

KS4 Curriculum Overview (Design & Technology)

GCSE Design & Technology – 1st Year

TERM 1 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
New & Emerging Technology <ul style="list-style-type: none"> • Finite & Non Finite Energy • Sustainability & Environment • People & Culture • Design Decisions • Production Systems Design & Making Principles	KS – Independent Learning & Research SL – Science, RE, Art	CL – Engineers, Careers with science & geography based on energy production & storage BV – Discrimination, Respecting culture & religion of others
TERM 2 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Timber Based Project <ul style="list-style-type: none"> • Material Properties • Sources & Origins • Working with Timber • Manufacturing Techniques Design & Making Principles	KS – Hand & Machine Tools, H&S SL – Maths, Geography	CL – Carpenter, Building/Construction Sector BV – Care of Environment, H&S
TERM 3 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Metal Based Project <ul style="list-style-type: none"> • Material Properties • Shaping & Joining Techniques • Sources & Origins Design & Making Principles	KS – Manufacturing Skills, Safe Working SL – Motor Mechanics	CL – Engineering Careers, Automotive Care BV – Lifestyle & Consumer Choice
TERM 4 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Polymer Based Project <ul style="list-style-type: none"> • Material Properties • Material Testing Manufacturing Techniques Design & Making Principles	KS – Development of Design Skills SL - Art	CL – Engineering, Product Design & Development BV – Impact of Plastic on Environment, 6R's
TERM 5 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Paper & Board Based Project <ul style="list-style-type: none"> • Material Properties • Sources & Origins • Manufacturing Techniques Design & Making Principles	KS – Designing & Layout Skills SL – Art, Maths	CL – Graphic Designers, Advertising/Media BV – Sustainability
TERM 6 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Textiles Based Project <ul style="list-style-type: none"> • Material Properties • Production Techniques • Finishing Techniques Design & Making Principles	KS – Sewing, Practical Skills SL – Art	CL – Fashion & Textiles Designers, Furniture Design BV – Safe & Efficient Working Environment

KS4 Curriculum Overview (Design & Technology)

GCSE Design & Technology - 2nd Year

TERM 1 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
<ul style="list-style-type: none"> • Identifying and investigating design possibilities • Producing a design brief and specification • Generating design ideas 	<p>Research and dissemination. Understanding and interpreting design briefs. Drawing and annotation skills</p>	<p>Graphic designer. Reprographics technician</p>
TERM 2 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
<ul style="list-style-type: none"> • Developing design ideas • Realising design ideas • Analysing & evaluating 	<p>Design and realization techniques. Manufacturing skills using CAD/CAM and hand tools. Evaluation and reflection skills</p>	<p>Graphic designer CAD/CAM Engineer Reprographics Technician</p>
TERM 3 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
<ul style="list-style-type: none"> ▪ new and emerging technologies ▪ energy generation and storage ▪ developments in new materials ▪ systems approach to designing ▪ mechanical devices ▪ materials and their working properties. 	<p>Understanding of global challenges facing humanity, including the solutions and challenges faced</p>	<p>Environmental Engineering System developer Global Ambassador</p>
TERM 4 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
<p>Materials and their working properties The six Rs Using and working with materials Stock forms, types and sizes Scales of production</p>	<p>Research and written explanation of key processes within the design process</p>	<p>Quantity surveyor Production controller Materials surveyor</p>
TERM 5 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
<p>Specialist techniques and processes Tools, equipment and processes How materials are cut shaped and formed to a tolerance Commercial processes Surface treatments and finishes</p>	<p>Understanding of key technical processes, their implementation, purpose and environmental impact.</p>	<p>Carpenter/Joiner Production manager Project manager</p>
TERM 6 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
<p>Exam practice Revision techniques Mind mapping Study skills</p>	<p>Teaching the students every aspect of exam technique, revising accurately and managing well-being</p>	<p>Life skills in coping with stress and challenges</p>