be in demand to drive the development. If you want to help shape the future, then engineering is certainly worth considering today.

Find Apprenticeships and jobs in the engineering industry near you at www.careermap.co.uk



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Dstlmod](http://www.youtube.com/Dstlmod)

LIFE STORIES

What's it really like to be an apprentice? We asked Ryan to share his experiences.



LIVE YOUR DREAM - MAKE A DIFFERENCE

In summer 2018, Ryan Kenny received the 2018 BTEC Apprentice of the Year (16-18) Award

"I was blown away," Ryan told us. "I just see myself doing what I love."

This spring we caught up with Ryan to find out where his passion for IT started - and what's next for his career.

"I wanted to build software that made a difference"

"I was 11 when I started falling in love with computer technology. I would build applications and games, continually comparing everyday tasks to see if I could build something that would make it easier, faster and more efficient."

"I wanted to build software that made a difference."

Aged 15, Ryan knew he wanted to pursue his passion, but didn't know how - until he took up a work placement at Stanley Black & Decker and designed a succession training and planning system.

Follow your passion

Creating an IT solution in the real world made Ryan determined to turn his passion into a career. At 16, he started an apprenticeship which included a BTEC Level 3 in Information Technology.

"Choosing a BTEC apprenticeship completely changed my life. It was the only option for me to develop academic knowledge and real-world experience. BTEC's practical project work further developed my core skill base."

Pushing boundaries to make a difference

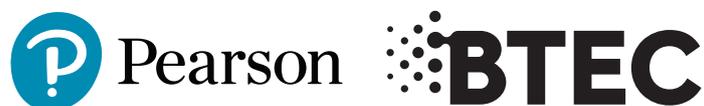
Today, Ryan travels the world as an IT Manager - and is pursuing a degree in Computing, IT and Business, with an MBA in his sights after that.

"I am living my dream. I get to meet people from different countries and truly make a difference."

As Ryan reflected on his journey from curious youngster to a globe-trotting IT professional in less than 10 years, we wondered what's left to achieve in the next decade.

"In 10 years' time, my goal is to be pushing the boundaries of digital excellence as a Chief Information Officer, leading the charge in terms of digital excellence and innovation."

"The skills and knowledge I have gained on my apprenticeship have proven priceless and I can truly say all this would not have been possible without my BTEC."



If, like Ryan, you think that learning in the real world can transform your passion into a career, find out more at quals.pearson.com/apprenticeships – or see how a BTEC can work for you at btecworks.com.

CHALLENGING PERCEPTIONS



Change doesn't happen overnight but it's happening. That's the main thing! Employers are seeing the value of having a more diverse workforce, recognising that 'it simply makes sense from a business angle'. And of course, it does.

Let's look at the stats... Even in this day and age it's blindingly obvious that the building services engineering sector is still primarily made up of white males. There's no escaping the statistics. Equality, diversity and inclusion are all core values at JTL, who actively encourage under-represented people to consider a career in plumbing, heating and ventilation trades. Despite this, the truth still remains that young white men take up the majority of JTL apprenticeship applications.

It's time to challenge perceptions! Electricians and plumbers are a real demand across the UK. We live in a multicultural country and anyone seeking a career in the plumbing, heating and ventilation trades can expect success. Whether you're male or female, White or Black, Asian and Minority Ethnic (BAME) if you have the drive to succeed then you will!

We speak from experience when we say that some of our best apprentices have been women and people from the BAME community. Here at JTL, we encourage people from all backgrounds. Why? Because a diverse workforce leads to increased productivity and creativity.



**By Rachel Jagger Thomas,
Equality and Diversity Officer at JTL**

Do you know what an Equality and Diversity Officer does? They work to promote a workforce that is diverse, and often aim to create one that reflects the community where they are based. Promoting diversity and reducing discrimination makes a better and richer working environment for everyone.

A DIVERSE WORKFORCE = REAL BUSINESS OPPORTUNITIES



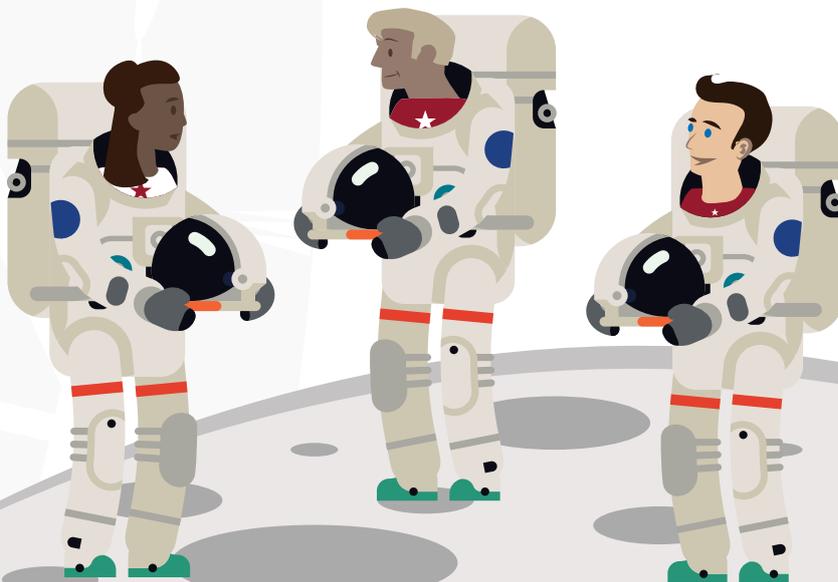
Many employers in the plumbing, heating and ventilation trades have positive experiences due to a diverse workforce and have found a demand for female apprentices. Stephen Goodridge who owns Goodridge Electrical in Worcester shares his experience. Stephen recruited 37 year old Amy Lister who was a manager at Co-op at the time.

Amy wanted to change her career route and took evening classes at college to build her knowledge of the electrical industry. Stephen decided to 'give her a go' and was amazed at the impact she instantly had. From domestic and commercial contracts, the staff were pleasantly surprised to see Amy in charge!

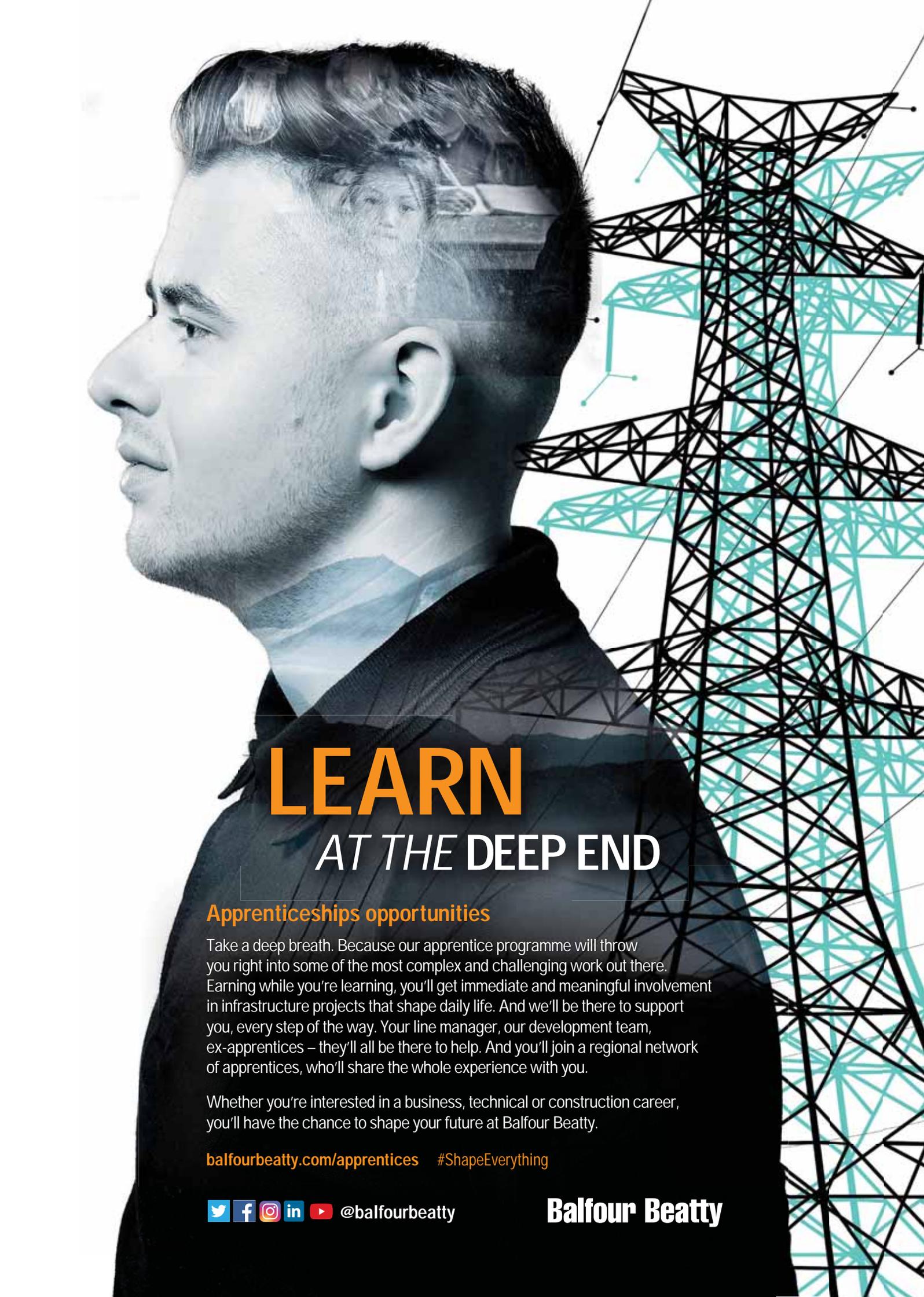
Things are changing for the better. Women and BAME apprentices are finding that they are not 'the only one' within their company.

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MINERAL EXTRACTIVE

Blasting away the stereotypes

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ABOUT THE MINERAL EXTRACTION INDUSTRY



The earth provides us with many natural minerals and materials, which we need for buildings and roads and for use in the kinds of technology which benefit all of us.

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You can see the end products of the mineral extractive industry everywhere around you. Houses, hospitals and factories, roads and motorways, fields of food crops and mobile phones are just a few examples of the things we need and use every day, which wouldn't exist without the minerals found in the earth being expertly and safely extracted by workers in the mineral extractive industry.

The mineral extractive sector exists to find the best, safest and most environmentally-friendly ways to get hard rock, potash, salt, silica, sand and gravels out of the ground, using cutting-edge technology and maintaining a dedicated, well-trained workforce.

The mineral extractive industry is currently crying out to attract and recruit a diverse range of young people, especially females, into the sector, to redress the balance by bringing down the average age (55) and ethnicity and gender (white, male) of its workers.

WHAT CAN I DO?

The stereotype that comes to mind when you think about mineral extractive is one of someone grafting away in a dusty quarry with shovels and hammers or blasting rocks. The reality these days is very different – shovels can cost millions and they're bristling with cutting edge technology.

There are all sorts of job roles on offer at all levels of qualification and skills in this vibrant industry and training is available from entry to postgraduate levels.

Job roles to look out for include: mechanical and electrical engineers, IT specialists, logistics, distribution, human resources and site and supervisors who can be in charge of large scale operations.

There are global career opportunities in this industry too – mineral extraction operations exist around the world but the skills,



GIRL POWER

Dannika Bannon worked her way up through the ranks at Tarmac and loved the challenges that the industry offered her. She is now in charge of the biggest quarries in Nottinghamshire.



