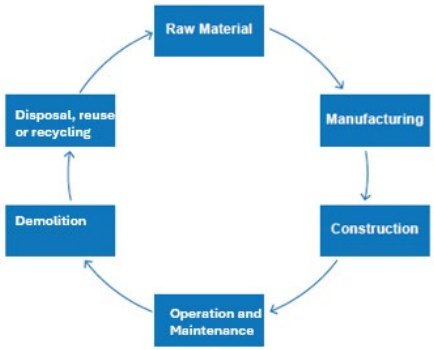
Construction Unit Overview Year 10

Construction and the Built Environment is a Key Stage 4 only course designed for students who want to learn about the construction industry. Students are introduced to different trades and the range of career opportunities available within the sector. They will begin the course focusing on Unit 1 – Introduction to the built environment. Alongside the teaching of the theory unit, students will complete three mock controlled assessments. This will mirror the kind of assessment they will complete in year 11 which forms 60% of the qualification. Students will be given full and detailed feedback on their mock controlled assessment. This will prepare them for the final controlled assessment in year 11

This is a standalone KS4 course which does not directly link to KS3 DT. The course is taught in the construction workshop and all controlled assessment is computer based.

CTBE - Year 10 Unit 1 Theory and exam practice (Part 1)					
What are we learning?	**Our intention - What knowledge, understanding and skills will we gain?**		**Evaluation and assessment methods**	**Implementation**	**What additional resources are available?**
Unit 1 – Introduction to the built environment.	**Knowledge** **AO1** Demonstrate knowledge and understanding from across the specification. **AO2** Apply skills (including practical skills), knowledge and understanding in a variety of contexts and in planning and carrying out investigations and tasks.	**Skills** POS – Year 10 topics 1.1 The sector 1.2 The built environment life cycle 1.3 Types of building and structure 1.4 Technologies and materials	Able to explain exam questions and give examples.	Links to KS3 H&S learning.	Links to HSE website and industry links. Virtual visits to worksites. Videos from HSE.

	AO3 Analyse and evaluate information, making reasoned judgements and presenting conclusions.				
1.1 The Sector	**Knowledge** In this topic, learners will gain knowledge and understanding of the following areas in construction and the built environment sector: • buildings and structures • infrastructure and civil engineering products • building services engineering • professional and managerial roles and responsibilities associated with the built environment sector.		Full understanding shown in the end of unit assessment. Student can explain and give examples.	N/A	SOL PPT – Tasks and assessments. Exam board textbook.

1.2 The built environment life cycle.	**Knowledge** In this section learners will gain knowledge and understanding of the built environment life cycle, specifically: • raw material extraction • manufacturing • construction • operation and maintenance • demolition • disposal, reuse or recycling.		Full understanding shown in the end of unit assessment. Student can explain and give examples.	N/A	SOL PPT – Tasks and assessments. Exam board textbook.
1.3 Types of Building and structure.	**Knowledge** In this section learners will gain knowledge and understanding of the features and characteristics of: • different forms of infrastructure construction • low-rise: • residential dwellings • commercial buildings		Full understanding shown in the end of unit assessment. Student can explain and give examples.	N/A	SOL PPT – Tasks and assessments. Exam board textbook.

	• industrial buildings • agricultural buildings • community buildings • religious buildings • recreational buildings.				
1.4 Technologies and materials	**Knowledge** In this section learners will gain knowledge and understanding of tools, technologies and materials used in the construction and built environment sector: • main elements and components of low-rise buildings • main materials involved in constructing walls, installing building services, fitting roofs and finishing interiors • renewable technologies and materials, including		Full understanding shown in the end of unit assessment. Student can explain and give examples.	N/A	SOL PPT – Tasks and assessments. Exam board textbook.

	heat pumps, wind turbines and solar panels.				

