William Edwards School Construction Department Curriculum

The purpose of the curriculum:

1. To enable learners to acquire sector specific knowledge and skills through vocational contexts in which they identify business problems and opportunities
2. To develop technical skills and employability using realistic work scenarios
3. To develop personal skills through a practical and skills-based approach to learning and assessment.
4. To help learners to make more informed choices for further learning, either generally or in this sector

Tech Award Grading
Is a Level 1/Level 2 qualification
Grades awarded are:
- Level 2 Distinction* (GCSE equivalent of 8 - 9)
- Level 2 Distinction (GCSE equivalent of 7)
- Level 2 Merit (GCSE equivalent of 5 - 6)
- Level 2 Pass (GCSE equivalent of 4)
- Level 1 Distinction, Merit, Pass (GCSE equivalent of 1-3)
- Unclassified

Level 2 Outcomes
A Levels or BTEC Nationals as preparation for entry into higher education, apprenticeships or employment

Level 1 Outcomes
Post 16 Level 2 technical routes leading to employment, apprenticeships or to further study at Level 3. Post 16 Technical Certificate route leading to employment.
For information on a full range of construction jobs and careers visit:
https://nationalcareers.service.gov.uk/job-categories/construction-and-trades

KS5

YEAR 11

Learners will know the construction and detailing of foundations and sub-structures including the different types used to support a low-rise building and their selection and use for differing ground conditions.

Learners will know about the work of the construction industry and transportation systems and flood defence systems.

Component 1 External assessment
January and May of Year 11
90 minutes (60 marks)

Golden threads: Identify, match, state, label, draw, explain, discuss,

Learners will know about the hazards and risks associated with groundworks, including control methods to complete the work safely:

Learners will know the functions and features of different walls used in the construction of superstructures and the benefits and drawbacks for architects, builders and the building users.

Learners will know the functions, construction and detailing of floors used in the construction of superstructures in low-rise buildings.

Learners will know the functions, construction and detailing of roofs used in the construction of superstructures in low-rise buildings.

Learners will know the types of work that the construction industry undertakes and different examples of each type of work, including civil engineering, industrial, residential, commercial, retail, healthcare, education and leisure.

Learners will know about the desk-based preconstruction work that must be completed before work can begin on site, including; legal requirements, site lay-out plans, work programmes and the purchase of resources.

Learners will know about the purpose of sustainable construction and how it is achieved. They will recognise the benefits and drawbacks of the different ways used.

Learners will know the ways buildings and people are protected against fire. They will know how the ways low-rise buildings are protected from water damage.

Component 1: Construction Technology (Externally assessed)

Learners will know about the site-based preconstruction work needed to be completed before new construction can commence, including demolition and site clearance, enabling work and site set-up.

Learners will know the ways structural forms in low-rise construction are used and their features including; cavity wall, modular, timber-frame and steel frame. They will recognise the benefits and drawbacks of the different ways used.

Learners will know how heat is retained in buildings by the use of insulation and draught proofing. They will know how the impact of internal and external noise can be reduced though restricting the passage of sound through the fabric of the building.

Learners will know about the performance requirements for low-rise construction and the different types of structural load that a building must be able to resist. They will know how strength and stability in buildings are achieved.

YEAR 10

Learners will be able to graphically communicate the design of a low-rise building by freehand sketching floor plans to approximate scale; and external views using 3D sketching techniques.
Links to Art and Design

Learners will be able to generate sketch ideas in response to client needs through the design of attractive, aesthetically pleasing buildings with annotations and labelling detailing internal lay-out and external appearance.

Learners will know about the purpose of sustainable construction and how it is achieved. They will recognise the benefits and drawbacks of the different ways used. Learners will know about the desk-based preconstruction work that must be completed before work can begin on site, including; legal requirements, site lay-out plans, work programmes and the purchase of resources.

