

Programme of Study: Construction



KS2 / 3 Underpinning Concepts		Year 10	Year 11	KS5 & CEAIG Opportunities	Links to SMSC
Design Thinking & Problem Solving Responding to design briefs with creativity and purpose Generating and developing ideas to meet user needs Evaluating design choices based on function and impact Practical Skills & Making Safe use of tools and materials Basic construction techniques (e.g. measuring, marking, joining) Introduction to workshop practices and model making Technical Knowledge Understanding structures, materials, and forces Exploring basic mechanical and electrical systems Awareness of how buildings are constructed (walls, floors, foundations) Communication & Drawing Developing visual communication through sketching and technical drawing Using orthographic and isometric projection to convey ideas Sustainability & Ethics Considering environmental impact and responsible material use Exploring ethical design and construction choices Health & Safety Awareness Recognising hazards and safe working practices Understanding risk assessment basics	Autumn Term	Introduction to key concepts and skills Drawing Skills Introduction to orthographic projection and plan views to support accurate design communication. Joinery Techniques <ul style="list-style-type: none"> Exploration of traditional and modern methods including half-lap, dovetail, dowel rod, T-bridle, and mortice and tenon joints. Theory: Performance Requirements Understanding how materials and construction methods meet functional, structural, and aesthetic needs in design.	Component 3: Construction and Design Aims: Learners will gain an understanding of clients' needs and develop skills in producing building design briefs and sketches that consider construction constraints. Learning Outcomes: <ul style="list-style-type: none"> Understand the needs of a client and the constraints on design when designing a low-rise building Be able to graphically communicate the design of a low-rise building. Key Knowledge and Skills: Design principles and constraints Client-focused design thinking Sketching and visual communication techniques Sustainability and environmental impact in construction Materials and their suitability for low-rise buildings Functional and aesthetic considerations in design	Academic Pathways: A-Level Product Design / Design & Technology BTEC Nationals in Construction, Engineering, or Art & Design Advanced apprenticeships in: <ul style="list-style-type: none"> Civil, mechanical, or electrical engineering Construction and the built environment Furniture and cabinet making Digital design and manufacturing Career Pathways: <ul style="list-style-type: none"> Architect Product Designer Civil/Mechanical Engineer Fashion/Textile Designer CAD Technician Construction Manager Furniture Maker UX/UI Designer Sustainability Consultant 	Spiritual Development Encouraging creativity and personal expression through design tasks Reflecting on how built environments affect wellbeing and quality of life Moral Development Considering ethical issues in construction, such as sustainability, resource use, and the impact of urban development Exploring the responsibilities of professionals in ensuring safety and fairness in the built environment Social Development Working collaboratively on design and construction projects Understanding the role of construction in shaping communities and improving living conditions Cultural Development Exploring architectural styles and construction methods from different cultures Recognising how cultural values influence design and building practices
	Spring Term	Component 2: Construction In Practice Aims: This component will introduce learners to commonly used hand tools, equipment and craft skills needed in the creation of the built environment and how to select and use materials in order to safely produce quality outcomes. Learning Outcomes: <ul style="list-style-type: none"> Be able to understand hazards and risk for safe production of a practical construction outcome Be able to produce a practical construction outcome. Key Knowledge and Skills: Safe use of tools and materials in a workshop or site environment Risk assessment procedures and hazard identification Reading and interpreting project briefs, specifications, and technical drawings Construction techniques in carpentry and joinery Quality assurance and checking against specifications Time management and planning in practical tasks Documentation of work through photographic evidence	Component 1: Construction Technology Aims: This component will develop knowledge and understanding of processes, terminology and technology used in the construction of the built environment. Learning Outcomes: <ul style="list-style-type: none"> Demonstrate knowledge and understanding of work of the construction industry and the different technology used in low-rise construction projects Be able to make connections between different construction technologies to ensure appropriateness of low-rise construction projects in different scenarios Key Knowledge and Skills: Interpreting client briefs and design requirements Applying construction knowledge to design solutions Communicating ideas through sketches and annotations Understanding design principles and constraints Selecting appropriate materials for low-rise buildings Considering sustainability and environmental impact Evaluating design choices based on user needs and functionality Using problem-solving and creative thinking in design tasks		
	Summer Term	Key concepts and skills: Design for user needs Design Theory Introduction to structural elements including foundations, walls, and floors, with a focus on how these meet user needs and functional requirements. Design Practice Development of design tasks aligned with Component 3, including interpreting briefs, generating ideas, and structuring reports.	GCSE EXAMINATIONS		