Curriculum Map

Construction Curriculum - Overview	
Year 10	Year 11
COURSE – Constructing the Built Environment LEVEL 1/2 The course aims to enable students to gain a good foundation of knowledge, understanding and the skills that are required by the Construction industry. Students will use the skills learnt in KS3 Design and Technology as a starting point for this course. Students will have the opportunity to develop a variety of skills, including an introduction to variety of Trades, including carpentry, bricklaying, electrical work and painting and decorating. Students will also learn valuable skills in organisation, planning, time management, communication and problem solving. **<u>Year 10 – Focus – Unit 1 - Introduction to the Built Environment</u>** Unit 1 introduces learners to the built environment and provides them with the opportunity to develop skills, knowledge and understanding in identifying, explaining and evaluating different ideas and concepts of the built environment. Learners will explore a range of profession and trade roles, and some of the different structures and buildings of the built environment Alongside learning the theory information needed for Unit 1 students will also have the opportunity to develop skills, knowledge and understanding of three construction trade areas of the built environment, including planning, undertaking and evaluating construction tasks which are required for Unit 3, their controlled assessment which will happen in Year 11.	During Year 11 Students will be given the project scope which they will need to interpret in order to complete their controlled assessment. This unit is internally assessed and contributes 60% to the overall qualification grade. This units requires learners to complete a construction project which focusses on the preparation and completion of three realistic trade-based tasks. For each of these trades they will have 5 hours to complete the practical task and 5 hours for the written aspect of it. Students will need to demonstrate they are capable of 3.1 Interpreting technical sources of information 3.2 Planning and organising work 3.3 Identifying resource requirements 3.4 Calculating the materials required 3.5 Writing and setting success criteria 3.6 Prepare for construction tasks 3.7 Carrying out techniques 3.8 Removing and disposing of materials 3.9 Working practices that promote health and safety 3.10 Evaluating construction tasks. In this unit, learners are required to develop knowledge, skills and understanding in three areas, selected from: • wood • brick • decoration • electrical

	Once students have completed their coursework for Unit 3 the focus will be revisiting the information learnt for Unit 1 for the examination.

Curriculum – Topic Sequencing	
Year 10	Year 11
Half Term 1 Introduction to the course. Unit 1 - 1.1 The Sector • Buildings and structures • Infrastructure and civil engineering products • Building services engineering • Professional and managerial roles and responsibilities Unit 3 3.1 - Interpreting technical sources of information. Understand simple drawings and cutting lists to interpret technical sources of information used in construction projects. 3.9 Working practices that promote health and safety - Identify risks and hazards associated with various construction projects. 3.7 Carrying out techniques Carpentry - Use a range of skills and techniques to produce a window frame. Including different types of wood joints and a variety of tools.	**Half Term 1 – Half Term 3** **Unit 3 – Coursework** At the start of Year 11 Students will be given their Construction context. To complete the coursework they will need to complete the following sections: 3.1 Interpreting technical sources of information 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. 3.2 Planning and organising work 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. .
Half Term 2 Unit 1 - 1.2 The Built Environment life cycle	3.3 Identifying resource requirements

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. Unit 3 3.2 Planning and organising work, 3.3 Identifying resource requirements, 3.5 Writing and setting success criteria In this section learners will gain knowledge, understanding and skills in identifying resource requirements, for a variety of trade areas, to meet design requirements. Painting and Decorating – Students will learn how to prepare and decorate internal walls and ceiling, how to prepare and decorate doors and frames internally with suitable primer, undercoat and gloss finish. Students will also learn how to finish new door and frames externally.	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. 3.4 Calculating the materials required 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 • perimeter • time • ratio
Half Term 3 1.3 Types of building 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 • industrial buildings • agricultural buildings	3.5 Writing and setting success criteria 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. 3.6 Prepare for construction tasks

