

# LONG TERM PLANS

Year Overview (GCSE Engineering Year 10/11)



## ADT Faculty

### Design and Technology – GCSE Engineering YEAR 10/11

**Aims:** Pupils will develop their understanding of engineering principles and components, improving their fine hand eye coordination skills and motor skills whilst manipulating engineering components using various hand-tools, lathes and milling machines making a selection of engineering products. The Pupils will widen their understanding of tolerances, materials and production processes and be introduced to a wide selection of specialist vocabulary as used in Industry and by Engineers. Pupils will develop their Personal Learning and Thinking Skills, e.g. - by carrying out Independent Research for Homework tasks and by working both as individuals and in teams in the classroom when carrying out practical activities.

The delivery focuses on **Design and Communication, Materials and Processes** - This section focuses on the processes used to manufacture products. It includes the technical background, but it is largely based around a series of practical skills development tasks.

The Pupils will be asked to reflect on their skills as part of their assessment activity and to complete mock tests to confirm understanding in preparation for exam.

Cross curricular links: (English) Spelling and correct use of language and terminology is vital for accurate work and transmission of ideas.

(Maths) Accurate marking out and use of materials -dimensions / measuring needed to work within tolerances for assembly of various products.

Year 10 focusses on practical making tasks to develop hand eye coordination, a working knowledge of drawings and tools and equipment in the workshop.

Year 11 focusses on controlled assessment, portfolio development and exam preparation.

**Key Assessment Activity:** *practical making of a hand operated machine vice, an A3 design portfolio and an end of course external examination.*