

## BTEC Engineering - Year 11 Overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	
	Component 2	Component 2	Component 2	Component 2	Component 2	Coursework Improvements	Careers
<b>Year 11</b>	<p>LA A - Understand materials, components and processes for a given engineered product.</p> <p>Engineering.</p> <p>Identify materials and their categories:</p> <ul style="list-style-type: none"> <li>ferrous, and non-ferrous metals;</li> <li>thermosetting polymers;</li> <li>thermoforming polymers;</li> <li>Properties of engineering materials.</li> </ul> <p>Identify components proprietary and non-proprietary.</p>	<p>A3 Processes Identify types of engineering processes used on a specific object including cutting, shaping, forming and joining.</p> <p>LA B - Disassembly techniques. Students will investigate engineered products by using practical engineering skills and techniques, such as disassembly and assembly, observation and measurement.</p> <p>Safely remove and disassemble parts.</p>	<p>B3 Product design specification (PDS).</p> <p>Requirements in terms of:</p> <ul style="list-style-type: none"> <li>size and mass;</li> <li>product life and reliability;</li> <li>performance/function/service requirements;</li> <li>economic and making considerations;</li> <li>implications of standards and legislation.</li> </ul> <p>Begin learning aim C production plan start making product this term.</p>	<p>LA C - Plan the manufacture of and safely reproduce/inspect/test a given engineered component. Students will produce solutions to problems using different combinations of practical engineering skills, including making as part of the engineering design and make process.</p> <p>C1 Engineering make process:</p> <ul style="list-style-type: none"> <li>defining the problem;</li> <li>developing possible solutions;</li> <li>choosing a solution;</li> <li>making using engineering processes;</li> <li>inspecting and testing chosen solution;</li> <li>evaluating outcome of project.</li> </ul>	<p>C2 Develop a production plan to include:</p> <ul style="list-style-type: none"> <li>health and safety;</li> <li>operations/processes;</li> <li>inspection, testing and quality standards;</li> <li>equipment/tools</li> <li>materials and components;</li> <li>quantity, e.g. one-off, batch, mass production;</li> <li>awareness of risks and hazards for making processes;</li> <li>safe preparation, good housekeeping and close down of the work area;</li> <li>making skills associated with the product to be produced, e.g. choosing suitable tools;</li> <li>appropriate set up of the work area/machine, adaptation according to inspected outcomes;</li> <li>skills in observing and recording techniques, e.g. in process measurements.</li> </ul>	Improvements for Coursework, if needed.	<p><b>Term 1</b> In term 1, students will research a career within their chosen Engineering Sector, which will support their practical exam.</p> <p><b>Term 2</b> In term 2, students will research a career within their chosen Engineering Sector, which will support their external exam.</p> <p><b>Term 3</b> In term 3, students will research a career within their chosen Engineering Sector, which will support their external exam.</p>

Revision for Unit 3	Revision for Unit 3	Exam Completed in January	Revision for Unit 3 if needed	Revision for unit 3 if needed		
<p>AO1 Understand how to respond to an engineering brief.</p> <p>AO2 Select skills and techniques in response to an engineering brief.</p> <p>AO3 Apply skills and techniques in response to an engineering brief.</p> <p>AO4 Evaluate and review the outcomes of the application of skills and techniques in response to an engineering brief.</p> <p>Learners will develop an understanding of practical procedures and explore how to record, collect and interpret data in an engineering context.</p> <p>Analyse existing products and how they have been manufactured, identifying issues.</p>	<p>Provide a design solution for an engineered product against the needs of an engineering brief.</p> <p>Students will explore design ideas, including their viability as a final solution for a variety of engineered products.</p>	<p>Complete a variety of past papers prior to exam for each section of paper.</p>	<p>AO1 Understand how to respond to an engineering brief.</p> <p>AO2 Select skills and techniques in response to an engineering brief.</p> <p>AO3 Apply skills and techniques in response to an engineering brief.</p> <p>AO4 Evaluate and review the outcomes of the application of skills and techniques in response to an engineering brief.</p> <p>Completing past papers with example responses.</p>	<p>Exam resit this term.</p>		