

Engineering Curriculum at Brownhills Ormiston Academy

The department's vision

As an academy we embed the Academy's and the wider OAT Academy's trust curriculum purpose.

Engineering is a driving force in the UK's economy, accounting for 21.4% of the UK's turnover in 2018. Staff are passionate and driven to fuel students' aspirations. We strive to lead by example and encourage students to demonstrate high expectations of themselves in terms of attitudes to learning and conduct, particularly in a workshop environment. This is in line with Brownhill's values and gives students an insight into expectations of the workplace beyond the school environment.

We aim to provide a coherent introduction to the Engineering sector and the skills it demands so that students can access further learning and work opportunities with an appropriate set of skills and foundational knowledge.

- Students are encouraged to be **analytical thinkers** when examining engineered products. This includes looking at the functionality, construction and material properties of existing products. Reverse engineering is used to develop students' knowledge of construction and components which are used in manufacturing.
- Students will be given opportunities to develop **confidence, accuracy and an awareness of safety in the workshop**. From basic hand tools to complex machinery, they will gain understanding, skills and knowledge of processes and materials, to allow successful products to be produced.
- Manufacturing of engineering products will require students to work to a plan and develop good **time management** skills. This will enforce the importance of working to a deadline in the aim to complete projects, making links to developing skillsets required for real life.
- Students will become familiar with developing **problem-solving skills** based on real problems. We will explore how engineering impacts the world around us, how the engineering design process is used to develop or adapt products, and how these solutions help to meet the needs and demands of clients, users and environments.
- Through a range of activities students are able to develop high levels of **literacy skills** when analysing engineering products, producing manufacturing records and reflecting on practical progress.

Students can progress to a wide range of higher education courses and to employment in the engineering sector.

Course structure/assessment: Year 10 students (2022 Specification onwards)

The course delivered is WJEC Level 1/2 Vocational Award in Engineering (Technical Award)

Course structure: Year 11 students (Specification prior to 2022)

The course delivered is WJEC Level 1/2 Vocational Award in Engineering (Technical Award)