

Year 11 BTEC ENGINEERING

Overall Intent:

In Year 11, BTEC Engineering students continue their exploration of the world of engineering through intense study of a manufactured product. Students will apply their knowledge of materials and processes to compile a detailed commentary of how a given product has been made, the materials used and why, and mirror the manufacturing of a single component. Assessment in Year 11 also involves a written exam and practical exam. These will test students' knowledge of the design process and the engineering experimental process (used to inform design decisions).

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics/area of study	COMPONENT 2A – UNDERSTANDING MATERIALS, COMPONENTS AND PROCESSES FOR AN ENGINEERED PRODUCT		COMPONENT 2B – INVESTIGATE A GIVEN ENGINEERED PRODUCT USING DISASSEMBLY TECHNIQUES		COMPONENT 2C – PLAN THE MANUFACTURE AND SAFELY REPRODUCE/INSPECT/TEST A GIVEN ENGINEERED PRODUCT	PREPARATION FOR COMPONENT 3 (EXAM)
Key learning aims – knowledge and skills	Students will investigate how an engineered project has been designed and made, investigate materials and processes needed to make a given engineered product (bike repair tool), log research and practical making in a logbook.		Students will be asked to investigate an engineered product by disassembling it, analysing how it works and how it was made, keep annotated photographs of the labelled components, create inspection/dimensional data sheets, produce a written commentary with a description of each component, their purpose and how they link together, write a product design specification.		Students will be asked to reproduce a component from the disassembly which will emulate as closely as possible the original manufacturing of the component, produce a production plan, keep annotated photographs of the making of their part, evaluate the success of their making, production plan and	Students will revise theory from previous components and will use practice exam practicals and papers to aid revision.

			suggest improvements.	
Assessment	Internal assessment of logbook	Internal assessment of logbook	Internal assessment of logbook	Externally assessed exam. Internally set and externally assessed workshop task.