Thinking about an apprenticeship?

Women who work in Engineering and Science talk about their jobs

What do we do all day?

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Introduction

Len McCluskey –
Unite General Secretary

There are many outdated myths that discourage women from choosing engineering as a career. I hope you will find this guide useful in challenging those myths. The guide contains real stories from Unite young members who work in Science and Engineering and explain what you can really expect from working in male dominated sectors, rather than what you will read in some company advertisements.

Unite the union is working hard to encourage young people, and young women in particular, to consider a career in science or engineering. Unite works with our members in science and engineering to negotiate decent pay and working conditions, good apprenticeships with high level skills and the prospect of a real job at the end of it. Working in science or engineering can be a massively rewarding career choice, particularly if you work in a company that has union organisation.

Unite the union is proud of its members that work in science and engineering industries. We are rightly proud of the contribution they make to the economy and society as a whole. Engineering is essential to our daily lives, whether it’s our transport, communications, home security, white goods, offices, factories or hospitals. We are facing major global challenges of climate change, growing and ageing populations, supply of food, life saving drugs, clean water and energy.

Engineering is a crucial part of our economy it is three times the size of our retail sector and represents a quarter of the turnover for all UK enterprises. Between 2010 and 2020 engineering enterprises are projected to have 2.74 million job openings, of which 1.86 million will be workers who are likely to need engineering skills. There are great job opportunities, Science and engineering has a bright future in the UK economy.

Whatever your career choice, make sure that you have the backing of your union when you go to work, sign up to join Unite at www.unitetheunion.org
Why Choose an Apprenticeship in Engineering and Science?

• A chance to learn while you earn
• An opportunity to get industry recognised qualifications
• A chance to learn from experienced workers in the sector
• Real work Experience

Why are there so few women working in Engineering and Science?

Women are still vastly underrepresented in science, technology, engineering and mathematics (STEM). The percentage of women A-level physics students is as low as 20%, and the UK has the lowest proportion of women engineers in the EU with currently represent only 7% of the engineering workforce in the UK. Gender occupational segregation is a major feature of the UK labour market and also a main reason the equal pay gap still exists.

There are a number of reasons for this gap, there are many complete myths that survive that women are not strong enough to be engineers, that the working hours are too long or that its unsafe or dirty work. Science and engineering also suffers from a stereotype that says it belongs to those who are white, middle class, male and brainy.

Unconscious bias from teachers, parents and employers can lead to women being discouraged from applying to work in science and engineering. Girls are treated differently in the classroom and careers advice is far from encouraging. Women are more likely to be encouraged to take up careers in hairdressing or social care.

Emma, a Unite member who works in engineering knows about these issues:

“The traditional barriers are not there anymore. I’ve seen attitudes change over the course of my career. Equality is now the norm in the work place.”

Don’t be put off by outdated sexism. Women make brilliant engineers and scientists and long gone are the days when women were effectively barred from the workplace. You may need to challenge some preconceived ideas along the way but you will always have Unite members on your side working with you to tackle any dinosaur behaviour.
What should an Apprenticeship give you?

- A contract of employment
- A full induction to the work place
- A negotiated training plan or agreement between yourself, the employer and the training provider
- A fair wage
- A safe working environment and protection from discrimination and bullying
- Release from work to attend formal training
- Provision of an appropriate range of experiences within the work place to enable you to complete your qualifications
- Access to support, guidance and mentoring
- Quality training
- Regular assessments and review of progress
- Sufficient time away from your work station or desk to study in work time.

There are two principal pathways into science and engineering; the academic route through higher education and the vocational route through apprenticeships, further education and other work based training.

There are many leaders of great British manufacturing companies who began as an apprentice and built their careers via the vocational route. This is one of the greatest strengths of the profession. It is important to check that the apprenticeship that you are applying for provides the skills and qualifications that you need though.

Unite believes that apprenticeships should be at least three years long, where skilled workers mentor apprentices, where there is ongoing assessment and verification of skills and study leading to formal qualifications.