59%

OF THE COMPANIES IN THE MINERAL EXTRACTIVE SECTOR CURRENTLY HAVE STAFF VACANCIES.

qualifications and training you receive in the UK mineral extractive sector are considered some of the best in the world. This gives you a real advantage and the opportunity to widen your career horizons and could lead you to jobs in the Middle East, Australia or America for example. The UK mineral extractive industry really is a trailblazer for top-notch training standards which are recognised worldwide.

ACADEMIC ROUTES

You may already have decided to study for a degree in engineering, geology or environmental sciences at university but you may not have considered a postgraduate career in the field of mineral extraction, mining or quarrying – there is lots of information available from MPQC and The Geology Society about training and careers in the industry.

As far as A-levels are concerned, geography is essential. In addition, many universities also require two of the following A-levels: maths, physics, chemistry, biology and geology.

The University of Derby is also a leading provider of degrees, courses and qualifications relating to the mineral extractive sector, including:

- BSc (Hons) Minerals Management (Top up)
- Higher Apprenticeship - Mineral Products Technology
- University Diploma in International Mineral Extractives Studies
- University Diploma in Mineral Extractives Studies
- University Certificate in Concrete Technology
- University Diploma in Asphalt and Pavement Studies
- University Diploma in Road Surface Treatments
- Certificate of Credit - Construction Materials Technology

APPRENTICESHIPS

MPQC offer a range of apprenticeships including those that qualify you to be a mineral processing mobile and static plant operator, a mineral processing weighbridge operator or a mineral and construction product sampling and testing operations.

THE SKILLS TO BUILD

The mineral extractive industry needs people from all sorts of backgrounds with many different skills. Some manual jobs need a good level of fitness and hand-eye coordination for example and managerial jobs will need people with leadership and team-building skills. Other useful advantages to have are: professional IT skills, practical, technical and job-specific skills, problem-solving and analytical skills, supervisory/people management skills, planning and organisational skills



Think about where your skills and strengths lie – but remember there is on-the-job training and opportunities to build on those skills at all levels of employment in the mineral extractive sector.

GETTING STARTED

You'll be able to find apprenticeships and jobs in the industry at careermag.co.uk, or head to the MPQC website to find out more about careers and qualifications in mineral production, mineral extractive. Routes into mineral extractive include Apprenticeships, Vocational Qualifications A Levels, Diplomas, National Diplomas and Certificates, Foundation Degrees and Degrees.



**MORE
INFO**

Check out MP Futures for lots of exciting opportunities available!
www.mpfutures.co.uk

Careermag have lots more information about these and other STEM related opportunities. Read our blog: www.careermag.co.uk/careermag

YOU COULD WORK IN

Admin, HR, sales, land and planning, learning and development, IT, coding, logistics, mechanics, fabrication and welding.

You could be a geologist, metallurgist, a minerals or mining engineer or surveyor, a quarry manager or a quarry worker.

Find apprenticeships and jobs in the the mineral extraction industry near you at www.careermap.co.uk



Think you know about careers in construction?

Join us on the 12th June at 10.30am for the biggest construction broadcast of 2019!

Construction LIVE is a live streamed event that will broadcast to thousands across the UK wanting to find out more about construction in 2019 and the exciting job developments happening within the sector.

The live event will be focusing on technology and how it is used within the construction sector. You'll also meet some graduates and apprentices who'll be sharing their stories and inviting questions from a live and virtual audience throughout this interactive broadcast.

Schools, colleges, young people, parents, career leaders/advisors and employers from across the UK are all invited to take part in this year's Construction LIVE online event.

Balfour Beatty Construction **Live**



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To register for FREE please visit
<https://learnliveuk.com/construction-live-2019/>



INNOVATIVE TEENS WIN GSK UK YOUNG SCIENTIST AND ENGINEER OF THE YEAR AWARDS

Announced in March, the GSK UK Young Scientist and Young Engineer of the Year awards are the top accolades in The Big Bang Competition, an annual competition designed to recognise and reward achievements in all areas of STEM, whilst promoting vital STEM skills and confidence in project-based work.

To inspire future engineers and help address the UK's annual deficit of 59,000 engineering graduates, GSK extended its support of the Big Bang Competition in 2019 from GSK UK Young Scientist of the Year to include the UK Young Engineer of the Year Award.

In January 2019, the Association of the British Pharmaceutical Industry published a report on the skills gap in the pharmaceutical industry showing that UK STEM students have increased just 16% in the last 10 years, compared to 63% worldwide. As a science-led global healthcare company, GSK believes the scientists and engineers of tomorrow, like this year's winners, will help to solve the biggest global healthcare challenges and are passionate about inspiring young people to study a wide range of STEM subjects.

Life-changing

This year's GSK UK Young Scientist of the Year was 15-year-old Maeve Stillman from St Mary's College in Derry, whose project aimed to improve our understanding of how activated charcoal affects the absorption of everyday medicines, including paracetamol.

Ann Blanking MBE, Science teacher at St Mary's College, said: "Maeve has done something remarkable with her project, and she's only 15 years old, so it's amazing to win such a prestigious and competitive award. I'm so proud of her, and her commitment to this project. And now she's won, this will show her, and all our other students, so much about where hard work can take them, particularly in STEM. For a 15-year-old from Derry, it's going to be life-changing."

A team of students from Loughborough High School and Loughborough Grammar School, Grace Lord, Brendan Miralles and Aalia Sellar, took GSK UK Young Engineer of the Year. Their project 'Music Splash', inspired by a need for better access to music education, is an app that uses machine learning to analyse music performance and provide feedback that helps the user improve.

As a result of their wins, Maeve, Grace, Brendan and Aalia will all benefit from a range of exclusive mentoring and work experience opportunities, and VIP visits to top science centres with their families.

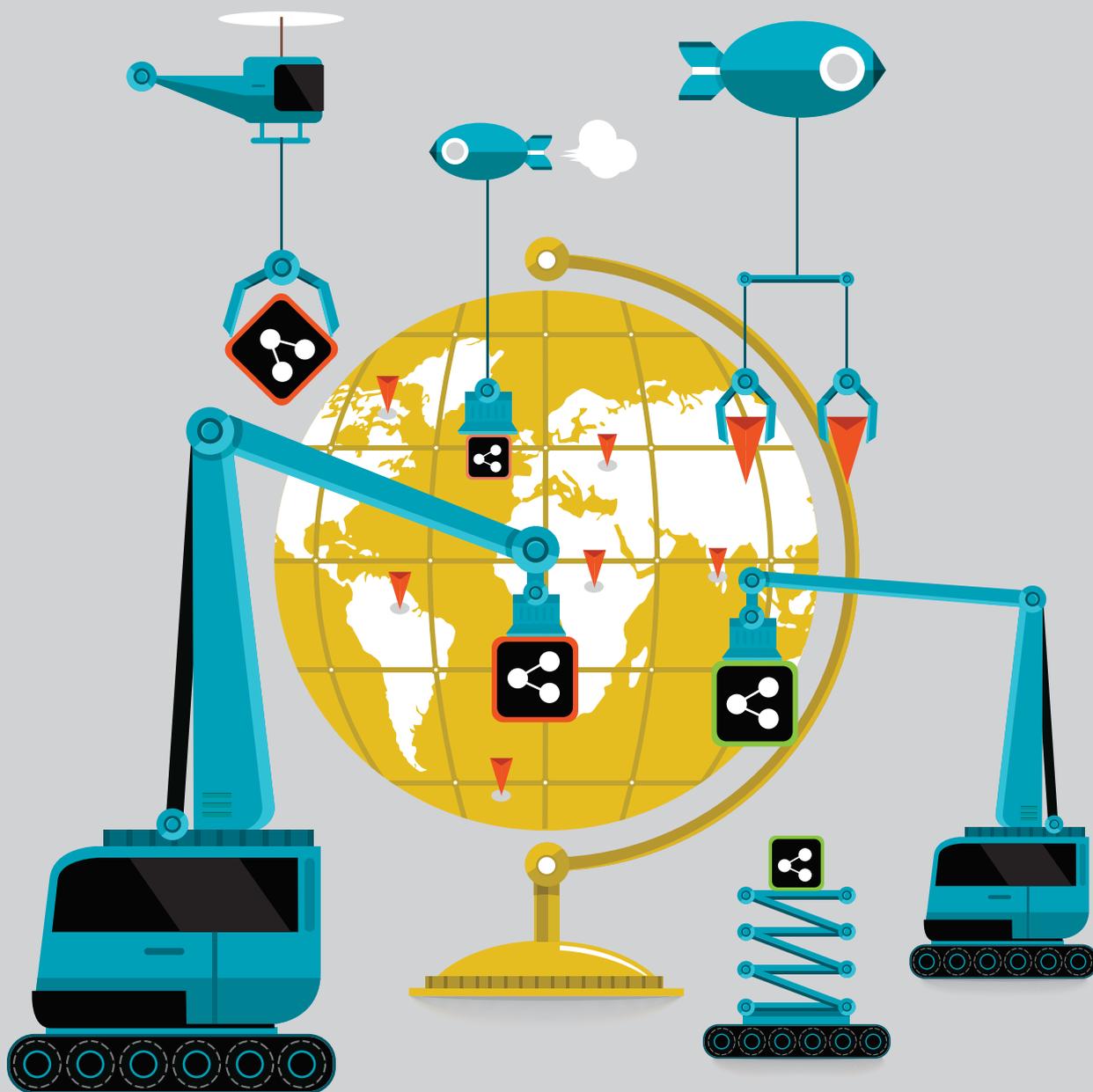
Want to get involved? The Big Bang Competition 2020 is open now!

Winners will be announced at The Big Bang Fair, organised by Engineering UK, taking place 11th-14th March 2020.

Find out more at competition.thebigbangfair.co.uk

MAKE A DIFFERENCE TO THE WORLD!

Engineers tackling social issues such as helping solve climate change or aid health and wellbeing



Recent research for Tomorrow's Engineers Week (TEW) revealed nine out ten young people say they want a career that tackles social issues, and that many young people say that want a career that helps the environment or animals, that helps keep people safe and well or a job in entertainment.

ENGINEERING COULD OFFER A CAREER IN EACH OF THESE AREAS

Engineering cuts across all life from addressing some of society's pressing challenges like climate change to building and designing new technology like mobile phones or apps for improving health and wellbeing.

Around three quarters of engineers feel young people should know engineers make the world a better place. As part of TEW last year, we released 5 new short films featuring engineers on a mission to make the world a better place, including civil engineers protecting animals and reducing plastic in the ocean, a design engineer creating wearable wellbeing tech, a CAD CAM engineer creating pyrotechnic showstoppers and a fire engineer whose work aims to keep people safe.

Would your animal loving students be inspired by Bob and Marc, who have created a crossing on the A827 in Scotland to reduce otter fatalities? Or perhaps Jack, a design engineer who has created a wristband that helps keep you calm under pressure, would give those who want to keep people well food for thought? Some might love the explosive work of Dave, whose special effects with fire and explosives are used for TV and live events.

