careers

# Manufacture of tools, gauges and fixtures

**Toolmakers manufacture precision tools (called jigs, dies, gauges, fixtures and moulds).**

These tools are then used to make parts used in a product. These tools could be used to hold parts, form parts, press parts, mould parts etc. They are often made to precise tolerances and made from very hard and tough materials, requiring special techniques and skills.

Toolmaking roles require good practical skills and work to precise tolerances.

Toolmakers will often progress onto Tooling Design and become Production Engineers. Toolmakers are found in many manufacturing companies.

## What skills do I need?

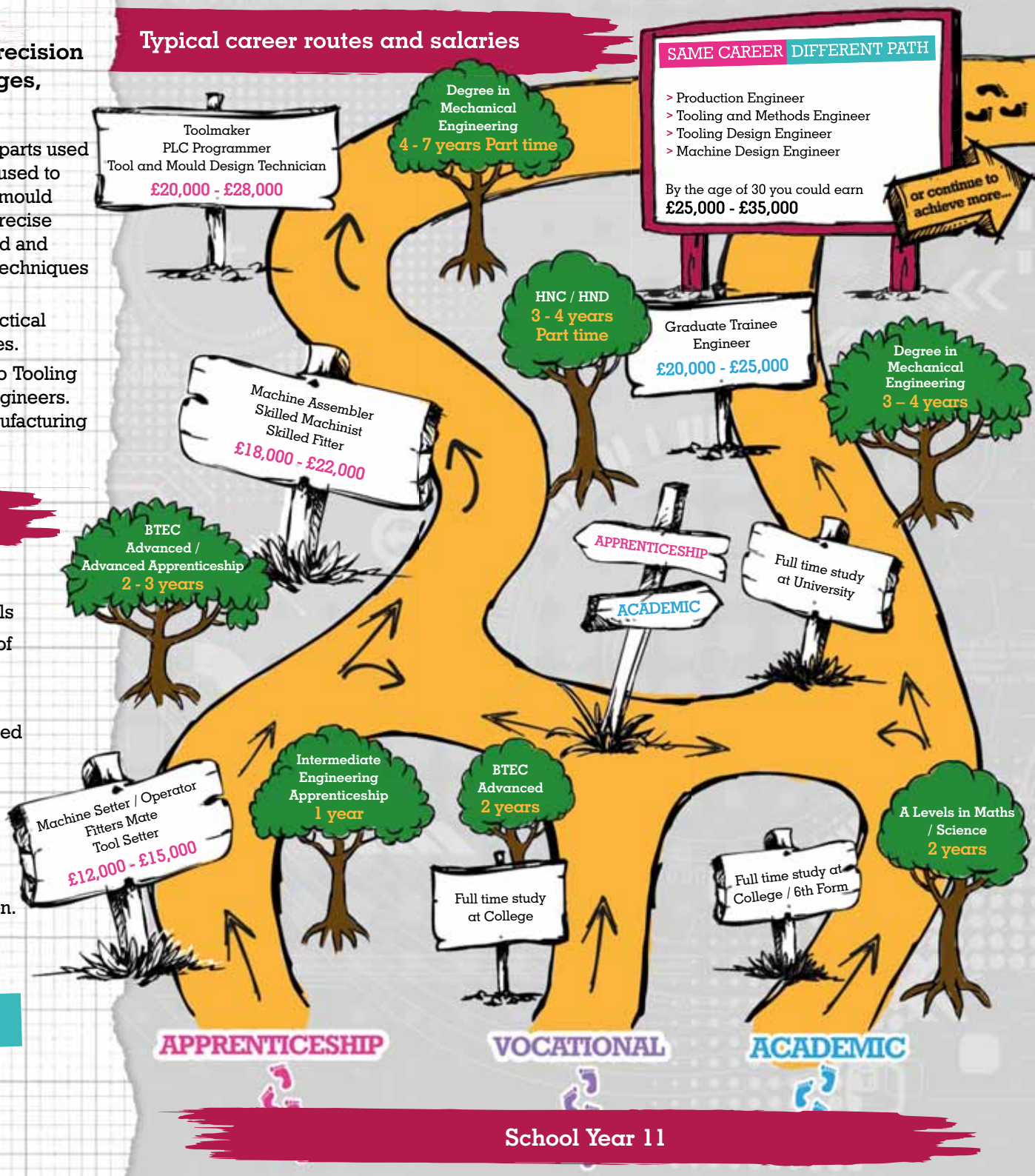
- Ability to read drawings
- Good practical and technical skills
- Understanding of the properties of materials
- Accuracy skills
- The ability to picture how a finished product will look
- Good maths skills
- Creative approach to how to make something
- Concentration skills
- Ability to work without supervision.

