

High Tunstall College of Science Curriculum Intent

Unit 1: Construction Technology



Learning Aim B— Explore how sub-structures are constructed

| | Design & Technology | Progress | | |
|--------------------------|---|----------|---|---|
| Topic | Key ideas | R | A | G |
| Iterative design process | Preconstruction work: Desk-based preconstruction | | | |
| | Preconstruction work: Site-based preconstruction | | | |
| | Sub-structure Groundworks: Hazards associated with groundworks | | | |
| | Sub-structure Groundworks: Control of Water and Earthwork support | | | |
| | Sub-structure Groundworks: Function and details of a foundation | | | |
| | Sub-structure Groundworks: Details of a ground floor | | | |

| Lesson | Learning Focus | Assessment | Key Words |
|--------------------------------------|---|--|--|
| 1 | Introduction to Unit 1: Learning Aim B. Desk based preconstruction— Legal requirements, planning and programmes of work | Live marking/Formal examination | <i>Preconstruction, legal requirements, scheduling, Health & Safety Executive</i> |
| 2 | Site-based preconstruction—demolition & clearance, enabling work, site set-up | Live marking/Formal examination | <i>Demolition, Recycling, Brown-field, Greenfield, Services</i> |
| 3 | Sub-structure groundworks—hazards, control of water and earthwork supports | Live marking/Formal examination | <i>Groundworks, Excavation, Collapse, Overburden, Proximity</i> |
| 4 | Sub-structure groundworks—functions of a foundation. Foundation detailing: Strip & deep strip; Raft; Short bored piles; Trench/Mass fill | Live marking/Formal examination | <i>Groundworks, Foundation, Strip, Deep Strip, Raft, Short bored piles, Trench/Mass fill</i> |
| 5 | Types of foundation: Strip and deep strip. Advantages, disadvantages, use with ground, sketching | Live marking/Formal examination | <i>Foundation, Strip foundation, Deep strip foundation</i> |
| 6 | Types of foundation: Raft. Advantages, disadvantages, use with ground, sketching | Live marking/Formal examination | <i>Foundation, Raft foundation</i> |
| 7 | Types of foundation: Short bored piles. Advantages, disadvantages, use with ground, sketching | Live marking/Formal examination | <i>Foundation, Short bored piles foundation</i> |
| 8 | Types of foundation: Trench/Mass fill. Advantages, disadvantages, use with ground, sketching | Live marking/Formal examination | <i>Foundation, Trench/Mass fill foundation</i> |
| 9 | Understanding Ground floors: design and construction; solid & suspended floors; Damp proof coursing | Live marking/Formal examination | <i>Groundworks, Ground floor, Damp Proof Course (DPC), Damp Proof Membrane (DPM)</i> |
| 10 | Formative assessment (Using past examination questions covering Unit1:Learning Aim B) | Live marking/Formative Assessment & Deep Marking grid/Formal examination | <i>Formal, Examination, Objectives</i> |
| Assessment task (Formal Examination) | <u>Formal Examination:</u> <ul style="list-style-type: none"> 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) | | |