These films build on the success of the #EngineerOnAMission films, which featured some inspiring engineers working on incredible projects, including:

- **Sean** who works on state of the art 3G football pitches to get more people doing sport whatever the weather
- **Oliver** a young civil engineer, who designed a new access road to a hospital
- **Roger** who started his career building dams and now saves lives by helping people in the developing world access safe drinking water
- **Sarah** who qualified as an engineer in the RAF and now makes sure things are safe on the Wrigley production line
- **Marion** and **Avery** who work with locals in developing countries to build bridges that change lives forever
- **Sujith** an environmental consultant whose work helps reduce air pollution
- **Thilo** who uses his engineering skills to help injured horses
- **Simon** who created an innovative flood protection solution after floods caused £120,000 of damage to his parents' home
- **CK** who volunteers for the British Red Cross to help to improve public health in conflict zones
- **Jemima** an engineering apprentice on a mission to find medical cures
- **Sankha** and **David** – UK Young Engineers of the Year 2017 – who have created a vest that detects epileptic fits before they occur

SAVE LIVES AS AN ENGINEER

Engineers played a vital role in disaster recovery in the aftermath of the 2015 Nepal earthquake:

- **Engineers find and rescue people** – using equipment such as telescopic lenses, drones and radar devices that detect victims' heartbeats
- **Engineers help people survive** - providing immediate shelter and transport networks and getting emergency water and sanitation services working
- **Engineers get things up and running** – restoring electricity and communications, critical for providing humanitarian relief in affected areas.
- **Engineers help people rebuild lives** – designing and making artificial limbs, wheelchairs and other devices to help people who have suffered serious injuries.
- **Engineers reduce the impact of future disasters** – improving warning and detection systems for tsunamis, volcanoes, earthquakes, typhoons and other natural disasters.

The diversity of the engineering industry means that you can probably find an engineering job that channels all the altruistic ambition we see in so many young people. And it showcases the real-life application of the maths and science they learn at school.

You can make flying more environmentally friendly as an aerospace engineer or drive the use of renewable energy as an electrical or energy engineer. Biomedical engineers develop life-saving equipment and chemical engineers can stop the spread of disease, while as a manufacturing engineer you could develop new ways of creating medical products. Mechanical engineering could see you designing prosthetic limbs and you can support international development or disaster recovery as a civil or structural engineer.

As an engineer it's possible you can save far more lives than as a medic – a powerful message that's worth sharing.

Learn more about all the opportunities available at www.careermap.co.uk

You can see more stories about engineers at work at www.tomorrowsengineers.org.uk





UNI STARTS HERE

Rachna used her BTEC in Business as a springboard into university, all while setting up her own local charitable coffee business along the way. Kick-start the career you want. Make a BTEC work for you.

BTEC WORKS

 **BTEC**

IT'S NOT ALL ABOUT GETTING YOUR HANDS DIRTY!

The perception of engineering might be heavy machinery, manufacturing and construction, but there's a side to the industry that is far less obvious.

You might be surprised to hear that engineers are needed in the entertainment and sport industries – whether it's a demand for special effects or goal line technology, there's a whole host of careers to be found.

The engineering industry is diverse with exciting career opportunities in several different sectors from space and energy to design and food. There aren't enough engineers in the UK so there's a huge demand for the skills you will develop, and they have fantastic earning potential at all levels. The skills that engineers learn – such as problem-solving, teamwork, project management and numeracy – are sought-after by employers in nearly every industry, meaning that engineers are highly employable and can easily transfer their skills to different areas.

If you have a passion like football, food or fashion then engineering is unique in that it can allow you to make a career of it. Many young people aspire to work in sport and entertainment but may not realise that engineering is a vital part of these industries.

Some specific examples of how engineering is involved in sport and entertainment include creating visual effects for films and stage, developing cutting-edge sports gadgets, music production, smart fabrics, hawk eye technology, wearable tech, sports equipment manufacturing, building stadiums, pyrotechnics for live events, creating moveable sets for stage, CGI for film, acoustic engineering, designing art galleries, developing apps and designing computer games.

The recent campaign #ThisIsEngineering aims to show young people that engineering is for everyone and relates to whatever they're interested in – whether it's fashion, film, sport, music or technology. It contains a range of exciting videos and case studies featuring young engineers working in these areas.

School subjects important for engineering careers are maths and physics (and chemistry, for certain disciplines). Computing, electronics, design and technology, and construction and the built environment can also be very useful, along with geography, art and languages.

What's more, there are different routes into engineering, so young people can choose the path they think is best for them. There really are few other careers that are so vast and so accessible!

Engineering roles in the entertainment and sports industries include:

- Sound Effects Engineer • Digital Musician
- Computer Games Designer • Stadium Designer
- Sports Engineer • CGI Effects Engineer.

CASE STUDY – EUGÉNIE



Eugénie helps create some of the magic behind what you see in the cinema. She works for DNEG, one of the biggest visual effects providers for film in Europe. She mixes artistic work with programming work and develops tools for use in film, an area which is most of the time called 'effects' and covers anything that moves under the forces of physics, like fire, smoke and water.

"I wanted to work in visual effects at a very young age. I fell in love with the film industry – I thought it was absolutely fascinating and I really wanted to work in it. That was the reason why I chose an engineering and computing science degree. I thought engineering was a great way to combine design with science."

CASE STUDY – JAMES



Sports engineer James uses his engineering knowledge and skills to help strike a careful balance between tennis tradition and technology. James and the team at the International Tennis Federation design equipment to help beginners pick up the techniques of the game easily.

At the other end of the scale, their work ensures that Murray, Federer, Nadal and Djokovic all compete fairly and Wimbledon wins are down to talent, not racket-type!

"I work in our ball lab doing specific testing on tennis balls. The rules of tennis have a very precise specification for balls. They have to have a certain mass and size. They also have specific stiffness characteristics and will bounce in a certain way. We have a climate-controlled ball testing facility to measure this. I also test tennis racket power with our racket power machine or our spin rig.

The next day I could be working on tennis court surfaces, looking at how the ball interacts with the surface, how it bounces and slows down due to friction. We also have a wind tunnel to look at the aerodynamics of tennis balls."

"If you have a passion like football, food or fashion then engineering is unique in that it can allow you to make a career of it."

If you want to discover more about engineering careers and different routes into them, read case studies or order our free careers resources, visit www.tomorrowsengineers.org.uk.



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LAUNCH A FUN AND EXCITING CAREER WITH AN APPRENTICESHIP

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LIFE STORIES

What's it really like to be an apprentice? We asked Tolu to share her experiences.



ENGINEERING A NEW CAREER IN CONSTRUCTION

Tolu Egberongbe, Student at London Design and Engineering UTC

A career in construction was not always the plan for me. However, when studying at college, I realised that I had a skill in 3D modelling and design. I began to explore 3D modelling career opportunities which led me into a career in construction. Even though I had the motivation and passion for 3D modelling, it is extremely difficult to find a direct route into it as it is such a specialist role.

Ove Arup said "Engineering is not a science. Science studies particular events to find general laws. Engineering design makes use of the laws to solve particular practical problems. In this it is more closely related to art and craft" - this quote perfectly explains my eagerness towards engineering design. To me it was not just about producing things that people could see or use. It was more about understanding and improving the functionality of existing products.

Like Steve Jobs once said "Design is not just what it looks like and feels like. Design is how it works." Impatiently, my hunger for more knowledge in design and how engineers impact the world grew. To help me, I searched for apprenticeships within construction, as the demand for 3D

modellers in this sector is at an all-time high. However, due to it being such a specialist skill, the only way to become a modeller in construction was through the route of being a civil engineer with a digital solutions degree apprenticeship. To find an apprenticeship such as this was very difficult, as not all companies offer civil engineering with digital solutions. As my search deepened, I found that construction not only had high demand for 3D modelling but high demand for engineering in general. This is why I broadened my search to all engineering jobs - to make my dream of becoming a CAD specialist a reality.

My passion for engineering began at home; whenever my dad had anything to fix, I always assisted him. I became a person who was able to learn hands-on, and the constant exposure to fixing things myself rather than having others fix them for me became my motivation to become an engineer. Without this, I would not have been able to explore the different careers available and would have gone down a more traditional path. Engineering allows me to demonstrate the creativity and innovation that I wish to show everyone.



Look for the role for you: goconstruct.org/roles-in-construction



TECHNOLOGY AND CAREERS OF THE FUTURE

Technology has a massive impact on everyone's lives. From how we work and travel to how we engage with friends and family, technology is constantly changing. Engineers are central to creating incredible devices and software that make the impossible possible. From cybersecurity to AI and robotics to 3D printing, engineering offers a wealth of career opportunities.

Engineers are integral to the success of major infrastructure projects and are at the heart of developments in nanomedicine. They make cars safer, roads smarter and broadband faster. It's engineers who develop sustainable solutions for our future food, water and energy needs, who work on artificial intelligence and who protect individuals and organisations from cyber-attacks. It's engineers whose ideas and innovations will shape our future world, making a real difference to how we live our lives.

So what do engineers do? They design the systems, equipment and components that make air travel and space exploration possible. They develop the hardware and software in our homes, devices and wearable tech. They come up with innovations that improve health and healthcare. They are key in disaster recovery, flood prevention and building safety. They're cleaning up oceans, advancing recycling and reducing the carbon footprint in everyday life. They help amateur and professional sportspeople perform better and even keep animals safe and healthy.



ENGINEERS HELP DEVELOP...

- Smart clothing with inbuilt sensors that can monitor health
- Faster recharging mobile phones with more features and computing power
- Virtual reality games that can be played in 3D
- 3D printed objects in a wide variety of materials, including living tissue
- Artificial limbs for the injured and medicine for diseases like Ebola
- 3D games consoles and solar powered laptops
- Make-up that automatically matches skin tone
- Systems to reduce the risk of flooding
- Driverless vehicles and spacecraft
- Supercomputers that predict the effects of climate change
- Voice recognition and Artificial Intelligence (AI), which means that we can now talk and ask questions in any language
- Wearable tech that reduced stress and supports good mental health

And, crucially, many of the jobs young people will be doing in 10 years' time don't even exist yet!



Research by The Big Bang UK Young Scientists & Engineers Fair (UK's largest STEM celebration for young people) about cutting edge technology found that 71% of 11-16-year-olds think that it's crucial to have access to this kind of technology as part of daily life at school. The study also revealed their open-mindedness and optimism about the vast possibilities this technology holds: one fifth (20%) believe we will all have 3D printers in our homes as the norm within 3-4 years, and two thirds (67%) of kids believe it will be the norm within 10 years.

www.thebigbangfair.co.uk/news/media-and-press/press-releases/dishing-up-bite-size-science/

Visitors to **The Big Bang Fair** (11-14 March 2020 at The NEC in Birmingham) will get to see some of these amazing new technologies in action; from piloting a drone and building a model jet engine to creating a 3D selfie and seeing inside your own eye.



Book free tickets: www.thebigbangfair.co.uk



Another great way to develop students' digital and technological skills (as well as interpersonal skills such as teamwork and communication) is to take part in **Tomorrow's Engineers EEP Robotics Challenge**. The Robotics Challenge get students aged 11-14 working together in teams to solve real-world engineering, technology and computing challenges. Facilitated by their teachers, students learn how to design, build and control robots to complete a series of challenges and develop and present short research projects into a contemporary engineering problem.

Tomorrow's Engineers

www.tomorrowsengineers.org.uk/robotics

CASE STUDY – MAIREAD



The micro-chips inside our mobile phones and MP3 players are getting smaller and more capable of doing increasingly amazing things all the time. But, we're not robots made up of circuits so we need a way of converting digital signals - the way your MP3s are stored - into sounds that we can hear.

This is one of the projects that Mairead works on as a Design Engineer at Dialog Semi-conductor.