SAME CAREER

DIFFERENT PATH

Black Country Skills Factory

## Typical career routes and salaries




School Year 11

# Lauren Speed – Tooling Engineer Apprentice

Apprenticeship > Employment

## Introduction

From an early age, Lauren knew she didn't want to stop on at school and was keen to pursue a career as a mechanical engineer. Unfortunately, she faced some negativity when she looked into it and found there's still a stigma associated with females working in this sector. This didn't phase Lauren at all however, and she was adamant to pursue a career in engineering.

## What happened?

Lauren started her apprenticeship with 3D Tooling Technologies Ltd and has made a significant impact to the small team there. She has worked on a number of high profile projects and completed tasks to a very high standard. Lauren is fairly computer savvy but acknowledges she needs to know how to use the tools, not just the software, in order to become a long-term Design and Tooling Engineer.

When working on new projects, Lauren is keen to shadow colleagues to get first-hand knowledge and experience of pattern-making processes and techniques.

Lauren has contributed to many foundry and prototype projects since joining the company in July 2013, including; making a floor mat for a Caterpillar cab, a ladder rail for the engine of Sebastian Vettel's Formula 1 car and manufacturing the tooling for the engine cylinder block for the 1935 Rolls Royce Phantom 3!

"I chose an engineering apprenticeship as I thought it would be something different and give me better opportunities for the future. Hopefully I will stay with 3D after my apprenticeship and continue to progress and learn more skills."

## Why choose this route?

With an Engineering Apprenticeship Lauren is able to 'earn while she learns' and gain both practical work experience as well as an accredited qualification.

Hopefully Lauren's story will be an inspiration to others that there can be a solid career in engineering and in particular; pattern making.


Paul Reeves, Director, 3D Tooling Technologies Ltd said:
"We chose the apprenticeship route as we have been trying to get skilled people but there is such a big skills gap in the industry. This was a dwindling trade – apprentices are important for the longevity of the business – it's satisfying to be able pass on your skills and knowledge to young people who want to learn."

## 3D Tooling Technologies Ltd - Wolverhampton

3D Tooling Technologies Ltd, designs, manufactures and assembles a wide variety of tooling and patterns for a range of customers in the automotive, foundry and other industrial sectors.

## Manufacture of tools in the Black Country

**The Black Country has the highest concentration of toolmaking companies in the UK. These companies are often smaller, specialised companies. The manufacture of tools, gauges and fixturing requires a wide range of high, precision, practical skills and experience. These cover the design, manufacture, measurement, assembly and testing of tools gauges and fixtures used in making components for use in products.**

**Other companies in the Black Country involved in the manufacture of tooling, gauging and fixturing include:- 3D Dimensional Ltd, Phoenix Calibration Ltd, Robinson Pattern Equipment Ltd, Rotometrics, Fourmasters Ltd, HCM Engineering Ltd, Hockley Pattern & Tool Ltd, Mako Precision Engineering Ltd, Midland Tool & Design Ltd, Thompson Friction Welding Ltd, Whiton Tools and William King Ltd and Westley Plastics.**