

Year 10 BTEC Construction Curriculum End Points and Key Vocabulary

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Units of Work	Component 1: Construction Technology (Performance Requirements, Structural Loads & Safety) & Component 2 Practical Skills (Carpentry & Joinery Intro)	Component 1: Sustainability, Timber-framed Structures & Sub-structure Groundworks & Component 2 Carpentry Drawing & Marking Out	Component 2: Component 2 Pearson-set Assignment (PSA) Introduction & Practical Carpentry & Joinery Craft Skills	Component 2: Live PSA Carpentry Assessment Completion & Component 3 (Construction & Design) Introduction	Component 3: Design Constraints, Site Analysis, Client Brief & Conceptual Timber Building Sketching	Component 1 Review & Revision, Component 3 Final Portfolio Completion & Synoptic Review
Ethos Links	<p>Sustainability: Consideration of timber durability, thermal efficiency, and minimizing environmental impact.</p> <p>STEM: Application of physical forces (structural loads, self-weight, wind) and mathematical calculations of U-values.</p> <p>Milton Keynes: Analyzing local low-rise residential timber structures and building standards in Milton Keynes.</p>	<p>Sustainability: Use of renewable natural timber materials, certified timber sourcing, recycling waste wood, and low embodied energy.</p> <p>STEM: Calculating timber quantities, structural proportions, and spatial orientation for natural heat/light.</p> <p>Milton Keynes: Exploring timber-framed residential housing and brownfield development sites across Milton Keynes.</p>	<p>Sustainability: Minimizing timber waste through accurate marking, cutting, and identification of material defects.</p> <p>STEM: Applying precise linear measurements, checking square (try square / diagonal checks), and working to strict tolerances (+/- 3mm).</p> <p>Milton Keynes: Aligning practical carpentry craftsmanship with industry standards expected by local employers.</p>	<p>Sustainability: Selecting timber materials based on appearance, aesthetics, durability, maintenance, and environmental impact.</p> <p>STEM: Mathematical calculation of timber dimensions, spatial area analysis, and quality control data recording.</p> <p>Milton Keynes: Reviewing local architectural styles and timber building designs for residential and commercial projects.</p>	<p>Sustainability: Environmental constraints, flood risk, carbon footprint analysis (BREEAM), and sustainable timber material selection.</p> <p>STEM: Budgetary calculations, cost per square metre, site area analysis, and spatial proportioning.</p> <p>Milton Keynes: Investigating local planning policies, building control requirements, and site access constraints in Milton Keynes.</p>	<p>Sustainability: Holistic review of sustainable construction and timber engineering principles across all building sectors.</p> <p>STEM: Comprehensive synthesis of scientific, mathematical, and technical principles for assessment.</p> <p>Milton Keynes: Final preparation and readiness for Pearson assessment and moderation standards.</p>