"I like it when we get a chip back and the designs I've been working on perform correctly. The time-frame from designing to manufacturing and testing a product can often be several months and it's a nice relief to find out that your work is a success."

Read more case studies and download free careers resources:
www.tomorrowsengineers.org.uk

DID YOU KNOW?

Developments in AI, speech analytics and robotics mean that 'pet-bots', which owners will be able to emotionally connect with, may be available in the next decade.

Engineers are in great demand, in fact 124,000 jobs in "core" engineering roles will need to be filled every year until 2024. The skills that engineers develop – such as problem-solving, teamwork, project management and numeracy – are sought after by employers in practically every industry, meaning that engineers are highly employable and are easily able to transfer their skills to different areas.

Important subjects for engineering are maths and physics (and chemistry, for certain disciplines). Computing, electronics, design & technology and construction & the built environment can also be very useful, along with geography, art and languages. Careers in the engineering sector are accessible to anyone with a passion for solving practical problems in a creative way. Routes into the sector are varied and include apprenticeships at all levels (including Degree Apprenticeships at Level 6 and 7), foundation degrees, bachelor's degrees (BEng/BSc) and master's degrees (MEng/Msc).



ARE YOU INGENIOUS?

MEET ESTHER, A CIVIL ENGINEER

I'm passionate about my job.
My work changes the fabric of society
and bring benefits to thousands of people.

So what do I do? I'm not a viral internet sensation – still waiting for that one. And I'm not in cancer research or the UN.

I'm a civil engineer! Did you see that coming?

The dictionary does us no favours here. Apparently, "an engineer is a person who uses scientific knowledge to design, construct, and maintain engines".

That definition doesn't really tell the whole story.

The word 'engineer' is not about 'engines'. It's actually about 'ingenuity'. About having an in-built capacity to solve problems. To break things down to understand why something does what it does, and then building everything into something better.





THREE REASONS YOU SHOULD GET INTO ENGINEERING CAREERS

1. Engineering is a reliable choice

My first point might seem boring, but at the end of the day, we all want to be happy. Engineering is a great choice. It's well paid, most of us have a good work/life balance, and it's a sector with good job satisfaction, contributing to a better world. In this job, you can really clearly see how your work has made a difference.

It's also a career option with lots of ways in, whether you love school, or hate it. The old-school way works, with Maths and Physics A-levels, and an engineering degree. But there are also vocational qualifications and apprenticeships where you train and get paid. This can be a great option if you're trying to avoid a student loan. <https://careers.highwaysengland.co.uk/early-careers/apprentices/>

And this sector is not only people with engineer in their job title, or people who love tinkering with lawnmowers in sheds. My team has loads of skills - environmentalists, designers, people who run projects, communications and social media, lawyers, architects, transport planners – so many different people with different skills, working together on massive infrastructure projects.

And that's because I work for Highways England. We operate, maintain and improve England's motorways and major A roads. I work on the A303 Stonehenge project, a £1.7bn road and tunnel scheme past Stonehenge on the notoriously congested A303.

We're making it easier to go on holiday in the South West without sitting in those queues. We're helping the regional economy thrive. We're going to do something extraordinary by taking the sight and the sound of the traffic on the current A303 away from Stonehenge. We're building so much more than a road, which leads me to my second point.

2. Engineering is a great choice for society

Engineers help to shape almost every part of your life: your home, food in the shops, vehicles, roads, schools, smart phones, hospitals, video streaming, the water in your taps and electricity in your chargers.

This sector needs many different people at the table. The more voices, the better the design – lots of different people should be involved in making design choices. Engineering is a good career for anyone, regardless of gender or any other factors.

3. STEM is a future-ready option

Science, Technology, Engineering and Maths are subjects that give people a great chance to tackle the challenges of the future. STEM professionals are leading the charge for sustainable development, better cancer treatments, renewable energy, digital roads, new technology and shaping a better, fairer world.

The pace of change is faster than it has ever been in human history. Whereas your grandparents might have had one job and we might have ten, your kids might have dozens. Artificial intelligence, machine learning, the Internet and the process of automation may lead to radically different ways of living and working.

We need to equip you to be able to adapt, so you can keep in front of the wave of change and surf it, rather than getting left behind in the foam. Gaining tech-savvy critical thinking and problem-solving skills gives you the best chance to do this.

There's no crystal ball to know what's coming, but we should all gain the skills to tackle whatever the future throws our way. Engineering is a great way to do that, as well as being a reliable, resilient and rewarding career choice. Come join us. Come join Highways England.

There are all sorts of ways to gain these sorts of skills. Highways England does school visits where pupils can learn about our work and have a go at fun engineering-related tasks in an informal context to help people gain confidence. Following on from the Year of the Engineer 2018, the Government's successor campaign, Engineering: Take a Closer Look <https://www.yearofengineering.gov.uk/> has a useful portal which features ideas for activities and events people can go to. It also has a useful animation demonstrating the different routes into a career in engineering: <https://www.yearofengineering.gov.uk/video>

And for those of you who can't wait for the next movie, the Disney Marvel aptitude test <https://moreheroesneeded.com/start> is a great way to explore engineering as an option, and see how you could get involved.

BEING A NETWORK RAIL ENGINEERING APPRENTICE



Marisa Bajerski chose an engineering apprenticeship with the owner of the railway infrastructure in England, Wales and Scotland.

Here she speaks of how it helped her get on track for a great career.

WHY DID YOU CHOOSE AN APPRENTICESHIP, RATHER THAN GO TO UNIVERSITY OR STRAIGHT INTO WORK?

I didn't want to go to university and have a lot of student debt, when I could instead have the job I wanted via an apprenticeship. I also still wanted to progress my learning, so that is why I chose an apprenticeship over a job as I was able to gain a level 3 NVQ qualification.

DID YOU KNOW WHAT YOU WANTED TO DO BEFORE YOU CHOSE THE NETWORK RAIL APPRENTICESHIP?

I knew I wanted to go into engineering, but I did not know what area I wanted to specialise in. I applied for a few different engineering apprenticeships in different industries.

WHY DID YOU CHOOSE NETWORK RAIL?

I chose Network Rail because it has such a good reputation. I also have family within Network Rail and the rail industry, so I knew that it was a good sector to work in.

WHAT HAVE BEEN THE HIGHLIGHTS OF YOUR APPRENTICESHIP?

Studying at Network Rail's Westwood training facility in Coventry was definitely the biggest highlight of the apprenticeship scheme. I made many friends for life and it was an amazing 21 weeks. I would do it all again tomorrow.

WOULD YOU RECOMMEND IT TO OTHER WOMEN, AND WHY?

I would highly recommend it to other women. I know that engineering can be daunting for women as it is a very male-dominated industry, however Network Rail as a company is very diverse. I have been welcomed and do not get treated any differently to anybody else.

HAVE YOU FELT SUPPORTED IN YOUR TIME AS AN APPRENTICE WITH NETWORK RAIL?

I have felt very supported. At Westwood the staff are very helpful, and you can get help from many people, whether it's academically,



personally or for any other reason. Working at the depot I feel very much the same and I know that if I have any issues there are plenty of people that I could go to and they would do whatever they could to ensure I was helped.

WHAT ARE SOME OF THE BEST THINGS YOU HAVE WORKED ON?

I most enjoy the work which I complete in the basket on the machine (?), this work is more hands on and that's why I prefer it. We have completed maintenance on neutral sections and section insulators and we have lifted balance weights.

DO YOU FEEL LIKE YOU'VE LEARNED LIFELONG CAREER SKILLS WHILE ON THE APPRENTICESHIP SCHEME?

Yes, I believe that the railway is one of the only industries which is a lifelong career and Network Rail is a company with which you can keep progressing. It won't be monotonous if you choose for it not to be.

WHAT WAS THE APPLICATION PROCESS LIKE, DID YOU FIND IT EASY?

Applying for the apprenticeship wasn't difficult. The steps to make the application were very well communicated and gave you plenty of time to organise what you had to do.

WHAT DO YOUR FRIENDS AND FAMILY THINK OF WHAT YOU'RE DOING?

They're very impressed with what I'm doing as not many women go into engineering. I am on a good wage for my age, I've gained a qualification and I have no student debt.

WHAT IS IT LIKE TO LIVE ON THE CAMPUS?

Life at Westwood is brilliant. You get your own room with an ensuite, and the facilities are amazing with a gym, pool and sauna. The food was really good, and the staff were all very nice. They looked after us and were very helpful.

WHAT ARE THE PEOPLE LIKE THAT YOU WORK AND TRAIN WITH?

The people on my apprenticeship were really good. I made many

friends and we all go on holiday together each year. At my work, I also have a great group of people. They make it enjoyable and help me whenever I need it.

DID YOU FEEL YOU WERE IN A SAFE LIVING AND WORKING ENVIRONMENT?

I do believe I am in a safe working environment both at Westwood and at the depot. As a woman, I was slightly nervous about what it was going to be like as depots can get a reputation for themselves. However, it was not like that at all and everyone respects you the same as they do the men.

HOW HARD DID YOU FIND THE COURSE?

The course had some hard parts and some easy parts. It all depends on what type of learning you find easiest and what subjects you are good at, just like any form of learning. However, if you give yourself time and put the effort in the work is easier. If you show willing, the instructors will do what they can to help you if you are struggling.

DO YOU FEEL FULFILLED BY THE APPRENTICESHIP?

I feel like I have made an achievement by completing the apprenticeship scheme and I am happy that I chose to do it. I would do it all again if I had to.



Interested in following Marisa's example?
Find out more about Network Rail apprenticeships at
www.networkrail.co.uk/careers/apprenticeships/

ARE YOU THE ENGINEER CONSTRUCTION NEEDS?

Engineering is a skilled and highly regarded career with very good starting salaries of around £20k to £30k. There are lots of engineering careers in construction, from electrical to civil, you're certain to find a discipline that appeals to you. And, while financial rewards shouldn't be the main reason for choosing a career path, they're certainly worth taking into account.

HOW DO YOU SEE YOURSELF?

I'M ELECTRIC



I see myself designing, developing and controlling electrical systems and components.

What you need... a foundation degree, HNC, HND or degree (Professional SCQF L8/9/ SVQ L4 in Scotland) in electrical or electronic engineering or a related subject such as building services engineering. **Search on [ucas.com](https://www.ucas.com) for courses.**

Or, you could become an electrical engineer by starting off as an electrical technician apprentice. **Search on [goconstruct.org/roles-in-construction](https://www.goconstruct.org/roles-in-construction) for companies offering training.**

What sort of money will I earn?

- Newly trained engineers earn around £20,000 to £25,000
- Those with experience earn around £25,000 to £40,000
- Senior, chartered or master engineers earn around £45,000

I'M MECHANICAL



I see myself solving complex problem and designing, installing and repairing machinery.

What you need... degrees in mechanical engineering, engineering science, aeronautical engineering, agricultural engineering, computer-aided engineering, manufacturing engineering or nuclear engineering are preferred by employers. And, if your course is accredited by a relevant professional body, it can help you to achieve the status of chartered engineer at a later date. **Search on [ucas.com](https://www.ucas.com) for courses.**

Or, you could enter as a trainee without a degree, but you'd probably need to take higher qualifications at some point. **Search on [goconstruct.org/roles-in-construction](https://www.goconstruct.org/roles-in-construction) for companies offering training.**

What sort of money will I earn?