• community buildings • religious buildings • recreational buildings. 1.4 Technologies and materials 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 heat pumps, wind turbines and solar panels. Unit 3 - 3.9 Working practices that promote health and safety Students will learn the basics of Electrical work. Skills focus on measuring, marking, cutting and stripping of electrical cables safely. The students will be gaining knowledge of how electrical components work and carrying out practical tasks.	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). 3.7 Carrying out techniques 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). 3.8 Removing and disposing of materials 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.
<u>Half Term 4</u> Unit 1 1.5 Building structures and forms In this section learners will gain knowledge and understanding of the following building structures and forms: • cellular constructions • rectangular frame constructions • portal frame constructions • heritage and traditional methods. 1.6 Sustainable construction methods	3.9 Working practices that promote health and safety 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. 3.10 Evaluating construction tasks In this section learners will gain knowledge, understanding and skills in evaluating the quality of completed construction tasks, including how outcomes can be evaluated:

In this section learners will gain knowledge and understanding of issues related to sustainable construction methods: • the environmental, financial, cultural and social benefits of sustainable construction methods • pollution and the preservation of the natural environment and natural habitats • sustainable materials used to create building frames, walls, roofs • waste disposal, re-use and recycling • planning permission, brownfield sites and greenfield sites. Unit 3 - 3.6 Prepare for construction tasks Introduction to Bricklaying: This unit will introduce the students to the safe selection and use of tools and equipment in order to develop the skills needed to construct basic brick and block structures. 3.4 Calculating the materials required – Students will learn how to calculate materials and resources required for task. I.e. How many bricks required, including waste, the amount of cement, sand needed for a job.	• requirements of the brief • personally-set success criteria • needs of end users, including their safety. Once the controlled assessment is complete revision will start.
Half Term 5 Unit 1 - 1.7 Trades, employment and careers In this section, learners will gain knowledge and understanding of the following: • bricklaying • stonemasonry • plastering • carpentry and joinery • electrical installation • plumbing installation • painting and decorating • flooring and tiling. Unit 3 –	**Half Term 4 – Exam revision for Unit 1 starts.** How to read and answer exam questions. 1.1 The Sector • Buildings and structures • Infrastructure and civil engineering products • Building services engineering • Professional and managerial roles and responsibilities 1.2 The Built Environment life cycle Revision on the built environment life cycle, including; • raw material extraction • manufacturing • construction

Students will work on designing and manufacturing a tool box. They will produce a written assignment covering the assessment criteria of Unit 3 to help prepare students for then controlled assessment in Year 11. 3.1 Interpreting technical sources of information 3.2 Planning and organising work 3.3 Identifying resource requirements 3.4 Calculating the materials required 3.5 Writing and setting success criteria 3.6 Prepare for construction tasks 3.7 Carrying out techniques	• operation and maintenance • demolition • disposal, reuse or recycling. 1.3 Types of building Revision on the features and characteristics of: • different forms of infrastructure construction • low-rise: • residential dwellings • commercial buildings • industrial buildings • agricultural buildings • community buildings • religious buildings • recreational buildings. 1.4 Technologies and materials Revision on the 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 heat pumps, wind turbines and solar panels.
	<u>Half Term 5</u> 1.5 Building structures and forms Revision on the following building structures and forms: • cellular constructions • rectangular frame constructions

	• portal frame constructions • heritage and traditional methods. 1.6 Sustainable construction methods Revision on issues related to sustainable construction methods: • the environmental, financial, cultural and social benefits of sustainable construction methods • pollution and the preservation of the natural environment and natural habitats • sustainable materials used to create building frames, walls, roofs • waste disposal, re-use and recycling • planning permission, brownfield sites and greenfield sites. 1.7 Trades, employment and careers Revision on the following trades. • bricklaying • stonemasonry • plastering • carpentry and joinery • electrical installation • plumbing installation • painting and decorating • flooring and tiling. 1.8 Health and safety Revision on health and safety in relation to: • risks for employees, employers and the public during construction and the built environment projects • following procedures and carrying out risk assessments • relevant legislation, including Health and Safety at Work Act and Control of Substances Hazardous to Health (COSHH) regulations

	• using personal protective equipment (PPE) • safely working with gas, water and electricity • working at height and in enclosed spaces.