Unit 231: Groundworks core knowledge

# Delivery guide

Unit information

This unit covers the overarching knowledge required for this pathway.

The content contained within this unit has been presented in a generic way as it is consistent through many of the skills units in this qualification. The content should be taught, and will be assessed both generically and in relation to the following skills units (where appropriate):

* Set out secondary dimensional work control
* Prepare and mix construction related materials
* Install drainage

Learners may be introduced to this unit by asking themselves questions such as:

* Why are site inductions important?
* What’s the difference between a job card and a time sheet?
* Who are Cadw and what do they do?

Learning outcomes

1. How to interpret and maintain information
2. Understand safe work practices
3. Understand how to minimise the risk of damage
4. Understand working to deadlines

Suggested resources

Textbooks

* Kendrick, P. (2004) *Roadwork: Theory and Practice*, 5th edition. London: Routledge. ISBN 9-7807-506-6470-7
* Chudley, R. (2020) *Chudley and Greeno's Building Construction Handbook*, 12th edition. London: Routledge.

ISBN 9-7803-671-3543-0

* Pitman, P. (2017) *External Works, Roads and Drainage: A Practical Guide*, 1st edition. London: CRC Press. ISBN 9-7811-384-0887-6

Websites

* [Cadw (gov.wales)](https://cadw.gov.wales/) | Homepage
* [Constructing Excellence | Homepage](https://constructingexcellence.org.uk)
* [HSE | Homepage](https://www.hse.gov.uk)
* [Oxford University Press | Free Building & Construction resources](https://global.oup.com/education/secondary/subjects/vocational/building/free-resources/?region=international)
* [Construction Knowledge | Excavation](https://www.constructionknowledge.net/sitework/sitework_excavation.php)
* [NHBC | Substructure, Ground-floors, Drainage and Basements – Drainage below ground](https://nhbc-standards.co.uk/5-substructure-ground-floors-drainage-and-basements/5-3-drainage-below-ground/)
* [GOV.uk | Drainage and waste disposal: Approved Document H](https://www.gov.uk/government/publications/drainage-and-waste-disposal-approved-document-h)