- Newly trained engineers earn around £25,000 to £30,000
- Those with experience earn around £30,000 to £40,000
- Senior engineers earn around £40,000 to £50,000



I'M STRUCTURAL



I see myself designing structures to withstand stresses and pressures.

I'M CIVIL



I see myself planning, designing and managing structural, transportation, environmental, maritime or geotechnical projects.

What you need... to become a Graduate Structural Engineer you need to do an accredited three-year bachelor of engineering degree or a four-year masters of engineering degree.

Search on [ucas.com](https://www.ucas.com) for courses.

Or, to become a Chartered Structural Engineer you must undertake a programme of professional development and training. It is comparable to a bachelor's degree and is recognised all over the world. **Search on [goconstruct.org/roles-in-construction](https://www.goconstruct.org/roles-in-construction) for companies offering training.**

What sort of money will I earn?

- Newly trained engineers earn around £19,000 to £25,000
- Those with experience earn around £25,000 to £45,000
- Senior, chartered or master engineers earn around £45,000 to £55,000

What you need... you usually need a three-year Bachelor of Engineering degree or four-year master's degree in civil engineering.

Search on [ucas.com](https://www.ucas.com) for courses.

Or, if you already work as a technician, you could qualify as a civil engineer by studying part time for a BTEC HNC/HND, higher national diploma foundation degree or degree in civil engineering, or through a degree apprenticeship in construction.

Search on [goconstruct.org/roles-in-construction](https://www.goconstruct.org/roles-in-construction) for companies offering training.

What sort of money will I earn?

- Newly trained engineers earn around £20,000 to £40,000
- Those with experience earn around £40,000 to £60,000
- Senior, chartered or master engineers earn around £60,000 to £80,000



A SPORTING CHANGE

It's often those that need help the most who receive the least. RugbyWorks aims to help teenagers outside of mainstream education fulfil their future ambitions with a programme based on the values of rugby.





Exam season is upon us and with it comes the perception that these are life-defining moments. Year on year, this pressure seems to increase. In 2018, Childline delivered 3,135 counselling sessions on exam stress. One teenage boy said, "I think I'm going to fail my GCSEs. What if I can't get a job?"

It's a common question, but worse than that – it's completely misguided. The truth is that whatever happens in your GCSEs, any future remains available to you.

Founded by Lawrence Dallaglio OBE, RugbyWorks is an intensive, long-term skills development programme based on the values of rugby, which aims to get teenagers outside of mainstream education into sustained education, employment or training.

These young people have often faced significant challenges in their lives. Many are excluded in a process known as 'off-rolling', where they are excluded from school simply because their GCSE results might reflect badly on the school. Alternative Provision (AP) is often a tough environment, where GCSE results can be the least

of a student's worries. It's no surprise that a student in AP has less than a 3% chance of achieving five good GCSEs.

With such a low chance of getting a good set of GCSE grades, does that mean that our young people should give up on the future they want? Absolutely not – we exist to prove this wrong. Coaches use games and activities that allow students to develop five crucial competencies that we identified with employers as being vital in the workplace:

- **COMMUNICATION**
- **AUTONOMY**
- **ATTITUDE**
- **CORE-THINKING SKILLS**
- **RELIABILITY**

The second part of the RugbyWorks programme seeks to give students concrete opportunities to build an image of their future and the tools to get them there.

Our coaches deliver workshops on CV writing and interview skills; there's no substitute for practice and knowledge in these two crucial gateways.

We have a wide range of partner organisations who open their doors to our students to give them a feel for the workplace and a chance to learn what it takes to work for them. Research shows



JOSE'S STORY

After his family moved to England, Jose was unable to secure a place in a mainstream school. On his first day at school he took part in a Dallaglio RugbyWorks session.

"I wasn't set to get great GCSE grades, but my coaches showed me that there was still a lot I had to offer employers. I worked on my CV and especially on my confidence."

"When I heard about the coaching job at Dallaglio RugbyWorks I knew right away that I wanted to apply. I was so happy when I was told that I had got the job. My job allows me to do something positive with my experiences of AP."

"I feel proud to wear my Dallaglio RugbyWorks kit. It is a sign of how far I've come. Now I have a job doing something I love, working with young people to help change their lives, just like the programme has changed mine."



that these encounters with employers are perhaps the single most important thing in helping young people move into employment when they finish school.

Learning about different workplaces arms students with the knowledge to make an informed decision about their future. Above all, they make clear the importance of soft-skills, networking and a desire to learn and grow, rather than an immaculate academic record.

There's no doubt that doing well in your GCSEs is important. But remember, GCSEs will only direct, not define your future.

At RugbyWorks we work with students who aren't traditional learners who statistically struggle to achieve what their peers in mainstream schools do. Like Jose though, that doesn't stand in their way of aiming for whatever future they want.

The labour market is changing all the time, and this brings with it a need for skills and abilities that you don't sit exams for. It's clear that focus is shifting away from traditional academic requirements to a more holistic view of candidates and a wider range of skills and abilities.

What former RugbyWorks students like Jose prove is that taking stock of who you are, what skills you have and seeking the advice of as many people as possible is just as valuable as a perfect set of GCSE results when landing your dream job.



ABOUT LAWRENCE DALLAGLIO OBE FOUNDER OF RUGBYWORKS

Lawrence Dallaglio is a former captain of England and member of the World Rugby Hall of Fame.

He played 85 matches for England and appeared for his only club, London Wasps, 227 times.

On November 22nd, 2003, he lifted the Rugby World Cup – the first and only time England have won rugby's greatest prize.

He was awarded an MBE in 2004 and an OBE in 2008.

Dallaglio RugbyWorks



For further information, visit: www.dallaglorugbyworks.com

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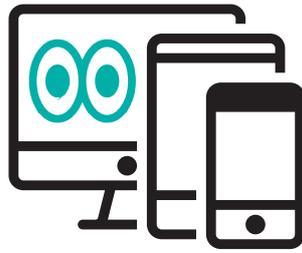


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SCREEN TIME

With digital technology evolving at a pace and being fundamental to an ever-increasing number of jobs, there's never been a better time to study computing.

OF SOFTWARE DEVELOPMENT AND COMPUTER PROGRAMMING JOB POSTINGS, JUST OVER 88% OF EMPLOYERS ARE SEEKING CANDIDATES WITH A BACHELOR'S DEGREE.*

*Burning-Glass.com (analysis of 451,903 computer programming and software development job postings, June 13, 2017 – June 12, 2018)

Teenagers spend masses of time huddled over mobiles and other screens, so an interest in all aspects of tech might be a given. But is it possible to channel that passion into a career and get them to pursue a qualification?

Computers are fundamental to every part of our lives and every type of industry: retail, production, health, government, finance, travel and, of course, social media, film and gaming. The choice of careers is incredibly varied. It depends what your teen's strengths are, as to the path they choose. Computer Science is all about understanding how computers work and how to program them. Information Technology, or IT, on the other hand is more about how computers are used for storing, accessing, analysing and sending information.

A GCSE in Computer Science involves learning about logic, the algorithms that lie behind programs and ultimately how computers drive our digital world.

Computer science careers include areas where there's a desperate need for skilled staff, such as cyber security, data collection and artificial intelligence (AI). Then there's system design and analysis or project management, which involves producing systems that meet the needs of businesses/organisations and their users.

But if your teen's interest isn't in that area, there's also a wide range of Level 2 qualifications in IT. These qualifications are often taken alongside or instead of GCSE subjects in year 10 and 11 and are the same level as GCSEs. These courses can be anything from learning the basics of functional, transferable digital skills for general use, through to an emphasis on creativity such as media production or how to design the 'front end' of a game or website which is often developed by artists.

Both GCSEs and Level 2 courses are equally valid as they provide the skills for work and leisure and they prepare young people for a world that is increasingly digital.

As a country, we simply don't have enough trained people to fill tech vacancies now, let alone in years to come. Which is excellent news as far as job prospects are concerned for those trained in computer science or IT. Especially so if they are willing to go on to study for a digital apprenticeship, A Level, the upcoming digital T Level or a degree.

Generally, girls are massively underrepresented in tech, filling only around 17% of jobs. Yet many forward-thinking businesses are keen to have diverse teams, so are actively looking to recruit women into well-paid tech roles.

According to one report, by Dell Technologies, 85% of the jobs that will exist in 2030 haven't even been invented yet. While the jobs may change, it is clear the future world of work is a digital one, and that's where many of the most creative, exciting and well-paid jobs will be.

BEING GOOD WITH COMPUTERS REALLY DOES PAY!

The pay is good – according to a recent report by Tech Nation, jobs requiring digital tech skills command higher salaries, with wages being, on average, a full £10,000 better – £42,500 compared to £32,500 for non-digital jobs.

For a closer look at the options relating to computer science and IT, visit:

Prospects - www.prospects.ac.uk/careers-advice/what-can-i-do-with-my-degree/computer-science

The Chartered Institute for IT - www.bcs.org

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THE ADVERTISING INDUSTRY

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Forget blogs and trying to attract subscribers – if you really want to influence people and play a part in shaping people's buying and lifestyle habits, then look no further than a career in advertising. What's more, with the industry being increasingly innovative in its approach, now's the perfect time to jump on-board and help shape its future as well as those around you.

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ABOUT THE ADVERTISING INDUSTRY

The advertising and marketing industry is one of the most exciting and innovative industries for the UK. It generates £21 billion in income and employs 200,000 people.

Additionally, it's one of the most diverse and fast changing sectors too. Advertising and marketing for example has seen a huge change in the past five years – with digital advertising representing about 50 per cent of the market.

The industry has its roots in London, but the growth of the sector means that in one way or another there are creative advertising opportunities throughout the country, with Manchester, Bristol, Birmingham, Leeds, Edinburgh and Glasgow being recognised hotspots. The spread is enhanced with the tribe of digital nomads and freelancers who work in the industry.

It can be an industry that pays well too. Salaries can range from £18k for a junior position right up to £100k plus for a director role.

WHAT CAN I DO?

With the industry being so varied, it also means that so too are the available roles.

Broadly speaking, there are three areas to the sector – the creative side (those who generate and mould the advertising, usually specialised agencies), those who sell the resulting advertising methods (this could be in print, TV, online or 'out of house' (OOH) which encompasses the likes of hoardings etc; and those organisations that buy advertising.

Consequently, the increasing spectrum of jobs means that the advertising industry is looking for more diverse talent from a widening range of courses and backgrounds. You don't need to be good at drawing – although there is a role for you if you are! And the industry especially likes people who can see things from different angles – what they call diagonal thinkers. The types of jobs that are available in the sector span someone who is sketching out scamps for a campaign to scriptwriters and media buyers to producers.

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ADVERTISING SKILLS

Advertising works for a number of reasons – it might be to craft a brand image, communicate a change in available products, introduce something new, or to create a 'buzz' about a brand.

The skills you'll need will depend on what advertising role you want to progress. Is your ideal job in planning, creating or identifying where best to advertise? If you're interested in being behind a concept, then you'll need to be a creative, quick thinking team player and have an eye for detail. An understanding of what also grabs people's attention is a must across the industry, so it's good to have the ability to analyse what drives people and be able to spot trends.

You'll be a good communicator and it's important that you are brave enough to suggest those ideas which are firmly out of the box. Develop a campaign that captures everyone's imagination and is entirely original, and the results can be huge. On the opposite side though, you need to be resilient and be prepared for the fact that not all of your ideas might literally make it past the drawing board or what you thought might work, simply doesn't when it's put into action.

