



United Learning
The best in everyone™

Design and Technology

(BTEC National Extended Certificate in Engineering)

Key Stage 5

12	Unit 1 – Engineering Principles (120GLH)	Unit 9 - Work Experience in the Engineering Sector (60 GLH)
	Learning Aim A Algebraic and trigonometric mathematical methods	Learning aim A: Examine the benefits of work experience in engineering for own learning and development
	Learning Aim B Static engineering systems	
	Learning Aim C Dynamic engineering systems	Learning aim B: Develop a work experience plan to support own learning and development
	Learning Aim D Fluid engineering systems	
	Learning Aim E Static and direct current electricity and circuits	Learning aim C: Carry out work experience tasks to meet set objectives
	Learning Aim F Magnetism and electromagnetic induction	
13	Learning Aim G Single-phase alternating current	Learning aim D: Reflect on how work experience influences own personal and professional development
	Unit 3 - Engineering Product Design and Manufacture (120 GLH)	Unit 2 – Delivering a Project Safely as a Team (60 GLD)
	Learning aim A: Design triggers, challenges, constraints and opportunities, and materials and processes	Learning Aim A Examine common engineering processes to create products or deliver services safely and effectively as a team
	Learning aim B: Interpreting a brief into operational requirements and analysing existing products	Learning Aim B Develop two-dimensional computer-aided drawings that can be used in engineering processes
	Learning Aim C Using an iterative process to design ideas and develop a modified product proposal	Learning Aim C Carry out engineering processes safely to manufacture a product or to deliver a service effectively as a team
	Learning Aim D Technical justification and validation of the design solution	