| **Learning outcomes** | **Criteria** | **Delivery guidance** |
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| 1. How to interpret and maintain information | * 1. The organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented | * Learners to know the types of organisational procedures and their features and uses, such as verbal and non-verbal communication, where and when it is used in relation to site meetings and how these are conducted. * Learners to have an awareness of toolbox talks, when they should be carried out and by who. |
| * 1. The types of information, their source and how they are interpreted | * Learners to know the features and uses of drawings and plans, including abbreviations and symbols. * Learners to know what information is contained within specifications, schedules and manufacturers' information for typical groundworks scenarios. * Learners to understand the importance of following method statements and risk assessments, how to follow oral and written instructions and how they are implemented in day-to-day activities. |
| * 1. The organisational procedures to solve problems with the information and why it is important they are followed | * Learners to know the types of problems arising from inappropriate information, such as misheard instructions, inaccurate information, misinterpretation of method statement or risk assessments. * Learners to be aware of the impact of giving or receiving the incorrect information. * Learners to understand the types of problems arising from resources, including unsuitable materials and adverse weather conditions. * Learners to know how to and who to report any issues with resources. |
| * 1. The importance of maintaining documentation | * Learners to know: * how to maintain typical site documentation and why * the importance of checking delivery notes before accepting delivery and what could happen if checks are not made at the correct point in time * where the relevant documentation should be kept or who it should be handed to * why to use the most updated version of documents, e.g. to take account of outdated instructions or drawing changes. |
| 1. Understand safe work practices | * 1. The level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied | * Learners to know the principles of the following pieces of legislation: Working at Height Regulations (WAH), the Health and Safety at Work Act (HASWA), Provision and Use of Work Equipment Regulations (PUWER), Approved Codes of Practice (ACOPs), Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), Construction (Design and Management) Regulations (CDM), Control of Substances Hazardous to Health Regulations (COSHH), Personal Protective Equipment at Work Regulations (PPE), Lifting Operations and Lifting Equipment Regulations (LOLER), Manual Handling Regulations, Noise at Work Regulations. * Learners to know what each legislation is for, how it is used in industry and the consequences of non-compliance. * Learners to understand the roles of local authority with regard to planning and Building Control and the roles of local authority with heritage structures in consultation with CADW. |
| * 1. How emergencies should be responded to and who should respond | * Learners to know how to respond to situations in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and emergencies. * Learners to know the types of fire extinguishers and how and when they are used for different classes of fire. * Learners to understand their role and responsibilities in relation to evacuation, prevention and the fire triangle and muster points. * Learners to understand what would happen if the correct procedures are not followed. * Learners to be able to deal with spillages, to know how to prevent them and how to fix them. * Learners to know the procedures for spill kits and how to cordon off the area. * Learners to know the types of common injuries and responsibilities including first aider, first aid kit and accident reporting for emergencies relating to occupational activities, including prevention, emergency procedures, emergency services, reporting procedures, access and egress for emergency vehicles. |
| * 1. The organisational security procedures for tools, equipment and personal belongings | * Learners to know the organisational security procedures for different situations, e.g. worksites. * Learners to know about temporary fencing/hoarding, security guards, surveillance, opening up and locking up sites. * Learners to know company procedures and the importance of signing in and ID authorisation procedures. * Learners to know what to do to ensure the security of tools, materials, equipment and vehicles and personal belongings. * Learners to understand security procedures in a domestic dwelling setting compared to on-site. * Learners to know where things will be stored and to ensure vans are locked up and returned to depot at the end of the working day. |
| * 1. What the accident reporting procedures are and who is responsible for making the report | * Learners to know who is responsible for completing accident forms and to be able to identify a first aider. * Learners to understand the law around the number of people needed to be trained appropriately for first aid. * Learners to understand their roles and responsibilities in different site settings: large, small or in a domestic setting. * Learners to understand how to report to the Health and Safety Executive (HSE) and to RIDDOR for relevant incidents. * Learners to know how to use the reporting book for minor accidents and how to record near misses, including having review and re-evaluate procedures in place. |
| * 1. Why, when and how health and safety control equipment should be used | * Learners to know how to make the correct selection, usage and maintenance of Personal Protective Equipment (PPE), Respiratory Protective Equipment (RPE) and Local Exhaust Ventilation (LEV), including knowledge of the following: high-impact glasses, goggles, hard hat, high visibility (Hi-Viz) clothing, ear defenders, safety boots, dust masks (including face fit tests), safety harnesses, appropriate gloves, fall arrest bags, crash mats, scaffold guard rail and netting, false floors. * Learners to have training as follows: first fix nail gun training, second fix nail gun training, abrasive wheel training, working in confined spaces training. |
| * 1. How to comply with environmentally responsible work practices to meet current legislation and official guidance | * Learners to know how to comply with environmentally responsible work practices to meet current legislation and official guidance, including Site Waste Management Plan (SWMP), recycling, reuse and segregated waste. |
| 1. Understand how to minimise the risk of damage | * 1. How to protect work from damage and the purpose of protection | * Learners to know how to protect work from damage from general work activities and from other occupations and weather conditions (domestic as well as site-based). * Learners to understand the use of temporary cover, altering order of work to protect work better, the care and attention to detail during installation, use of plastic sheets to prevent staining and washing down after works. * Learners to know how to correctly store materials before, during and after the work. |
| * 1. Why disposal of waste should be carried out safely and how it is achieved | * Learners to know: * why the disposal of waste should be carried out safely and responsibly following organisational procedures, manufacturers’ information, statutory regulations and official guidance in line with environmental responsibilities * the different methods of disposal such as designated skips, recycling, segregation of waste and cost impacts if they do not follow the correct procedures. |
| 1. Understand working to deadlines | * 1. How work is carried out to meet the programme in the scheduled time and the importance of deadlines | * Learners to know how work activities, materials and labour are allocated to meet the required timescale within the programme and why it is important that deadlines are kept. * Learners to be aware of the importance of productivity targets and time scales, how times are estimated and the circumstances which will affect the work programme, including: weather, availability of labour, the knock-on effect of poor handling and storage causing damage to materials, penalty clauses, retention fees, reputation and the implication on other trades. |