

Compaction & Stabilization for Engineers & Technicians

Course Content :

- A complete set of notes for study
- An opening questionnaire
- A glossary of terms and symbols

Sessions

- Properties of soil & behaviour mechanics
- Factors influencing compaction
- Settlement
- Drainage
- Slope stability
- Rollers & their action
- Stabilization treatments
 - o Cement - Lime
 - o Slag - water soluble compounds
- Associated problems
- Case studies
- Solutions

Appendix

- (Notes only - not discussed in detail)
 - o tests on materials
 - o Basics of road design

Target Population: Construction Management - namely Engineers, Technicians, and other suitably qualified people with responsibility for the control of materials and / or related construction works on site or in the office

Entry Assumptions : NQF Level 5 / Have a basic knowledge of:-

1. Soil Mechanics
2. Soil Characteristics
3. Field & Laboratory Testing
4. Layer Construction
5. Compaction Techniques

Duration : 3 Days

Management Technical : Formwork & Falsework Design

Course Content :

- Basic design parameters
- Materials, components and finishes
- Use of panel systems, good practice and detailing
- Cranehandled shutters, release of formwork and application
- Falsework design parameters and application to beams
- Use of support systems for slab construction and detailing

Target Population: Technicians and engineers who have a role to play in the design and control of erection of formwork and falsework

Entry Assumptions : NQF Level 5

Duration : 3 Days

Earthmoving Equipment Technology & Management Course

Course Content :

- Earthmoving as a factor in civil engineering projects
- Properties of soil
- Theory of traction. Performance of wheeled vs tracked vehicles
- Fundamental of production calculation
- Machines and fleet utilisation
- Computerised simulations programmes for loading and hauling
- Earthworks calculations
- Drawing and interpreting the haul mass diagram
- Principles of machinery components design
- Principles of hydraulic systems
- Rock gripping techniques
- Rippling vs drilling and blasting
- Rock drilling equipments and techniques – various
- Cost calculations for rock drilling
- Bulldozers - track and wheel type
- Economical application
- Production calculation
- Top loading methods and equipment
- Hauling equipment and its application range
- Matching number of hauling to loading units for yielding minimum cost per cubic metre
- Scraper application
- Optimum load time
- Performance and production rates
- Specialised equipment for mass excavation
- Levelling and grading equipment
- Trenching, excavating and pipelaying
- Recent developments - remotes monitoring / automated operation / load sensing devices
- Time and motion study
- Earthmoving costs. Hourly owning and operating. Analysis alternation
- Principle of equipment maintenance, scheduling and recording

Target Population: Civil engineers, consultants and employer for both planning and site management function.

Technicians, quantity surveyor and similar employees with overall responsibility for the planning and / or control of contract works.

Entry Assumptions : NQF Level 5 Delegates should have at least 3 yrs experience & be fully conversant with the characteristics and utilisation of earthmoving machines in general use

Duration : 3 Days