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**TECHNOLOGY ENGINEERING & DESIGN AT THE BOURNE ACADEMY**

**Key Stage 3 (Year 7, 8 & 9)**

As a specialism at the Bourne Academy, all students in year 7,8 and 9 study 2 hours of Technology Engineering and Design per week. The curriculum covers 5 different projects each year that focus directly on developing key practical skills alongside a securing knowledge and understanding for engineering and design principles. Modern technology is utilised to support students in the production of high quality outcomes using our 60 watt laser cutter, 3D printer and site licence for industry 3D CAD software.

**Key Stage 4 (Year 10 & 11)**

We offer a variety of options for students who wish to continue their educational pathway within technology, engineering and design and offer the following 2 year courses that start in year 10.

* **GCSE PRODUCT DESIGN -** The GCSE Product Design course is 3 hours per week and designed to engage students actively in the processes of design and technology alongside developing effective and independent learners. During the two year course students will study four separate units which are lively, active and inspiring in their content. 60% of the course focuses on an extensive final design and make project, and 40% are externally assessed units taken towards the end of the course.
* **GCSE ENGINEERING (RESISTANT MATERIALS) -** Students study for a GCSE award which focuses on the use of engineering materials, principles and processes alongside the impact of modern technologies on the Engineering industry. This course is 3 hours / week and involves 60% controlled assessment and 40% final examination.
* **BTEC LEVEL 2 AWARD IN ENGINEERING -** Students study a range of introductory units to develop and demonstrate a good understanding for a variety of generic and specific aspects involved within the field of engineering. The course is designed to have a vocational aspect and assessment is mostly through assignment work however an online external test is also now included. This course is 3 hours / week and is equivalent to a GCSE at a grade C if a pass level is achieved overall.

**Key Stage 5 (Years 12 & 13 - 6th form)**

We offer a variety of options for students who wish to stay on at sixth form. All courses are 2 years and at level 3.

**BTEC Level 3 NATIONAL DIPLOMA (120-180 credits) -** This course is equivalent to 3 A levels and has been designed to allow students to study a vocational route into engineering leading towards either higher education, employment or an apprenticeship. The course is 16 hours per week and covers a wide range of engineering topics as internally assessed units through project and assignment work. The majority of the course is delivered across the TED, science and maths departments at the Academy, but a proportion is based at an Engineering industry training provider to allow for mechanical or electrical specialisms to be opted for. Entry requirements for this course include X5 GCSE’s A\*-C (including English, Maths and Science)

**BTEC Level 3 NATIONAL DIPLOMA (90 credits)** – This option is for students who wish to study for a proportion of the BTEC vocational Engineering qualification described above and is equivalent to x1.5 A levels. Students opting for this will expected to choose 2 additional A-levels alongside and A level Maths and a Science are those recommended for an academic route into engineering.

**A-Level Product Design –** This A-level is a natural progression from GCSE design and technology courses and will provide students with an opportunity to develop innovation and creativity through research, designing and making. Pathways can lead into higher education at university and employment opportunities. Entry Requirements for this course are X5 GCSE A\*-C (including English & Maths) and a GCSE B or above in Art or Design and Technology is preferred. The course includes the following units;

* Unit 1 – Portfolio of Creative Skills
* Unit 2 – Design and Technology in Practice
* Unit 3 – Designing for the future
* Unit 4 – Commercial Design

**If you have any questions about the curriculum within Technology, Engineering and Design, please email the Head of Specialism;** **will.storey@thebourneacademy.com**