

Design & Technology Curriculum: KS5



St. Margaret's Design & Technology department strives to empower all students to the problem-solvers of the future – the designers, the engineers, the makers. We establish relevant, coherent links with the world in which we live, making connections across other subject areas. We support, engage and challenge all students to be ambitious and creative, equipping them with a knowledge-rich understanding and the skills to experiment, invent and create their own products.

Qualification(s)	A Level
Exam Board	AQA
Link to Specification	AQA Design and Technology A-level Design and Technology: Product Design

	Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b
Year 12	<p>Graphical techniques. Understanding technical drawings. Using Isometric, rendering</p> <p>Mini project – Art Deco mirror .Art Deco design style, Engineering drawings and tolerances, Wooden, jointing methods, Knock down fittings. Planning for making including QA & QC</p> <p>(TP) 1.1 Materials and applications .(TP) 1.2 Performance characteristics</p>	<p>Mini project – Art Deco mirror continued.</p> <p>Use of CAD/CAM Solidworks</p> <p>Series of mini practical tasks that cover the tools materials and equipment used to make metal, polymer and timber based products</p> <p>(TP) 1.3 Enhancement of materials. Polymer/Wood enhancement.</p>	<p>Series of mini practical tasks that cover the tools materials and equipment used to make metal, polymer and timber based products</p> <p>(TP) 1.4 Forming and redistribution</p> <p>(TP)1.5 Finishes</p> <p>(TP) 1.6 Modern scales of production</p>	<p>Series of mini practical tasks that cover the tools materials and equipment used to make metal, polymer and timber based products</p> <p>(TP) 1.7 Digital design and manufacture</p> <p>(TP) 1.8 Product development</p> <p>(TP) 1.9 Health and safety</p> <p>(TP) 1.10 Protecting designs</p>	<p>NEA - Start exploring contexts.</p> <p>(TP) 1.11 Design for manufacturing</p> <p>(TP) 1.12 Feasibility studies</p> <p>Feasibility</p> <p>(TP) 1.13 Enterprise</p> <p>(TP) 1.14 Design communication</p>	<p>NEA</p> <p>Section 1 – Investigation of Contexts</p>
Year 13	<p>NEA</p> <p>Section 2 - Brief and Specification</p> <p>Section 3 – Design ideas and Development</p>	<p>NEA</p> <p>Section 4 – Manufacture products</p> <p>Section 5 - Evaluation</p>	<p>(DP) 2.1 Design methods</p> <p>(DP) 2.2 Design theory</p> <p>(DP) 2.3 Advances in</p> <p>(DP) 2.4 Design</p>	<p>(DP) 2.5 Critical analysis</p> <p>(DP) 2.6 Selecting tools/processes</p> <p>(DP) 2.7 Accuracy in design</p>	<p>(DP) 2.8 Responsible design</p> <p>(DP) 2.9 Design for manufacture</p> <p>(DP) 2.10 International standards</p> <p>Revision</p>	<p>Exam</p>

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Qualification(s)	BTEC National Engineering Diploma
Exam Board	Pearsons
Link to Specification	BTEC Nationals Engineering (2016) Pearson qualifications

	Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b
Year 12	Unit 1 – Engineering Principles Unit 4: Applied Commercial and Quality Principles in Engineering Unit 10 - Computer Aided Design in Engineering	Unit 1 – Engineering Principles Unit 4: Applied Commercial and Quality Principles in Engineering Unit 10 - Computer Aided Design in Engineering	Unit 1 – Engineering Principles Unit 4: Applied Commercial and Quality Principles in Engineering Unit 10 - Computer Aided Design in Engineering	Unit 1 – Engineering Principles Unit 4: Applied Commercial and Quality Principles in Engineering Unit 10 - Computer Aided Design in Engineering	Unit 1 – Engineering Principles Unit 44: Fabrication Manufacturing Processes Unit 2 - Delivery of Engineering Processes Safely as a Team Unit 41: Manufacturing Secondary Machining Processes	Exam – Unit 1 – Engineering Principles Unit 44: Fabrication Manufacturing Processes Unit 2 - Delivery of Engineering Processes Safely as a Team Unit 41: Manufacturing Secondary Machining Processes
Year 13	Unit 3 -Engineering Product Design and Manufacture Unit 2 - Delivery of Engineering Processes Safely as a Team Unit 5: A Specialist Engineering Project	Unit 3 -Engineering Product Design and Manufacture Unit 2 - Delivery of Engineering Processes Safely as a Team Unit 5: A Specialist Engineering Project	Unit 44: Fabrication Manufacturing Processes Unit 24: Maintenance of Mechanical Systems Unit 5: A Specialist Engineering Project Unit 22: Electronic Printed Circuit Board Design and Manufacture	Unit 44: Fabrication Manufacturing Processes Unit 24: Maintenance of Mechanical Systems Unit 22: Electronic Printed Circuit Board Design and Manufacture	Unit 44: Fabrication Manufacturing Processes Unit 24: Maintenance of Mechanical Systems Unit 22: Electronic Printed Circuit Board Design and Manufacture	Exam resit opportunity