

HOW I GOT HERE

Q&A

KATE TODD-DAVIS MANUFACTURING ENGINEERING APPRENTICE

Apprentice Kate Todd-Davis followed her passion for aerospace and automotive engineering to Rolls-Royce – and gained a degree in manufacturing technology from the University of Sheffield along the way.

WHY DID YOU FIRST BECOME INTERESTED IN SCIENCE/ENGINEERING?

I've had an inquisitive mind from a young age, always questioning how and why things work, but I wasn't really exposed to engineering until I was in secondary school. When I was 14, I visited the Santa Pod Raceway and witnessed the astounding speed of the drag cars – I had to understand how they managed to travel so fast. Since then, my passion for aerospace and automotive engineering has grown and I've continued to fuel my curiosity by working for Rolls-Royce.

HOW DID YOU GET TO WHERE YOU ARE NOW?

After studying triple science, maths and further maths at GCSE, I studied A levels in maths, physics and chemistry. When I was at college, I completed work experience at Caterpillar and was accepted onto the EDF Energy Mentoring Scheme at the Hartlepool Nuclear Power Station. I applied to Newcastle University to study a master's degree in design and manufacturing engineering as well as the Manufacturing Engineering Degree Apprenticeship through Rolls-Royce. Although I was accepted for

both, I knew that I wanted to follow the apprenticeship route.

I graduated with a first-class honours degree in manufacturing technology from the University of Sheffield's Advanced Manufacturing Research Centre (AMRC) Training Centre, while gaining invaluable industry experience at the Rolls-Royce facility in Washington, UK. I've also completed a Level 2 NVQ in fundamental engineering and am now working towards a Level 4 NVQ in engineering and advanced manufacturing – both delivered by the Sunderland Engineering Training Association.

WHAT HAS BEEN YOUR BIGGEST ACHIEVEMENT TO DATE?

Getting a first in my degree has been my greatest academic achievement so far, and I was recently awarded 'Highly Commended Degree Apprentice of the Year 2021' through the National Apprenticeship Service. I was also named 'Apprentice of the Year 2021' and 'Degree Apprentice of the Year 2021' through the University of Sheffield AMRC Training Centre, where I studied towards my degree.

I've also been involved with the recently set up women in science and engineering



group onsite. This has been a fantastic networking opportunity and has helped me appreciate the challenges my colleagues who are women have faced during their careers. Hearing their stories has motivated me to be more ambitious and hopefully encourage more women to pursue a career in engineering through my involvement in local STEM events.

WHAT IS YOUR FAVOURITE THING ABOUT BEING AN ENGINEER?

I love being given the opportunity to constantly learn, develop and challenge current ways of working. Being at Rolls-Royce has exposed me to a variety of experienced and passionate colleagues who have mentored and supported me to achieve my potential. Seeing their achievements and progression within the company has further motivated and inspired me to maintain a strong work ethic and support my future ambitions.

WHAT DOES A TYPICAL DAY INVOLVE FOR YOU?

On a day-to-day basis I spend most of my time on CAD/CAM software, updating models and processes and analysing data. I also write and update technical

instructions, which are used by the inspectors and operators on the shop floor. I am currently completing a Lean Six Sigma Green Belt and Level 4 NVQ qualification, while volunteering as a North East Young Apprentice Ambassador.

WHAT WOULD BE YOUR ADVICE TO YOUNG PEOPLE LOOKING TO PURSUE A CAREER IN ENGINEERING?

Anyone, at any age, considering a career in engineering should go for it! It's such a diverse and captivating industry, and the opportunities are vast. I would also encourage considering an apprenticeship. I think it's the most logical route to success, as it provides you with both work experience and technical knowledge.

WHAT'S NEXT FOR YOU?

In the next few years, I'd like to be in a full-time position at Rolls-Royce. I want to continue my involvement in digital aspects of engineering as I think this is the future of the company, with the improved process capability and more efficient ways of work that will become possible. From an academic perspective, I'd also like to complete a master's degree to continue my professional development.

QUICK-FIRE FACTS

Age: 21

Qualifications: **BEng (Hons) in manufacturing technology, University of Sheffield AMRC Training Centre**

Biggest engineering inspiration: **Katharine Parsons, an engineer who advocated for women in the field and co-founded the Women's Engineering Society in 1919**

Most-used technology: **Spotify – music helps me to stay focused and motivated**

Three words that describe you: **Driven, ambitious, inquisitive**