To help you determine what advertising job might be for you, have a look on the IPA (The Institute of Practitioners in Advertising) website – there's a fun quiz that will help you.

Work experience will also help you decide. Try to find an opportunity to work on a live brief – for example during the Ideas Foundation summer school programmes or by taking part in the Future Creative workshops run by the Ideas Foundation. Look at www.ideasfoundation.org.uk for details.

Check out world class creative work too – find out who has won the Cannes Lions awards or the D&AD pencils. Contact the agencies whose work you like and get in touch with the creative teams. Read magazine such as Campaign and the Drum or Marketing Week to get an idea of the sort of creative campaigns that are gaining attention.

And if you need physical examples of roles and how they work, check out the video created by the Ideas Foundation with the adam&eveDBB communications agency, which shows you some of the roles that go into making the famous John Lewis adverts. Included are some great careers tips from some of the creatives in the sector to help identify the right role for you. You can watch it at: <https://www.youtube.com/watch?v=yb-odF3szpU&list=PLtMfQUJo4OS17L1afTEGbeqMUAaRed2pi>



YOU COULD WORK IN...

- Agency
- Design studio
- Media sales environment e.g. newspaper/magazine
- In-house marketing department of a business
- Production house

ADVERTISING CAREERS

Roles in the advertising industry are plentiful and varied. Here's a few of the jobs you could do:

Planning and strategic:

Strategy Planners, Media Planners And Buyers, Ux Planner, Web/App Developer, Data Analyst, Econometrician

Doing:

Account Executive, Creative Services Manager, Art Buyer, TV Production, Print Production, Studio Management

Creating Roles:

Art Director, Copywriter, Web Designer, Graphic Design, Visualisation, Content Creation

And because the industry is getting more high tech with algorithms and programmatic advertising, social media metrics and new technology such as immersive experiences, it is looking for creatives from IT and science backgrounds too.

TRAINING

Think about the different routes into the sector – apprenticeships, graduate entry, direct entry via work experience or specialist foundation courses such as SCA. The advertising industry recruits geographers, psychologists, data scientists, physicists, as well as artists.

Check out industry bodies who have information on careers;

www.ideasfoundation.org.uk

Institute of Practitioners in Advertising www.ipa.co.uk

Creative Skills www.creativeskillseurope.eu/creative-skillset/



1 ON AVERAGE, £1 OF ADVERTISING SPEND GENERATES £6 FOR THE UK ECONOMY.
(Source: <http://www.thecreativeindustries.co.uk/industries/advertising/advertising-facts-and-figures/how-advertising-fuels-the-economy#>)

2 THE UNITED KINGDOM RANKS FOURTH AMONG THE WORLD'S LARGEST ADVERTISING MARKETS, AND FIRST AMONG MARKETS IN EUROPE.
(Source: <https://www.statista.com/topics/1747/advertising-in-the-united-kingdom/>)

3 PAID SEARCH ADVERTISING IS FORECAST TO REACH 7.1 BILLION BRITISH POUNDS IN 2019.
(Source: <https://www.statista.com/statistics/248766/advertising-spending-in-the-uk-by-media/>)

LIFE IN THE ADVERTISING INDUSTRY

Join the advertising industry and it's very unlikely you'll be bored. Traditionally, it's a fast paced environment and even if you're working in what many perceive to be a less interesting side of the industry – for example, where you might be trying to find a last-minute buyer for a page of advertising – it can still be quite exciting when you close the deal.

Of course, it can be glamorous too – you only need to look at the multi-million pound campaigns produced by the world's top agencies – but there can also be plenty of stress! There's pressure to make something work and the competition is high, with more and more agencies springing up every day.

The rewards can be high though, and the feeling of coming up with a concept that grabs the world's attention is immense. Your creativity could make a product or brand an everyday name and for those that wish to follow an advertising career all the way to the top, there's a six-figure salary as the ultimate prize.

If you're someone who is creative or a great communicator, then the advertising presents ample opportunity for success. The hours and pressure can be tough, but get it right and you'll also be in a position to advertise your own skills to a very big audience. Many people can and do thrive, and the money is good in return for your efforts. At every level, though, there's the chance to develop professional skills, gain high level qualifications and build a career. You might even pick up some handy tips on how to make your money go further along the way...



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NOT LONG NOW!

The end of June marks the end of exam season. You're nearly there. Keep calm. We've got lots of tips to help you during a stressful time.

Exams will soon be over! The final watch will stop and there will be no more revision to do or revision timetables to fret over. Soon you will be able to spend the time until results day in a cocoon of chocolate and streaming box sets - and who could blame you?

Until then, make sure to take good care of yourself! Here are some things to think about.

THREE THINGS TO DO:

1. Exercise.

The very best way to boost your energy, clear your head and reduce stress is being active. Playing sports, going for a run, doing yoga, even walking the dog – they all count. Need a little help? You can follow the NHS podcast that will get you from the Couch to 5k in just nine weeks: <https://www.nhs.uk/live-well/exercise/couch-to-5k-week-by-week/>

2. Breathe.

Sure, 'mindfulness' is a bit of a trendy term, but who doesn't feel like they need time out to take some deep breaths every now and then? Download the Calm or Insight Timer apps for soothing sounds, guided meditation and general support in chilling the hell out.

3. Nourish.

There's never a bad time to look at how well you're eating and drinking. If exams are taking too much out of you, focus on drinking plenty of water (not energy drinks or anything sugary) and munching on some fresh fruit and veg. You'll feel better fast.

EXAM DAY TIPS

- Don't cram! Get a good night's sleep before your exam.
- When you get your exam time to read through it before beginning and start with what you know well.
- During the exam, focus on you and not what anyone else is doing.
- Don't keep reliving the exam when it's done. Move on!
- Be kind to yourself. Whatever your grades are, getting to the end of GCSEs or ALevels is a big, significant step in life. Well done you. You're almost there!



GET READY FOR RESULTS DAY

When your exams have finished, here's a five step plan for being on your game:

1. Preparation.

Plan ahead for results day and make key decisions ahead of time if you can. It saves stress on the day itself. For A Levels, make sure your contact details are up to date on UCAS Track so unis can get in touch with you if they need to. For GCSEs, have the details of any colleges/schools you've applied to ready.

2. Be available.

If anything goes wrong, it's best to sort it out in person, so try not to be on holiday if possible. Have a look at our feature all about Clearing in this issue.

3. Location.

Where do you want to open your results? With all your friends, in a hole in the ground, at home...? Choose what feels best for you and let friends and family know.

4. Timing.

Find out when your school or college will be open so you're not gnawing at a locked door in a state of quivering anxiety. For A Level results UCAS Track will be open for business from 8am so you can also check the status of your offers online.

5. Pack your gear.

For results day, you'll need a fully charged phone (keep a charger with you), water, snacks, pen and paper and tissues for any crying incidents.

ROCK YOUR NEXT JOB INTERVIEW

EPISODE 2

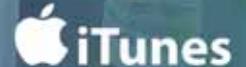
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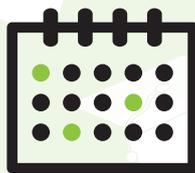
PODCASTSERIES



QA's FutureProof Careers podcast assesses today's job market, raises important career questions and helps you set yourself up now for future career success.

CLICK HERE TO LISTEN





OPEN DAYS

Unsure about your future? Unleash your inner Dora the Explorer and discover your options at a university or college Open Day! Thinking about the future might seem daunting but it's something we all have to do at some point, whether we like it or not.

**You probably have so many questions about Open Days.
Here are some of the top questions students ask:**

WHAT IS AN OPEN DAY?

Open Days are a fantastic opportunity for you to experience first-hand what university or college is really like. Universities and colleges open their doors to the public who are interested in applying to them. There will be plenty of talks going on during the day where you can find out more about different subject areas, what life at the university is really like, student housing and finance.

You'll also get to take a look at all of the universities' and colleges' facilities, such as sports areas, Students' Union, restaurants, social areas and green space. There will also be workshops going on throughout the day so you can get a taste of what the subject you're interested in is really like.

WHY SHOULD I GO TO AN OPEN DAY?

Wondering if there's any point in going to an Open Day? There absolutely is!! Going to an Open Day is your chance to learn about the course you're looking to enrol on and you get to meet current students and learn about their experiences while also meeting lecturers who can discuss the modules in more detail.

University isn't all study, study, study! Although a key part of going to university and college is to study and achieve a qualification, social life also plays a big part. If you're moving away from home then it's important to find out more about the location you could be moving to. They all have different settings - from being remote in a small town to metropolitan in the middle of a big city. Check them out to see if it fits you!

WHAT SHOULD I FIND OUT WHILE I AM THERE?

Have a look around and see what vibes you're getting from the university. Does there seem to be a good relationship between staff and students? Do the students there seem happy?

Make a list of any questions which might influence your decision. Some examples include:

- If you own a car, is there any student parking and is there a cost associated with this?
- Is the university accessible by bus or train? Is there far to walk from the stations?
- Are there scholarships or bursaries on offer?
- How many contact taught hours does the course offer?
- What is access like to specialist facilities?
- Does the course offer professional accreditation?
- What is the degree/course made up of? (coursework, exams, presentations, group assessments or practicals)
- What are the core and optional modules?
- What are the university halls like?
- Are there good careers and student wellbeing services?
- How does the university help with finding internships and work placements?
- How often is the library open?
- How far is your accommodation from the supermarket?

WHERE CAN I FIND FURTHER INFORMATION ABOUT ATTENDING AN OPEN DAY?

Next step: Find an Open Day! You can find out further information about attending an Open Day by using the incredibly useful tool on UCAS. Can't attend an Open Day? Give their student services a call, they may be able to accommodate in another way. Most universities make Open Day podcasts which you can listen to so you won't miss out!

Choosing to go to university is a big decision - personally and financially. You wouldn't buy a house without checking what the neighbourhood is like or what it is like inside! Do your homework so you know you've made the right decision for you.

TO FIND AN OPEN DAY, VISIT: www.ucas.com/ucas/events/find/type/open-day



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FIVE THINGS YOU NEED TO KNOW ABOUT CLEARING

1. WHAT IS IT?

It's a process that allocates unfilled uni places to students without any offers.

2. WHO IS IT FOR?

Clearing is for students who:

- don't get the grades required for their conditional offer(s) on results day and end up without any offers
- have their exam results already but don't have any uni offers (so if you took your exams last year, for example, but didn't apply to uni, you can apply through Clearing this year).

3. HOW DOES IT WORK?

Basically, there's a list of unis with available places on the UCAS site. All you do is start working your way down the list, calling unis with courses that interest you (doesn't have to be anything to do with your previous choices) and seeing if they have anything for you.

4. WHEN DOES IT START?

THURS 5 JULY 2019 – CLEARING OPENS

If you've already got your results, you can start your application process then. If not, you'll be able to enter Clearing on results day (6 August in Scotland, 15 August in the rest of the UK), if you decide it's for you.

5. HOW DO I GET A PLACE?

Missed out on your grades, or decided to turn down your offers? Start working down the lists and calling unis, with your Clearing number, UCAS ID and results to hand (all that info is available on Track).

Got your grades already? You'll need to complete a full application (which you can do after the 30th June) on the UCAS site first. After that, you follow exactly the same process as above.

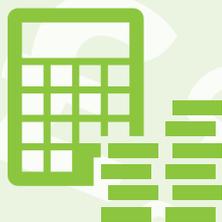
Unis will let you know what they have available and if they're willing to make you an informal offer. You can then go away and think about it. Once you've made your mind up, contact them and accept the offer. Once they give you permission, you can add that course to your choices on Track.