There is no reason why you can’t do both an apprenticeship and a university course. The academic route in to science or engineering may suit you as just as well, there are many excellent courses, but we focus on apprenticeships in this booklet.
Real jobs for real apprentices

If you want to work in the science-based industries (Chemical, Life Sciences, Pharmaceuticals, Polymers and Nuclear companies), why not become an apprentice?

Leaving school or college can be a daunting prospect and one that is faced by many young people as they face making decisions that will help to shape their future.

The Cogent Technical Apprenticeship Service (which Unite supports) can support your learning and development in a range of industries and we can guide you every step of the way.

Becoming an apprentice is a great way for you to start your career whilst at the same time improving your prospects of progressing in your chosen industry, with the added bonus that you will earn while you learn and pick up some recognised qualifications as you go.

What is an Apprenticeship?

Apprenticeships are high quality work-based training programmes, which provide the opportunity to earn a real wage as you learn and gain practical skills in the workplace. With the perfect balance between on the job training, real employment and assessments, you can gain the essential skills and the experience employers want, whilst achieving recognised qualifications to support your career development.

Gain experience

Through an Apprenticeship you will push yourself in new and different ways and with most of your training on the job you will be gaining the hands-on experience that will see you become a valuable member of the team.

Gain a qualification

Throughout your Apprenticeship, you will also go to college or university (most often on a day-release basis) to study for nationally recognised qualifications.

An Apprenticeship is a framework made up of a set of qualifications, most of which follow a standard format; a technical certificate and a National Vocational Qualification (NVQ) plus key transferable skills such as communication skills, application of number and working with others.

The training provider provides the knowledge and develops skills whilst the employer provides the practical experience to put those skills to the test. Training can be classroom based, in a workshop or in a workplace, depending on the subject and on the provider.

What next?

Our list of Apprenticeship vacancies is constantly changing. Be sure to keep an eye our website www.the-tas.com. And if you can’t find what you’re looking for, give us a call and we may be able to find an Apprenticeship for you. We also have information for parents.
I left school at 16, unsure of what I wanted to do, but knowing that I didn’t want to go down the conventional route of A-Levels followed by University, as personally I didn’t want the debt.

Fortunately, during one of my schools ‘careers evenings’, I was informed about the ‘National Apprenticeship Scheme’ online where you can search for and find 1000’s of apprenticeship vacancies. This means that I was able to find the opportunities available, attend interviews and be selected for Brush within about 3 months.

However, it is now the standing joke in my house that my Dad started my career off for me. See, I was one of these females that believed that Engineering was solely for males and therefore before I’d even apply Dad had to ring Brush to confirm that they would even consider taking on a female! It is only now that I am within this industry that I understand the many different avenues covered under the ‘umbrella’ of engineering i.e. drawing, assembling and manufacturing.

One of my main concerns is that there are plenty of other females out there that have the ability and skill required to perform such engineering tasks, but that they are also under the impression that it is for males only. Truth be told, it is a male-dominated environment, but that will only change with time as more females see what a great career choice it can be. I understand that I have been fortunate enough to enter into a ‘proper apprenticeship’. By this I mean that I am paid a decent wage and learning transferrable skills with a high possibility of being employed at the end, alongside working towards decent qualifications (HNC/HND).

However this doesn’t mean that I haven’t seen the challenges that young people face. People I know have chosen apprenticeships that offer little/no training, are on short-term contracts and poorly paid (the National Minimum Wage apprentice rate is just £2.73 an hour).

Many of my peers have chosen to go to University and are currently being exploited in low-pay/zero hour jobs as their employer knows that they need the money to get through University. Some of my peers have also made it to their final year of University before facing a year’s placement/internship unpaid.

Apprenticeships shouldn’t be seen as an ‘easy route’, but more as just as much of an option as University is seen! Schools should be trying to promote apprenticeships as much as they do University and also try to breakdown the stereotypical views that I myself have encountered such as; ‘Females go into Hair & Beauty and Males do Engineering’.