Formal Internal Assessment of Component 3 learning Aims A and B. Assignment Brief issued to learners. Assessment tasks and evidence collection are detailed. Learners will demonstrate how well they can: produce a client brief that meets their needs whilst considering the constraints; and graphically communicate the design of a low-rise building through annotated freehand concept sketches.
Golden threads: Apply, interpret, analyse, rationalise, communicate and sketch.

Learners will be able to create appropriate design solutions showing consideration of project requirements, budget, design factors and constraints, specification of features and end use to meet the vision of the clients.

Learners will be able to demonstrate consideration of the design requirements for the client's environmental and sustainable objective. They will understand how materials, thermal efficiency, alternative energies and orientation impacts on carbon footprint analysis.

Learners will be able to demonstrate knowledge and understanding of a client's needs for their building's use, accommodation, style and design in a vocational scenario.

Learners will know the ways structural forms in low-rise construction are used and their features including; cavity wall, modular, timber-frame and steel frame. They will recognise the benefits and drawbacks of the different ways used.

Formal Internal Assessment of Component 2 learning Aims A and B. Assignment Brief issued to learners. Assessment tasks and evidence collection are detailed. Learners will demonstrate how well they can conduct and record a risk assessment; use their skills to produce a nine course cavity wall.
Golden threads: Identify, analyse, apply and demonstrate.

Component 3 Construction and Design

YEAR 10

Learners will be able to apply their knowledge and understanding of design constraints with reference to budget, resources, site, environment and local planning and building control requirements

Learners will know about the performance requirements for low-rise construction and the different types of structural load that a building must be able to resist. They will know how strength and stability in buildings are achieved.
Learners will know the ways buildings and people are protected against fire. They will know how the ways low-rise buildings are protected from water damage.

Learners will know how to use measuring, marking and setting-out tools whilst demonstrating safe working and correct techniques to correctly interpret specifications and drawings.

Learners will know how heat is retained in buildings by the use of insulation and draught proofing. They will know how the impact of internal and external noise can be reduced though restricting the passage of sound through the fabric of the building. Learners will know the ways buildings and people are protected against fire. They will know how the ways low-rise buildings are protected from water damage.

Learners will know how to lay bricks using different bonding techniques and jointing styles.

Learners will know how create different patterns and features and demonstrate finishing and presentation techniques.

Learners will know how to use correct techniques for accuracy in the construction of the practical outcome. They will demonstrate these skills to maintain their accuracy during construction.

Component 2 Construction in practice

Learners will know how to make recommendations to minimise risk to people in their practical environment and produce a revised risk rating showing their controls have brought the risk rating down.

Learners will know how to use risk assessments in their practical environment and how to identify and analyse hazards and risks to produce an initial risk rating.

Practical construction: Bricklaying
Learners will be able to use different tools and materials used in the industry to construct a practical outcome. They will demonstrate safe working practices and vocationally correct techniques when using specific tools and materials.

Baseline test, identifies ability and gaps in KS3 skills set

The course delivery model will follow Example 2 with a long External Component Delivery
Centre Guide to Quality Assurance – BTEC Tech Awards 2022

YEAR 10

KS3

Golden Threads: Assessment
- Identify, plot, find, give, match, state and outline
- Construct, Demonstrate, Complete
- Apply, Review, Describe, Explain and Carry Out
- Assess, Solve and Discuss
- Evaluate, justify and refine

Knowledge and Understanding gained at KS3
- Sustainability, Construction materials, accurate calculations, measurement of area and volume, marking and setting out, practical working, infrastructures of society, design and mood boards.

Key principles of BTEC Tech Awards
- Core of knowledge and applied skills
- Combination of external assessment and portfolio-based assessment
- Mandatory Components developed by employers and educators to give learners the opportunity to gain understanding and knowledge of the vocational sector
- Specialist unit that supports level 3 vocational progression or to an Apprenticeship

Key Links to other subjects in terms of knowledge, understanding and skills:
English, Mathematics, Science, Geography, Art and Design, IT and computing and Business.

Key Skills gained at KS3
Team workers, Self-management, Independent enquirers and researchers, reflective learners, creative thinkers, Effective participators

Your Learning Journey in BTEC CONSTRUCTION