Adding the course to Track means you've accepted the offer, and they'll send you a confirmation. And that's it! You're going to uni. Time to start investigating student finances and looking forward to the road ahead. We recommend perfecting your tea-making skills too, it's a great ice-breaker during Freshers' Week.

CLEARING TIPS

- Missed your grades? Before you do anything, contact your Firm and Insurance offer unis and explain the situation. They may still accept you.
- No luck? Take a breath. If you end up with no offers, give yourself time to feel that disappointment, get some hugs in, have a small cry, whatever you need. No shame in it. Then dust yourself off and hit the phones: thousands of people get to uni through Clearing every year, so you can as well.
- Be calm, be courteous, be confident: the people on the end of the phone want to help you find a place.
- Don't worry if you're not sure about anything: unis are very good at this and have experts on hand to advise you.
- Get input from your school, parents and friends. You're making big decisions, it's fine to get help.

GET MORE INFO ON CLEARING AT [UCAS.com](https://www.ucas.com)



COUNTING THE COST OF UNIVERSITY

Affording university can seem as daunting as meeting the entry criteria. Here's the lowdown on university funding.

There's plenty to consider when applying for university, not least the financial implications of pursuing such an education.

Truth be told, the attention-grabbing headlines of students leaving university with crippling debts don't tell the full picture, but there's no denying that going to university costs.

Students commonly fund their studies by applying for the tuition fee loan – which goes direct to the university – and also the maintenance loan, the latter designed to cover their living costs. The size of the loans differs in England, Scotland and Northern Ireland.

They begin to repay both when they graduate and reach a certain salary in the future, which at the moment is £25,725 per year. The scale of repayments is linked to their salary, rather than the amount borrowed, and the loan ceases after 30 years. So while some students may graduate with £50,000 of debt, the reality is that they may never repay the full amount or, in extreme cases, will repay none of it.

PARENTAL 'TOP-UP'

It is recommended that tuition fees aren't paid for by any means other than the official loan. What isn't immediately obvious though, is that the vast majority of students won't receive the full maintenance loan and parents are expected to bridge the gap, the amount of contribution being based on earnings.

The parental 'top-up' commonly runs into thousands of pounds and, even then, it may still not be enough to cover students' living costs. Once again, the shortfall is usually out of parents' pockets, although many students contribute themselves by working part-time jobs throughout their studies or using savings.

Another way to lower costs is to see if the university has any bursaries, scholarships or grants available.

It's common sense and there's arguably little other way to lessen the financial impact, but for parents the best advice is to start saving a good number of years before their children reach university age.

BUDGETING

Of course, when students arrive at university it's up to them to manage their money! In all the excitement of starting something new, often leaving home for the first time and enjoying new experiences, budgeting might seem incredibly tedious, but it's the best way to stay in the black.

Look for the best student bank account too. Banks want to capture customers at an early age and incentivised student current accounts are commonly available, offering discounts on everything from clothing to travel.

Credit cards and overdrafts can be a recipe for disaster, but if they're used sensibly and are chosen carefully – for example, 0% products – they can be very useful for making big purchases, such as computers. And on the subject of electronics, consider some insurance too. It's thought that students start university with circa £5,000 worth of technology, be it telephones, cameras, laptops, tablets or audio-visual equipment.

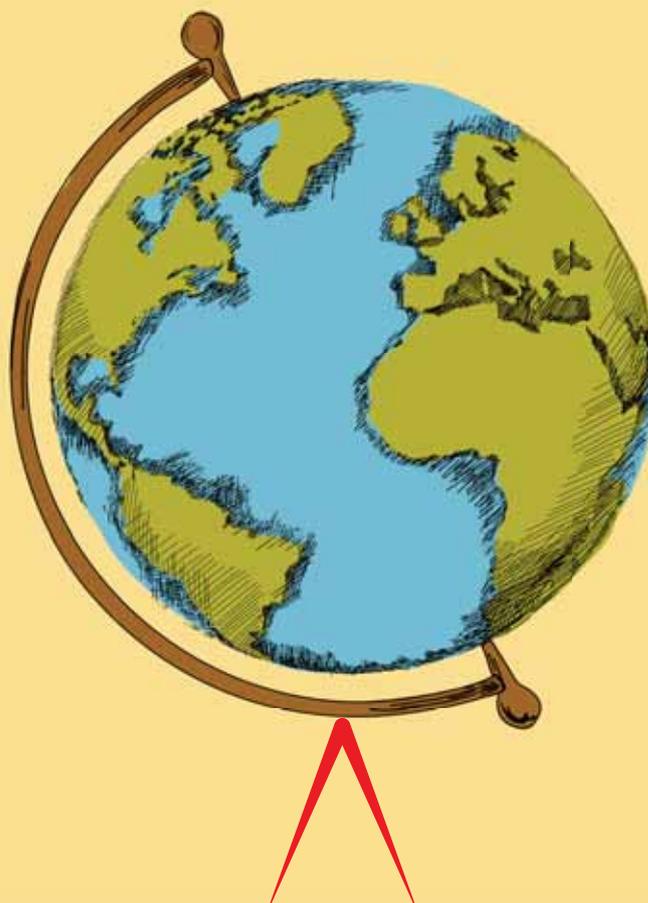
In the big picture then, and despite what the media may have you believe, going to university isn't only an option for the well-heeled. The loans system actually works much like a tax and is designed so that repayments are linked to how well someone is considered to have benefited from a university education.

If someone graduates into a well-paying job, then it is accepted that what they learnt enabled them to secure the role. If they haven't been able to reach a level that a university education is thought to provide (determined by the salary amount that graduates must earn before repayments commence), then they simply won't be liable to pay anything back.

FOR FURTHER INFORMATION ON UNIVERSITY FUNDING, VISIT:

Money Saving Expert: <https://www.moneysavingexpert.com/students/student-loans-tuition-fees-changes/>

Which?: <https://university.which.co.uk/advice/student-finance>



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WHAT DOES YOUR FUTURE LOOK LIKE?

Isa Mutlib, Executive Director at BAME Apprenticeship Alliance talks about being from a diverse background, the opportunities apprenticeships provide and how to challenge parents' perceptions.

I regularly go into schools and speak to students about the amazing opportunities available to them. Despite being from a diverse background, I emphasise the importance of skillset and work experience in respect to young people's futures.

I ask students to consider 'what does the future of work look like to you'? Take a minute or two to think about this. What springs to mind? Do you realise the importance of technology in the workplace and how it's shaping your future? We live and work in a connected world... one where technology is constantly evolving and creating careers for the future.

I often get asked...

Is an apprenticeship better than university?

An apprenticeship is neither better or worse than university but it is a viable alternative to traditional learning routes. Apprenticeships expose you to earlier career opportunities and give young people the opportunity to learn industry-specific skills attached to qualifications.

Apprenticeships are a debt-free option which enable you to climb up the career ladder and they not only open opportunities for the present but also prepare you for your future. Apprenticeships give you the edge as you'll develop vital skills and experience enabling you to advance your career.

Young people often feel pressure from their parents to go down the university route which is considered the norm in society. By challenging your parents' perceptions and realising an apprenticeship is a credible alternative to university, the benefits will soon become apparent. Not only do apprenticeships offer career and financial stability but they are also a step to your future.

There are so many support mechanism to apprenticeships and your capabilities will shine through while you also gain a nationally recognised qualification. You can actually qualify to degree level!

How can we challenge our parents' perceptions?

To challenge your parents' perceptions you first need to fully understand why you're choosing to go down the apprenticeship pathway. Just like university isn't for everyone, an apprenticeship might not be right for you.

Maybe you can't do an apprenticeship in the career you want to succeed in. Perhaps you don't feel ready to enter the world of work... If you're unsure about an apprenticeship it's important to research your options to find the right route for you!

How can I find out more about apprenticeships?

Do your homework and you'll find out so much information about apprenticeships. A fantastic starting point is careermap.co.uk where you can find 1000's of live opportunities, career advice and guidance.

What is diversity and when will young people understand the importance of it in the workplace?

At the moment diversity might be meaningless to you. As you begin your career journey you'll understand why diversity is important - especially in the workplace. Diversity can relate to gender, characteristics, personality, religions, background, ethnicity and more!

Over time you'll understand that diversity in the workplace matters as it's important to appreciate differences in individuals to promote inclusion, respect and teamwork. Employing people who are different, influences alternative perspectives and increases engagement.

Black, Asian and minority ethnic (BAME) communities are supported across the country from Manchester to London, Yorkshire to Birmingham! Local communities actively seek to recruit Black/Asian apprentices to make up a diverse workforce.

bameaa.co.uk



QUOTE FROM ASIAN APPRENTICESHIP AWARD WINNER



I was absolutely over the moon when I won two awards on the night! It's opened up many great opportunities and has really lifted my confidence. I have met so many inspiring people since winning the awards who have really pushed me to do my best.

I've been out to local schools talking to Year 10 and 11 pupils about interview skills and about apprenticeships. PM Training also asked me to be their ambassador for Staffordshire leading me to speak at many events in front of employers, something I never thought I would be able to do!

I also had an amazing opportunity to work with the BBC in London. The Asian Apprenticeship Awards do an amazing job at recognizing the young British Asians who are doing apprenticeships.

Naila Bibi, HR Apprentice at Aspire Housing

THREE TOP TIPS TO PLAN YOUR FUTURE CAREER

When you start to look at the vast range of career opportunities available to you you will be amazed. You may already have an idea about the kind of career direction you may wish to go in or may not know where to start. Don't worry - there is plenty of help and advice available.

HERE ARE MY 3 TOP TIPS:

1. REFLECT ON WHAT KIND OF PERSON YOU ARE.

We all have particular interests, strengths and aptitudes and it is important to play to these. To find inspiration, check out Careermap TV <https://careermap.co.uk/careermap-tv/>

2. IT IS NEVER TOO EARLY TO START FINDING OUT ABOUT WHAT EXISTS.

This magazine will help. Avoid the trap of just looking at familiar jobs or making assumptions about gender stereotypes. You may be missing out on opportunities.

For example, don't assume that a field like construction is just about manual labour. Think about all of the technologies, all of the design careers, the administration, finance, marketing and much more and do some research into these.

You can subscribe to Careermap for free here: <https://careermap.co.uk/careermag/>

3. DON'T ASSUME THAT THERE IS ONLY ONE ROUTE TO YOUR CHOSEN CAREER.

University may be the best option for you but do you also know about apprenticeships options such as the new degree apprenticeships which enable you to get the same degree as you would at university with all fees paid, no debt and a salary while you are completing it?

**Above all remember that you have the power to shape your own future.
I wish you the best of luck with that journey.**

Brian Lightman



**HELPFUL
LINKS:**

www.getingofar.gov.uk
amazingapprenticeships.com/resources/

For parents & carers



Supporting their choices – how you can help to prepare them for university

- > Consider talking to your son or daughter about budgeting if they don't have experience of planning their finances for accommodation, food, clothes and other bills.
- > Are they used to cooking their own meals? If not, it's something to get more involved in before University.
- > Encourage your son or daughter to join some clubs or societies when they arrive at uni – it's a great way to meet people, try a new activity or develop an existing passion.
- > Talk to them about what to expect at university – some young people can feel lonely, overwhelmed, homesick or just tired in the first few weeks. Discuss how they might manage this and who they can talk to if they experience these feelings.
- > If your son or daughter is planning to be a commuter student – travelling to the campus each day – discuss what you both expect from this arrangement in advance.
- > Consider talking about studying – some young people are already motivated to do their own independent study, some less so. Studying at university will be very different to studying at sixth form college or further education and your young person will be expected to organise themselves.
- > You may want to encourage your son or daughter to start thinking about their employability from early on in their study. They may be very clear and focused about why they are studying their degree subject and what they are planning afterwards. They may not. Either way, it's beneficial for them to engage with the careers service, volunteering and other opportunities early on.