My main job onsite is to test turbo generators. However, within my career so far I have also been given the chance to weld, machine and wind. I feel fortunate to have been given fantastic opportunities but saddened by the fact that other young women are missing out due to poor careers advice at school and societies gender basis. Employers should be investing in apprentices, paying them a decent wage and giving them the tools and opportunities to help develop their organisation. In doing this it is mutually beneficial for all.
I have been asked to write a few words about my experience as a woman working in the car manufacturing industry.

I joined Mini Plant Oxford as a Maintenance Apprentice in 2012. After completing 1 year at the internal training school, I am currently mid-way through 2 years of placements before settling into my final placement in my 4th year.

I feel I have had a very positive experience regarding working at Mini Plant Oxford, mainly within engineering departments. The industry is still male dominated but I have never worried about working with just a male team, my male counterparts treat me exactly the same as the male apprentices, which is what I expect.

I have found that my ideas and chain of thought can differ from that of my male counterparts but I think this is a positive to a team as it helps expand the range of ideas.

I think that with the advances in technology and the reduction in manual tasks, the engineering world is opening up to more people, not just women. Although the manual side of engineering will never go, faults are being solved and rectified using technology and the switch of a button. This doesn’t take away from the technical side of engineering, just the type of person who is able to do these tasks.

On the other hand I feel we should try and step away from the ‘stereo-type’ given to women so we don’t assume they want to do a clean, office type role but a practical, hands-on role.

I have personally enjoy the manual tasks and found I have completed all the work given to me. Manual lifting is never a problem as there is equipment and other people to assist me.

After attending two conferences with Unite, I know that there is plenty being done to get women, like myself, into the manufacturing and Engineering Industry which is fantastic.

Nicole Staunton works for BMW as a maintenance apprentice

I am in my 5th year of working at BMW Plant Oxford, where my current job title is a machine technician in the Body in White facility.

More specifically I am part of the central maintenance department and based upstairs maintaining the conveyor systems.

My day to day job includes: reacting to breakdowns across the upper level systems, providing assistance to the downstairs maintenance teams and carrying out preventative maintenance on equipment.

Pros:

• Completing an advanced apprenticeship in electrical maintenance and achieving a Foundation degree in electrical/electronic engineering.

• Varied level of day to day breakdowns, some of which require challenging technical solutions

• Being treated equally and fitting in well with a 6 man team

Cons:

• The lengthy night shifts!
I started my apprenticeship at Unilever in September 2010. I had always planned to go onto university after my A-Levels to study science, but after hearing about the scheme it seemed like the best route for me to take as I would be learning on the job and not getting into any debt.

An apprenticeship is certainly not an easy option but I really enjoyed it, and after four years of hard work I now have a first class honours degree in Chemistry and a permanent position at Unilever. My job is to develop new technologies for inclusion in the laundry detergents of the future. I am often in meetings where I am the only woman present, but I have been lucky enough to have never experienced sexism here. Although it seems that male managers are more prevalent than female ones, you can see now that women are beginning to make their way through the ranks.

I look forward to the day where there is an evenly distributed work force, but for this to happen we need more women to consider a career in science. Having both a female and male perspective make a project more successful and people here realise this.

Leaving school at 16 I only ever wanted to work in the science or engineering. I specifically wanted to work in the processing area of oil industry. Encouraged by a male careers officer I took the exam for the apprenticeship and passed with the highest mark of the group but it was a male-only intake so I never got the job.

Still supported my careers officer I found a chemical apprenticeship with Unilever. I have worked in the Chemical sector for the last 35 yrs and enjoyed it immensely. While I have seen barriers to women I would say they are made to be broken as women are just as capable as men in the area of science and engineering.

Currently at Unilever unite has negotiated a 4 yr Higher Apprenticeship in chemistry and the uptake has been 66% women. There is an expansion of the scheme into Packaging Technology and Microbiology areas and hopefully these schemes will also be taken up by women.

I see these apprenticeships as a positive advancement both for women and you people in general.
Time and time again it has been proven that workers in workplaces where there is an organised union get far better pay and terms and conditions than those that aren’t in a union. Unite the Union has members across most companies in science and engineering. Unite is dedicated to serving the best interests of its members and will seek to improve their standard of living and the quality of their lives through effective relationships with employers and government.

