For Aoife Considine, it was a choice between engineering and ballet – and engineering won.
I’m a railway engineer. I work for Heathrow Express, which carries passengers between Paddington and Heathrow Airport. My job is to ensure the safety of the fleet of trains we operate and to work with our maintenance teams to sort out any faults.

If a train comes in with a fault, we have to diagnose the problem and work out how to fix it. It’s like being a doctor, except my patients are all trains. We can learn a lot from finding out what has gone wrong – we can check out other trains and make sure the same thing doesn’t happen to them.

It can be quite stressful, particularly in times of extreme weather. During the bad snows in winter, we had issues with water ingress damaging electronics on our trains. At times like that, everyone works as a team to sort things out – as well as the maintenance people, we talk to the bosses about taking trains out of service and to customer services so they can let passengers know what is going on. Fortunately, those times are rare. When things are running smoothly, you know you are doing a good job.

HOW DID YOU END UP IN YOUR CURRENT ROLE?

I went to school in Ireland and studied for the Irish Leaving Certificate (similar to the International Baccalaureate) rather than A-levels. We take seven subjects. So as well as maths, physics and applied maths, I also studied art, English, French and Irish.

I really enjoyed languages and the arts so this suited me perfectly. They were a nice break from the more technical subjects, but I also think they helped me become a better engineer.

They helped me think creatively – creativity is crucial to engineering: if you can’t think creatively, you’re not going to be able to think up a solution to a problem that no one has come up with before. English also really helped me with my communication skills, which are also vital in engineering: you may have the best ideas in the world, but if you can’t communicate them, no one will know about them. With engineering, you’re always working with other people – you’ve got to be able to communicate with your colleagues and present your work to others who may not understand technical jargon. In my opinion, the English education system forces people to specialise too early. If you have wide-ranging interests, it’s hard to combine them at A-level so most people have to choose between either the sciences or arts and humanities. That means that some young people who might make good engineers opt for arts subjects and that can rule out an engineering career. If they could combine arts courses with science and maths, they might be more likely to continue with science and maths and an engineering career would still be a possibility.

While I was always interested in becoming an engineer, I also loved ballet – I danced five days a week from the age of two, and seriously thought of it as a possible career. But I figured engineering was the better career choice, and I could still do dance as a hobby. I was never one for tinkering with engines or building radio sets, but I always had a curiosity about the world, and why things are the way they are. I really enjoyed problem-solving – logic puzzles and riddles fascinated me.
I chose to study mechanical and manufacturing engineering at Trinity College Dublin and after I graduated I looked at graduate entry schemes in the UK. I didn’t really know what field I wanted to work in, although I had an interest in the aerospace and automotive industries. I managed to get an interview at Transport for London and I was really impressed at how committed they were to running a good public transport service. I really enjoyed my time there helping to keep the Tube running smoothly and safely, before moving to Heathrow Express in 2018.

**WHAT'S THE BEST THING ABOUT BEING AN ENGINEER?**

I really enjoy working in public transport. What I do matters to thousands of people every day (it matters to me too – I use public transport all the time). I get great satisfaction from knowing that I’ve helped people get safely to where they want to go. Engineering isn’t usually seen as a ‘caring’ profession, but there are so many ways in which engineering can make people’s lives better or run smoothly.

I also enjoy working with so many other people. My degree course was challenging, but everyone was incredibly supportive. There were lots of smart people on the course but everyone was happy to share information and help others. I think it’s because engineering is a joint enterprise – you can’t achieve anything on your own, so you have to work as part of a team, and your success depends on the contributions of others. So it’s in everyone’s interest to work together. The same is true at work. It’s highly collaborative. Engineering systems are so complex you have to work closely with other specialists to get things done.

**CAN ANYONE BECOME AN ENGINEER?**

I think many young people don’t realise they could become an engineer, because they don’t know what engineering really is. I do a lot of visits to schools, and try to show students how so many of the things around them depend on engineering. Whatever their interests are, engineering will be involved somewhere.

At university, some friends and I entered an engineering design competition run by James Dyson. We looked for a problem related to our interests. I’m a snowboarder, and I always hold up my skiing friends on flat snow as I have to unclip my feet from my board. We designed a new easy release snowboard binding system and ended up winning first prize in Ireland. This just goes to show no matter what your interest, you can combine it with engineering.

To be an engineer, as well as being curious, it’s good to be logical and methodological in how you approach problem solving. Maths is useful but you don’t need to be Einstein – I was terrible at mental arithmetic, and thought I was awful at maths until I got hold of a calculator.

**WHAT THREE THINGS SHOULD YOUNG PEOPLE KNOW ABOUT ENGINEERING?**

- You don’t have to be a maths genius
- Communications skills are just as important as technical knowledge
- You don’t wear overalls all the time (only sometimes!)

My advice would be, don’t be put off by your preconceptions of engineering. It’s probably not what you think it is, and whatever your interests, there’s probably an engineering role related to them.

imeche.org/careers-education/year-of-engineering
Aoife Considine
Fleet Performance and Safety Engineer
Heathrow Express

ROLE IN A NUTSHELI
Ensuring the safety and smooth running of Heathrow Express’s fleet of trains.

EDUCATION
2009–2014  Master’s in Mechanical and Manufacturing Engineering, Trinity College Dublin

CAREER HISTORY
2018–Present  Fleet Performance and Safety Engineer, Heathrow Express
2016–2018  Project Engineer, Transport for London
2016–2017  National Ambassadors Manager – Delivery, Young Rail Professionals
2014–2016  Graduate Mechanical Engineer, Transport for London

AWARDS AND ACCOLADES
2016  Second place in the Institution of Mechanical Engineers’ Railway Challenge
2014  Second place at the International Collegiate Design and Innovation Competition, Beihang University of Aeronautics and Astronautics, Beijing, in the Aviation Safety Category
2013  Winner of the Irish leg of the 2013 James Dyson Awards
2012  Collen Prize in Arts, Trinity College Dublin, prize for first place in Management for Engineers module
2012  Ernst and Young ‘Best Speaker Award’, Trinity College Dublin Engineering Entrepreneurial Competition
2012  Trinity College Dublin Engineering Entrepreneurial Competition Winner

INTERESTS OUTSIDE ENGINEERING
Dance

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