“My advice is to encourage your child but also take a step back – it's their decision. It's very hard to do that – to let go, to let them make the decisions, but you have to.”

Pam Clements, mum to David

For more advice visit
tees.ac.uk/parents



David, Andrew and Pam at our open day in 2014.



'FUTURE PROOF' CAREERS...

The robots are coming!

Understanding a rapidly changing job market can be difficult. We've put together a guide to help you understand how careers are *likely* to change in the future based on existing facts, trends and ideas. And guess what? Some of these could already be on the visible horizon.

Are you beginning to think about the career route you want to go down?
Are you worried by the discussions of robots stealing our jobs? We all have so many questions flying around in our minds:

Which jobs will fade out? How will technology impact the working environment?

Although we don't have solid answers to these questions, we can provide insights based on what we know already from current debates surrounding automation, an aging population and urbanisation. All these factors have a huge impact on what makes a career 'future proof'.

CHEF

We all love going out for meals and trying new food. Why? Because every amazing meal has a talented and creative chef behind it. Robots don't have the ability to taste and to create delicious menus the same way as a chef can. We'd say this is a safe job!

MARKETING, COMMUNICATIONS & DESIGN

Creativity is at the heart of marketing, communications and design. Robots are unable to think the same way as humans do and aren't great at coming up with new and exciting ideas. Marketing, communications and design all require future proof skills to get the job done.

HEALTHCARE PROFESSIONAL

Human interaction and emotions like caring are vital attributes in healthcare professionals. Robotics just won't cover it. Due to the aging population healthcare careers are extremely in demand!

EDUCATION AND TRAINING

Education and training staff are in high demand. The Department for Education are currently working towards creating more school places increasing the need for teachers. Teachers need interpersonal skills and the ability to care about their students.

CYBER SECURITY

Cyber security is a career of the future. We're a connected world which continues to expand meaning cyber risks are becoming more threatening. We live in a world where individuals, companies and the government are increasingly dependant on technology. With high-speed technology innovations come risks and we need people to tackle this.

ENGINEERING

Advancing technologies presents aspiring engineers with new opportunities. Technology is reshaping the future of the engineering industry. It's not all about high-vis jackets. Careers range from civil engineers, software engineers, electrical engineers and many more!

CONSTRUCTION

We live in a world which is constantly changing. Many rural areas are shifting to urban areas as the UK builds millions of new homes over the years to come to solve the housing crisis. A career in construction can lead to an increasingly lucrative route resulting in better opportunities for young people.

DATA SCIENTIST

We live in a data rich world with emerging technologies which enables us to capture data in various ways. Although technology plays a vital part in a data scientists job, we still need people to interpret the masses of data out there. Data scientists need to explore trends and extract knowledge and insights from the data.

VET

Do you consider your pet as part of the family? You're not alone! It not just ourselves that needs looking after when we are ill, but also our pets. According to the Pet Food Manufacturing Association, an estimated 40% of households have pets in 2019 and those people need vets to care for their pets when they become ill or need their boosters.



Apply for 'future proof' careers here:
[Careermap.co.uk](http://www.careermap.co.uk)



CREATING FUTURES IN SPORT

**ARE YOU LEAVING SCHOOL THIS YEAR AND
LOOKING TO TAKE YOUR FIRST STEPS
TOWARDS A CAREER IN SPORT?**

SCL CAN HELP YOU GET ONTO THE RIGHT TRACK.

Offering Level 2 and Level 3 qualifications in sport to 16-18 year olds nationwide, and with over 15 years' experience, SCL work in partnership with 70+ professional, private and grassroots sports clubs, foundations and community trusts, to deliver full-time education and development programmes across football, rugby and cricket.

As one of the UK's leading providers of education through sport, you will receive:

- A full-time sports education, combined with sports training
- Experience from a government approved post-16 private education provider
- Regular training from FA qualified coaches
- Nationally recognised, high quality information, advice and guidance
- Education and training led by high quality and inspirational teachers
- Programmes delivered in real sports environments
- Great work experience opportunities
- Upon graduation, opportunities to progress onto university, apprenticeships, professional or non-professional sport, and employment

**FIND OUT MORE ABOUT VENUES NEAR YOU,
AND REGISTER YOUR INTEREST TODAY:**

 wearescl.co.uk/school-leavers
 register@wearescl.co.uk
 0345 644 5747

 **STARTING SEPTEMBER 2019**
 **NO TUITION FEES**

*other costs apply



Be more awesome

We turn raw talent into real success.

Everyday at Paragon Skills, we meet brilliant young people who have incredible raw talent and are eager to kick-start their career. We help to guide and coach them through their Apprenticeship journey to ensure they are on the right track.

We have vacancies within the following sectors across the country:

- Accountancy
- Adult Care
- Automotive & Marine
- Business Administration
- Childcare & Education
- Customer Experience
- Hair & Beauty
- Leadership & Management
- Learning & Development
- Recruitment

You can start your career with amazing businesses and well-known brands across England.

Call Paragon Skills today on **0800 783 2545** and we will help you get there. Check out our latest Apprenticeship vacancies by scanning the QR code below.



Western Sussex Hospitals
NHS Foundation Trust





WHY SHOULD YOU SUBSCRIBE TO CAREERMAP?

**Are you due to leave school or college this summer?
If so, you might be feeling like you're drowning in an overwhelming
sea of confusion. There are so many post-16 options available to you and it
can be a daunting step deciding which pathway you want to go down.**

That's where we step in to help!

Here at Careermap, we recognise that this is an important stage in your life. At school you follow rules and it feels like decisions are made for you, from where to sit to what to wear. But now you're about to enter adult life, which means it's over to you to make BIG decisions!

Careermap connects you with 1000's of live opportunities. From apprenticeships to university opportunities, graduate options and gap years - we have so many post-16 options for you to choose from! Not only is Careermap the go-to place for you to take a step closer to your dream career, we also provide high-quality career information and guidance.

Looking for Career Inspiration?

If you're looking for career inspiration then head over to Careermap TV or Careermag.

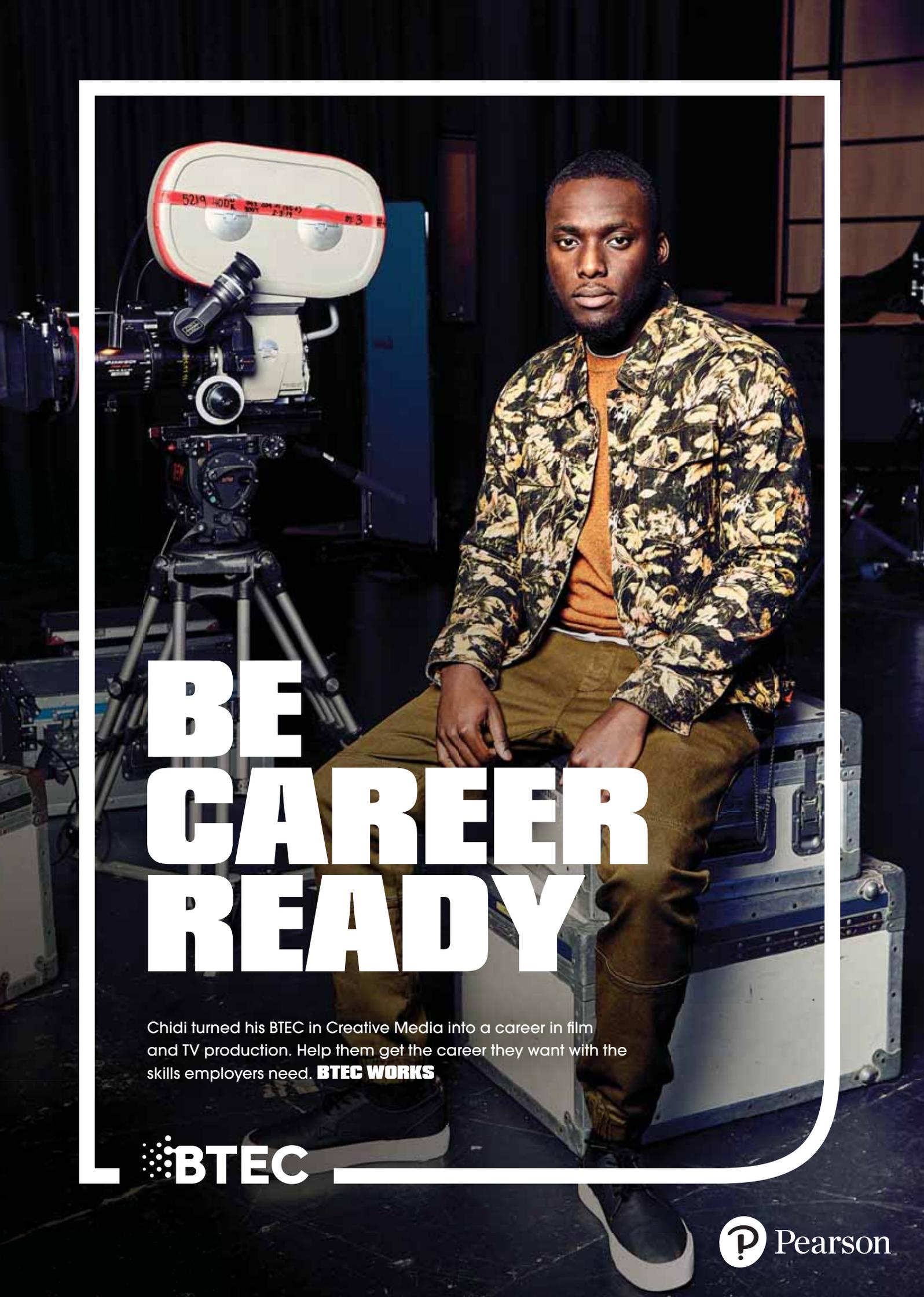
Careermag aims to connect students and their parents to quality advice and guidance. If you're unsure about your future, Careermag offers an exciting read focusing on opportunities from top employers, diversity, linking careers and curriculum, how technology can impact your future, inspiring case studies and future proof careers.

Careermap TV is a fun and visual learning resource which focuses on opening up a world of opportunities through innovative video clips. Top employers and apprentices share their experiences of entering the world of work, find motivating homework tips and learn about how creativity powers the world plus much more.

Head over to our blog section to learn about all the qualifications available, how you can get the edge in a competitive job market, education and skills news, plus we also delve deep into the different industries you can work in.

Want to start receiving job alerts from top employers looking to recruit an apprentice in your area? Simply, subscribe to Careermap to take a step closer to your dream career! You can even register your CV to be found by top employer and apprenticeship providers!

Take your next steps after school or college and explore the amazing opportunities available on careermap.co.uk



BE CAREER READY

Chidi turned his BTEC in Creative Media into a career in film and TV production. Help them get the career they want with the skills employers need. **BTEC WORKS**

 **BTEC**

 **Pearson**