Young workers are most likely to be vulnerable to exploitation as some employers who assume that they are less likely to know their rights. One in four young workers has experienced bullying and 53 per cent fear they can’t support a family on their wages.

According to the Government Figures around a quarter of all apprentices are not paid the national minimum wage rate. The government pays £1,500 to small employers who take on their first apprentices and the Government funds all or most of apprentice training costs. It is an utter disgrace that 24% of employers won’t even pay the paltry £2.73 per hour minimum wage despite that being 28% less than the NMW rate payable to children. It is time for the government to step up and end this exploitation."

Most apprentices have heard of the National Minimum Wage, but very few people actually know what the minimum apprentice rate is and how to ensure your employer pays a decent wage. This is where being a member of Unite can make all the difference. Where there is union organisation, we ensure that apprentices have a voice to air concerns. Unite also negotiates decent rates of pay for apprentices (in many cases over and above the National Minimum Wage) and secures decent wage increases and better working conditions.

Unite also campaigns to get better rights at work for apprentices. Unite is campaigning to get the Low Pay Commission to focus more minimum wage enforcement action by tackling apprenticeships pay abuses and withdraw training funding from employers who use apprentices as no more than cheap labour. Unite is also campaigning for the different apprenticeship minimum wages to be increased to the same level as for other young workers.

As a member of a union you are also entitled to free representation and legal advice should you ever need it and services covering a range of issues, both inside and outside the workplace. We can help with personal injury claims, employment matters and many other legal issues.

When you sign up you will be given information about which branch you belong to (this could be for a local area if there’s not one in your workplace). You can also get more active in your union by getting involved with campaigns and other activity/events and network with apprentices in other companies.

You can join on line at www.unitetheunion.org
Young members are constantly told they are the future of the trade union movement, the fact is we are the present! Unite young members continue to fight to defend our living standards. That is why we are very keen to involve young members in all structures, from the work place to our communities right up to our executive council.

There is a regional young members committee in each of our 10 regions which is coordinated by the national young members committee. These committees oversee and implement the campaigning strategy for young members on a regional and national level.

Some of our key campaigns include:

- Tackling youth unemployment and under employment
- A liveable wage for all and an end to age based pay discrimination (apprentices, agency workers, unpaid interns, zero hour contracts etc.)
- Campaigning for a programme on the mass development of social housing and a cap on private sector rent
- Reaching out to young people in schools, colleges and universities
- Campaigning for collective bargaining to ensure the voice of our young members are heard

As young members, it is important to have your input in to these campaigns.

For more information on Unite and Unite young members please refer to the Unite website www.unitetheunion.org or follow us on Facebook at Unite Young Members and Twitter @Young_Unite. Please also follow the link below

https://www.youtube.com/watch?v=dNb0VYyfarc

to view a video made by the chair of our Scottish young members – Jamie Max Caldwell on why you should join a trade union.

Anna Lavery
Vice Chair, national young members committee

Anthony Curley
National Youth Co-Ordinator
Unite the union recently organised two events which were aimed at promoting apprenticeships for women in the engineering and science based industries.

These events were attended by union reps, employers, employers organisations, women apprentices, sector skills councils and human resource professionals.

These events were well attended and Unite decided to produce this guide to promote apprenticeships for women in engineering and science as another step forward.

We would like to thank Gail Cartmail, Diana Holland and Tony Burke, Unite Assistant General Secretaries; Linda McCulloch and Siobhan Endean Unite National Officers who spoke at the events and Geoff Southern, Unite’s Sector Skills Councils Co-Ordinator who organised the events along with Cogent, the sector skills council for the chemicals, science and nuclear industries; Semta, the sector skills council for the engineering industries; Engineering UK; the Engineering Employers Federation, Women In Science And Engineering, ACAS and women apprentices from companies such as GSK, Unilever, EDF, BMW, MBDA, BAe Systems and Brush for their support.

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