



Term	Year 7	Year 8	Year 9	Year 10 ENGINEERING	Year 11 ENGINEERING
Autumn Term	<p><u>Lego Education:</u> This is a team challenge where you will be assigned roles, create design and test them with the aim of improvement.</p> <p>Can you problem solve and apply STEM skills to successfully create the fastest race car or best hill climber – The challenge is on!</p>	<p><u>DEC Project:</u> An introduction to the world of Architecture and Structural design.</p> <p>This will involve designing a new Community Centre for this area and presenting the design sketches, floor plans, detailed CAD drawings and final pitch.</p>	<p><u>Hospitality:</u> Within this project you will learn the key hazards involved in the production of food. You will also gain an understanding of the hospitality industry and the key skills needed to succeed. A range of more advanced practical's are planned to develop you skills and understanding in preparation for Years 10 and 11.</p>	<p><u>BTEC Engineering</u> Controlled Assessment- Unit 2</p> <p>In this research based unit you will study exactly how an engineered product reaches the shelves. This will involve presenting research, design briefs, design specifications as well as studying key materials for production, manufacturing processes, and the QA and QC that take place.</p>	<p><u>VCERT Engineering</u> Unit 1</p> <p>Within Unit 1 you will discover what engineering is, explore the 3 key engineering sectors and what they are responsible for. You will go onto make site visits when researching and evidencing Health and Safety information, and exactly what makes companies local, national and international.</p>
Spring Term	<p><u>Hospitality-</u> This will involve an introduction to the subject of hospitality, looking to develop your knowledge of a healthy lifestyle through the use of eat well plate and key food groups. You will also develop a range of key lifelong cooking skills through a wide range of practical activities. Following on from this you will record evidence of your progress and receive regular feedback.</p>	<p><u>Engineering:</u> This project involves creating a tea light holder and an introduction to the metal working. You are asked to come up with imaginative ideas that will create interesting light and shadow effects. A new range of tools and equipment is used to create a highly successful outcome.</p>	<p><u>Branding and E-Textiles:</u> You will use a range of CAD software to research and design your own energy drink branding- looking at what makes a company successful, recognisable and saleable. You will also be introduced to a new technology that is E-Textiles and will use this to create an electronic bag developing skill and understanding of electronics and textiles.</p>	<p>Controlled Assessment- Unit 12</p> <p>In this design based unit you will create initial design ideas, these will be developed through technical drawing, followed by CAD presentation. A final prototype will need to be manufactured using a range of materials and a mixture of manual and automated machinery.</p>	<p>Unit 3 This is a hands on unit where you will need to evidence the safe and accurate use of manual and automated machinery in the production of an engineered product.</p> <p>Unit 4 This unit involves prototyping and testing a wide range of materials and evidencing the key engineering properties.</p>
Summer Term	<p><u>Product Design/ Mechanical Engineering:</u> You will create a Rolling Ball Game/ Character mirror and Acrylic Key Ring, in which you will work with a range of materials and develop key skills with tools and machinery, learning how to work safely and accurately. CAD software is introduced and the advantages and disadvantages assessed.</p>	<p><u>Hospitality:</u> This project will develop skills and knowledge with all aspects of food preparation, cooking and presentation. Recipes are provided that allow for stretch and challenge in order to push the most able and develop an understanding of a variety of dietary, religious and multicultural aspects.</p>	<p><u>CAD/ CAM & Robotics:</u> Working with the NXT Lego Robotics you will be introduced to the world of programming, initially learning the basics in terms of robot command and movement. Moving onto more complex challenges such as the Green City Challenge making use of a range of sensors to solve realistic problems from the classroom.</p>	<p>External Assessment- Unit 9</p> <p>Within revision lessons you will study engineering drawings, key working properties of materials, the product life cycle, how electronics are incorporated into the design of products and the impacts of the engineer and manufacturers decisions on the customer. This is an external examination.</p>	<p>Externally Assessed Unit</p> <p>This involves a complete review of engineering drawings, how they are completed, the techniques involved and what makes them industry standard.</p> <p>This is a project based unit with a product identified and everything needing to be prepared for production and manufacture.</p>



Beamont Collegiate
Academy

Beamont Collegiate Academy Technology Curriculum

