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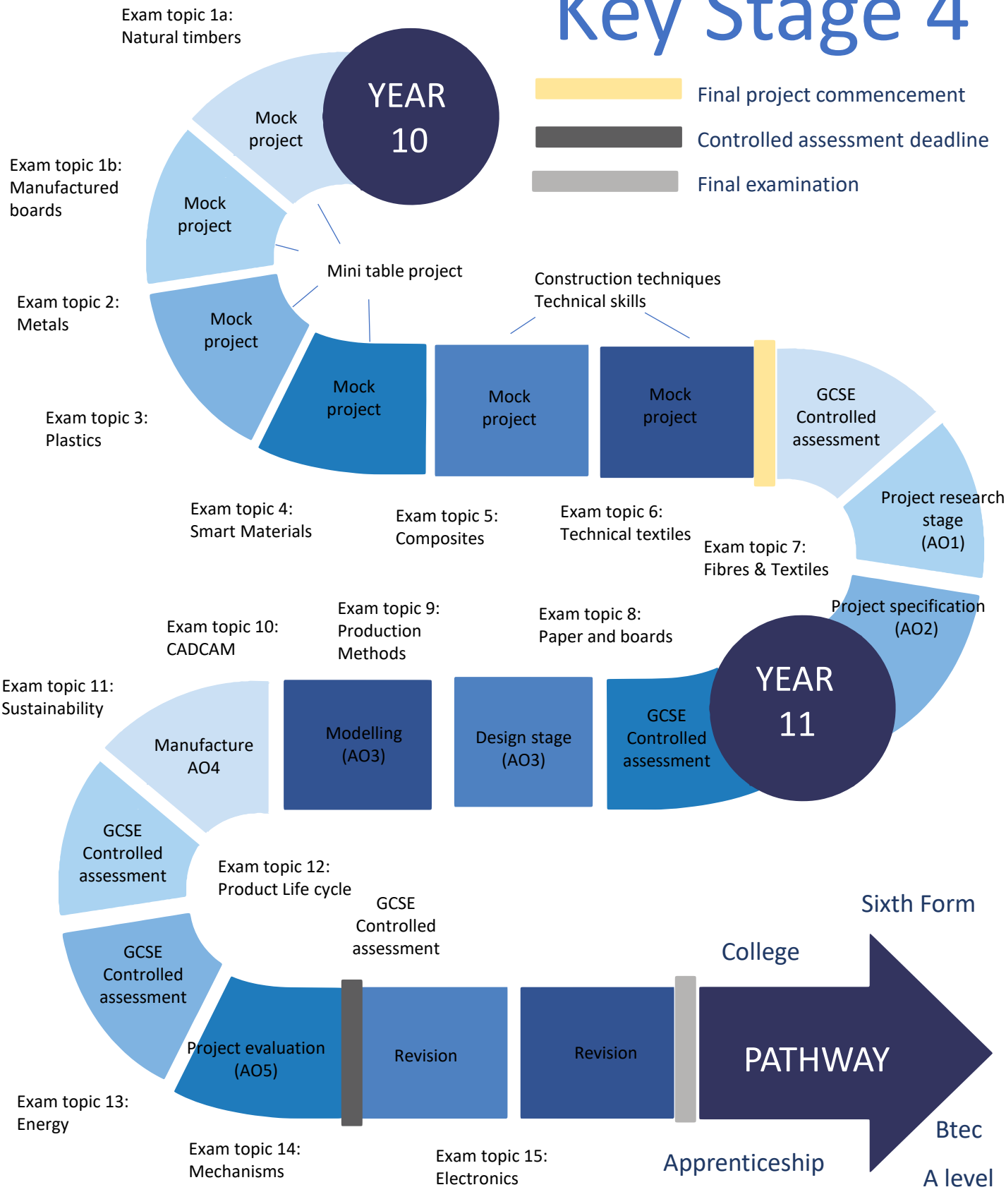
Product Design

Key Stage 4



Final project commencement

Controlled assessment deadline

Final examination

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Product Design

Key Stage 4 – Year 10

	UNIT	KEY THEMES OF EACH LESSON
10	Unit 1 Examination content Knowledge and understanding 50% of course content	1. Topic 1: Natural woods 2. Topic 1b: Manufactured boards 3. Topic 2: Metal 4. Topic 3: Plastics 5. Topic 4: Smart materials 6. Topic 5: Composite materials 7. Topic 6: Technical Textiles 8. Topic 7: Fabrics and Fibres
	Mid-Year Assessment	
	Unit 2 Mock project-controlled assessment Mini table Design Portfolio 50% of course content	1. Generation of a design brief and specification including testing 2. Project research techniques 3. Review of existing product designs 4. Establish client profile 5. Identify, select construction techniques including tools & equipment 6. Identify, select project materials including reasoning 7. 2D Designing and 3D designing, isometric and 2-point perspective 8. Plan of manufacture 9. Evaluation techniques
	Unit 2 Mock project-controlled assessment Practical element Manufacture of a mini table	1. Marking out and measurement techniques for all timber 2. Cutting techniques using a hand saw, use of a datum 3. Cutting techniques using a fret and mitre saw 4. Drilling techniques using a pillar drill, power drill, hand drill 5. Use of a pilot hole, countersink and screwdriver bit 6. Creation of a housing joint, mitre joint, finger joint 7. Creation of a basic electronic circuit, LEDs. 8. Finishing techniques including decoration
	End of Year Assessment	

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	UNIT	KEY THEMES OF EACH LESSON
11	Unit 1 Examination content Knowledge and understanding 50% of course content	1. Topic 8: Paper and Board 2. Topic 9: Production methods 3. Topic 10: CADCAM 4. Topic 11: Sustainability 5. Topic 12; Product Life Cycle 6. Topic 13: Energy 7. Topic 14: Mechanisms 8. Topic 15: Electronics
	Mid-Year Assessment	
	Unit 2 Final project-controlled assessment Bespoke project selected by the student Design Portfolio 50% of course content	1. Respond and investigate design contexts set by the exam board 2. Generation of a design brief and specification including testing 3. Project research techniques, primary and secondary 4. Review of existing product designs 5. Establish client profile and conduct a client interview 6. Identify, select construction techniques including tools & equipment 7. Identify, select project materials including reasoning 8. 2D Designing and 3D designing, isometric and 2-point perspective 9. Modelling of ideas, testing and trialling 10. Plan of manufacture 11. Designing of suitable product aids 12. Evaluation techniques
	Unit 2 Final project-controlled assessment Bespoke project selected by the student Manufacture stage	1. Opportunity to work with a range of modern and traditional materials 2. Use of production aids to assist manufacture 3. Use of modern technology for example 3D printing 4. Range of wood joints and other construction techniques such as KD fittings 5. Measuring and marking out techniques 6. A wide range of cutting and shearing techniques 7. A wide range of drilling techniques such as forstner, hole saw, boring 8. Material shaping and bending techniques 9. Moulding techniques such as casting, vacuum forming 10. A wide range of finishing techniques
	End of Year Assessment	