Learning End Points	<p>By the end of this unit students will know and understand:</p> <ul style="list-style-type: none"> • Performance requirements for low-rise buildings (strength, stability, fire resistance, thermal resistance, sound reduction, water resistance). • Types of structural load (self-weight, imposed, dynamic, snow, wind). • Basic woodworking hand tools, equipment, and safety rules in a construction workshop environment. 	<p>By the end of this unit students will know and understand:</p> <ul style="list-style-type: none"> • Principles of sustainable timber construction and timber-framed structural forms (platform frames, vapour barriers, breather membranes). • Preconstruction work (legal requirements, site layout plans, services protection, demolition, site set-up). • Groundwork hazards, excavation support systems, and foundation types (strip, trench fill, raft, pile). 	<p>By the end of this unit students will know and understand:</p> <ul style="list-style-type: none"> • Detailed risk assessments, hazard identification, risk rating matrices, and control measures for carpentry practical work. • Measuring, marking, and setting-out tools (marking knife, try square, sliding bevel, setting-out rods) and conventions (face side, face edge, waste hatching). • Carpentry jointing techniques (mitre, mortise and tenon, bridle, halving, housing, dowel) and assembly methods. 	<p>By the end of this unit students will know and understand:</p> <ul style="list-style-type: none"> • Component 2 live carpentry assessment criteria, task execution, and quality check procedures. • Introduction to Component 3: client requirements, building uses (industrial, residential, commercial, retail, health, education, leisure), and spatial accommodation. • Architectural styles, aesthetics, and timber-framed building features. 	<p>By the end of this unit students will know and understand:</p> <ul style="list-style-type: none"> • External design constraints (budget, site size/shape, access, local services, ground conditions, flood risk). • Local planning requirements, building regulations, and accessibility standards for timber-framed structures. • Advanced sketching techniques: floor plans to scale, two-point perspective, isometric projection, and line weight enhancement. 	<p>By the end of this unit students will know and understand:</p> <ul style="list-style-type: none"> • Comprehensive review of Component 1 core content: low-rise construction, sustainability, structural forms (timber frame), sub-structures, superstructures, and industry work. • Assessment techniques, command words (describe, explain, discuss, evaluate), and structured response framing. • Final assembly, cross-referencing, and submission of Component 3 design portfolios.
	<p>By the end of this unit students will develop their ability to:</p> <ul style="list-style-type: none"> • Identify and explain structural performance requirements and loads in low-rise construction. • Demonstrate safe workshop practices, correct handling of woodworking hand tools, and basic marking out skills. 	<p>By the end of this unit students will develop their ability to:</p> <ul style="list-style-type: none"> • Compare the benefits and drawbacks of timber-framed construction against traditional cavity wall structures. • Produce accurate technical sketches (isometric and orthographic drawings of timber details) and interpret setting-out details. 	<p>By the end of this unit students will develop their ability to:</p> <ul style="list-style-type: none"> • Conduct individual risk assessments and apply control measures for woodworking machinery and hand tools. • Fabricate a practical carpentry outcome to specification using mallets, chisels, tenon saws, and jointing techniques. • Perform ongoing quality checks and 	<p>By the end of this unit students will develop their ability to:</p> <ul style="list-style-type: none"> • Complete the live Component 2 carpentry Pearson-set Assignment independently within supervised conditions. • Analyse client profiles, needs, and lifestyle requirements for low-rise building designs. • Evaluate constructed practical carpentry outcomes against drawing 	<p>By the end of this unit students will develop their ability to:</p> <ul style="list-style-type: none"> • Produce a comprehensive design brief and client report analysing budget, constraints, and specification points. • Generate multiple concept sketches for external timber appearance and internal layouts addressing client needs. 	<p>By the end of this unit students will develop their ability to:</p> <ul style="list-style-type: none"> • Answer assessment questions accurately using correct technical construction terminology and command verbs. • Integrate knowledge across all three components to respond effectively

	<ul style="list-style-type: none"> • Interpret simple technical drawings and woodworking markings. 	<ul style="list-style-type: none"> • Assess groundworks hazards and implement appropriate safety controls. 	measure dimensional accuracy against specified carpentry tolerances (+/- 3mm).	specifications and tolerances.	<ul style="list-style-type: none"> • Graphically communicate building designs clearly with accurate annotations and varying line thickness. 	to synoptic assessment tasks. <ul style="list-style-type: none"> • Finalize and authenticate all internal coursework and revision preparations.
Key Vocabulary	Self-weight, Imposed load, Wind load, U-value, Thermal insulation, Fire resistance, Sound reduction, Sub-structure, Superstructure, PPE, Risk assessment, Hazard.	Timber frame, Platform frame, Breather membrane, Vapour barrier, Sheathing, Strip foundation, Raft foundation, Trench sheet, PPE, Orthographic, Isometric.	Risk matrix, Setting-out rod, Face side, Face edge, Mortise and tenon, Halving joint, Housing joint, Bridle joint, Tolerance, Try square, Mallet, Tenon saw.	Live assessment, Pearson-set Assignment, Client brief, Accommodation, Orientation, Aesthetics, Architectural style, Quality check, Tolerance, Verification.	Design constraint, Budget, Flood risk, Building regulations, Planning permission, Two-point perspective, Floor plan, Conceptual sketch, Line thickness, Annotation, BREEAM.	Command word, Describe, Explain, Discuss, Evaluate, Synoptic, Civil engineering, Commercial construction, Residential construction, Industrial construction, Portfolio, Moderation.