



DESIGN & TECHNOLOGY

MATERIALS

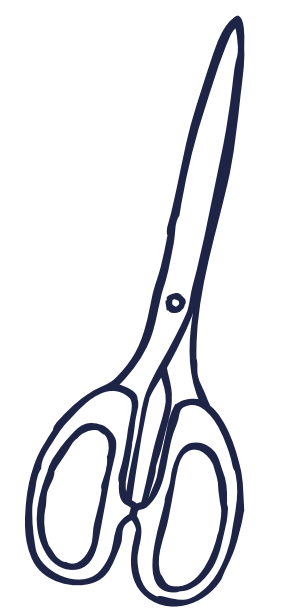
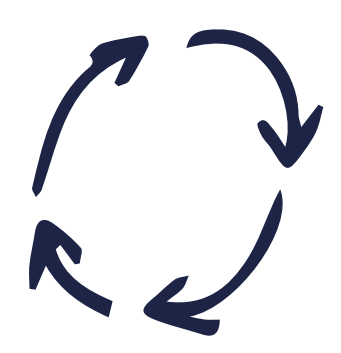


YEAR 7	DESIGN – MAKE – EVALUATE – TECHNICAL KNOWLEDGE			YEAR 8	DESIGN – MAKE – EVALUATE – TECHNICAL KNOWLEDGE		
1. LICENCE TO SEW <ul style="list-style-type: none"> • Health and safety • Measuring and marking materials • Joining techniques 	2. MONSTER MADNESS <ul style="list-style-type: none"> • Designing creative ideas • Design specification • Evaluating against a specification • Paper patterns • Impacts of product design 	3. BOOK OF ILLUSION <ul style="list-style-type: none"> • Health and safety in the workshop • Materials classification & properties • Cutting and shaping • Simple electronic circuits • CAD/CAM • Planning manufacturing • Biomimicry 	4. DYSON <ul style="list-style-type: none"> • Iterative design • Disassembly • Ergonomics and anthropometrics • Power and electronic systems • Solving design problems • Using CAD/CAM to model • Evaluating products 	5. UNDER THE SEA <ul style="list-style-type: none"> • Textile fibres • Fabric construction • Detailed design specifications • Material surface modification 	6. STEAMPUNK <ul style="list-style-type: none"> • Technological developments • Creative design 		

GCSE	DESIGN – MAKE – EVALUATE – TECHNICAL KNOWLEDGE			YEAR 9	
3. UPCYCLE <ul style="list-style-type: none"> • Impacts of products on the environment • Cutting materials to minimise waste • Different energy generation and storage • 6Rs and product life cycle • Social and ecological issues in design • Selection of materials and components 	2. CAD/CAM - SCALE OF PRODUCTION <ul style="list-style-type: none"> • New and emerging technologies • Manufacturing systems • Planned obsolescence and design for maintenance • Scale of production • Tolerance • Nesting and tessellation • Stockform 	1. ITERATIVE DESIGN PROCESS <ul style="list-style-type: none"> • Communication of ideas • User centred design • Design brief and specification • Past and present designers • Technology push vs market pull 	9. ARCHITECTURAL SPACES <ul style="list-style-type: none"> • Life cycle analysis • 'Cradle to grave' product development • Circular economy • Skills development • Selecting suitable materials 	8. FESTIVAL <ul style="list-style-type: none"> • Context Analysis • Users • Creating design briefs 	7. NATURAL WORLD <ul style="list-style-type: none"> • Materials casting • Production schedules • Using planning tools • Biomimicry

A LEVEL	DESIGN – MAKE – EVALUATE – TECHNICAL KNOWLEDGE			
4. PAPER AND BOARDS <ul style="list-style-type: none"> • Categorising papers and boards • Ergonomics and anthropometrics • Stockform and components • Treatments and finishes 	5. CORE MATERIALS <ul style="list-style-type: none"> • Impact on the planet • Developments in technology • Properties of materials • Timber, metal, polymers, textiles, composite materials and smart materials 	6. MECHANISMS, SYSTEMS AND MECHANICAL DEVICES <ul style="list-style-type: none"> • The use of sensors • Programming microcontrollers • Mechanical devices and levers 	NON-EXAMINED ASSESSMENT (NEA) 50% <ul style="list-style-type: none"> • Identifying and investigating design possibilities • Producing a design brief and specification • Generating design ideas • Developing design ideas • Realising design ideas • Analysing and evaluating 	MATERIALS AND PROCESSES <ul style="list-style-type: none"> • Performance and applications of materials • Materials including, wood, metal, polymer, smart, modern, composites, paper and card and biodegradable polymers • Accuracy in design and manufacture • Design communication

TEXTILES



NEA COURSEWORK 50% <ul style="list-style-type: none"> • Identify and investigate design possibilities • Producing a design brief and specification • Development of design proposals • Development of design prototype(s) • Analysing and evaluating
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COMMERCIAL DESIGN <ul style="list-style-type: none"> • DESIGN THEORY • Commercial design methods and processes • Enterprise and marketing • Critical analysis and evaluation • Responsible design • Design communication
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CAD PACKAGES <ul style="list-style-type: none"> • CAD/CAM • Modern, industrial and commercial practice • Modern manufacturing systems • Forming, redistribution and addition processes • Digital design and manufacture • Design communication
