High Tunstall College of Science Curriculum Intent

Unit 1: Construction Technology

BTEC Construction & The Built Environment

Leaning Aim A— Understand the structural performance required for low-rise Construction

	Design & Technology	Progress		
Topic	**Key ideas** (Requirements for low-rise Construction)	R	A	G
Structural performance required for low-rise Construction	Performance requirements: Strength and Stability			
	Performance requirements: Thermal and Sound Insulation			
	Performance requirements: Fire and Weather Resistance			
	Sustainability: Purpose; Methods; and Materials			
	Structural form: Cavity Wall and Cross-Wall Structure			
	Structural form: Structural and Timber-Framed Construction			

Lesson	Learning Focus	Assessment	Key Words
1	Introduction to Unit 1: Learning Aim A and the formal examination process. How buildings are built to show strength and stability	Live marking/Formal examination	*Construction, Strength, Stability, Self-weight, Live load, Dynamic load, Dead load*
2	How buildings are insulated against heat loss and meet their required sound resistance	Live marking/Formal examination	*Thermal, Sound, Insulation, Purpose, Types, Location*
3	How buildings protect against fire whilst maintaining structural integrity and resist weather elements	Live marking/Formal examination	*Fire resistance, Fire barriers, Structural integrity, Purpose, Materials, Location*
4	Purpose and methods of sustainability within construction activities	Live marking/Formal examination	*Sustainability, Purpose, Methods, Energy, Conservation, Greenfield, Brownfield, Recycle*
5	Sustainable building materials and how they are used to ensure building sustainability	Live marking/Formal examination	*Sustainability, Hemp, Lime, Sheep's Wool, Straw, Timber, Aluminium*
6	Traditional Cavity-wall construction methods (Including sketching)	Live marking/Formal examination	*Load-bearing, Brickwork, Blockwork, External Render*
7	Cross-wall construction methods (Including sketching)	Live marking/Formal examination	*Load-bearing, Connecting floors, Prefabrication, Accommodation*
8	Structural construction methods (Including sketching)	Live marking/Formal examination	*SIPS, Brickwork, Blockwork, Render, Panel function*
9	Timber-framed construction methods (Including sketching)	Live marking/Formal examination	*Membranes, External finish, Formation of openings*
10	Formative assessment (Using past examination questions covering Unit1:Learning Aim A)	Live marking/Formative Assessment & Deep Marking grid/Formal examination	*Formal, Examination, Objectives*
Assessment task (Formal Examination)	Formal Examination: • 65 Marks • 1 hour and 15 minutes • Objectives: Multiple choice, short answers, extended writing questions and sketching techniques • First attempt in January; second attempt in May • Highest mark is allocated as Unit 1 grade (L1P/L2P/L2M/L2D)		