CTBE - Year 10 Controlled assessment practice (3x Mock CA in year 10)					
What are we learning?	**Our intention - What knowledge, understanding and skills will we gain?**		**Evaluation and assessment methods**	**Implementation**	**What additional resources are available?**
Unit 3 – Constructing the built environment.	**Knowledge** **AO1** Demonstrate knowledge and understanding from across the specification. **AO2** Apply skills (including practical skills), knowledge and understanding in a variety of contexts and in planning and carrying out investigations and tasks. **AO3** Analyse and evaluate information, making reasoned judgements and presenting conclusions.	**Skills** Demonstrate practical skills in three areas: • Carpentry • Electrical • Plumbing In this section learners will gain knowledge, understanding and skills in interpreting a range of technical sources of information, using the symbols, conventions and terminology of: • specifications • building regulations • drawings • design briefs.	Detailed controlled assessment PowerPoint. Fully covering all assessment points. Content could include: Situations ·On-site –substructure, superstructure· Off-site –workshop, office, travelling between sites. Effects· Physical· Psychological ·Financial ·Environmental Who is affected· Self· Others working in the area· Employer· Local community· Environment· Users. Risk ·Likelihood ·Severity· How risk is measured. Control measures· Method statements· Safe systems of work· Work permits· Competent persons· PPE.	Recap on safety measures e.g. Signage, fire and working practices. Risk assessments used in KS3 – Basic introduction. Building to industrial RA management.	SOL PPT. Student CA sheets. Primer tasks to start CA. Student CA PPT

		In this section learners will gain knowledge, understanding and skills in planning and organising work that meets specific requirements, including how work is sequenced, planned to meet deadlines and compliant with relevant health and safety practices. In this section learners will gain knowledge, understanding and skills in identifying resource requirements, for the three selected trade areas, to meet design requirements: 3.3.1 tools 3.3.2 equipment 3.3.3 personal protective equipment (PPE) 3.3.4 materials based on characteristics, qualities, sustainability, and limitations. In this section learners will gain knowledge, understanding and skills in calculating the materials required to complete construction tasks that meet design requirements, in relation to: • volume • area	Situations ·Locations ·Changes in work practice ·Equipment ·Scale Individual/business responsibilities. Security ·Of tools and equipment ·Personal belongings ·Sensitive information. Measures ·Used by employees· Used by employers. Accurately interprets required technical information from more than one type of source. Plans a detailed sequence of work which meets the requirements of the sources of information. The plan is mainly logical, showing knowledge of the processes to be followed and appropriate timescales. Comprehensively identifies and specifies all resources required to complete construction tasks. Accurately calculates all materials required to complete the construction tasks using standard conventions and processes to complete all calculations. Identifies the success criteria for the completion of construction tasks from explicit and implicit information provided in the brief. All appropriate preparation tasks are completed effectively in a logical sequence. A range of techniques are used fluently and consistently in completion of all three specified tasks. All outcomes are within specification tolerances.	Mock CA x 3 Carpentry (Yr10) Electrical (Yr10) Plumbing (Yr10)	

		• perimeter • time • ratio. In this section learners will gain knowledge, understanding and skills in writing and setting appropriate project success criteria to meet the requirements of set briefs, with respect to: • levels of tolerance • timescales • quality. In this section learners will gain knowledge, understanding and skills in preparing materials and undertaking any other required preparations for each selected task, with regard to: • the properties of common materials required to complete construction tasks (for the three selected trade areas). In this section learners will gain knowledge, understanding and skills in carrying out techniques, focussing on: • the processes involved in carrying out simple construction tasks (in each of the three selected trade areas).	Applies health and safety practices in completion of construction tasks independently. Evaluates the quality of construction tasks completed. Judgements are reasoned and equal consideration given to specification and success criteria.		

		In this section learners will gain knowledge, understanding and skills in removing and safely disposing of materials used in carrying out three of the above techniques, focussing on safe and environmentally responsible means of disposing or recycling of materials. In this section learners will gain knowledge, understanding and skills in working practices that promote their own health and safety and that of others, developing an awareness of health and safety practices related to each of the three selected trade areas, including: • ensuring the cleanliness and safety of work areas • correct personal protective equipment. In this section learners will gain knowledge, understanding and skills in evaluating the quality of completed construction tasks, including how outcomes can be evaluated: • requirements of the brief • personally-set success criteria • needs of end users, including their safety.		