

2014

Training on Road Construction Projects



A prospectus for the
participants
United Engineering Alliance
5/1/2014

Refreshers course for Fresh Engineers

Training Duration

28 Days

Objectives

This practical training course is structured to serve the present needs of gap in road construction. The course explains and illustrates the techniques, methods in Highway Construction projects covering all necessary stages involved in road projects. The course is designed to help the participants whether fresh graduates or working in employers, consultants or contractors by imparting exposure to professional practice

Who can benefit

Fresh Engineering Graduates, Construction Professionals, Engineers

Prerequisite

A Civil Engineering degree or diploma or working in road projects.

Course Benefits

At the end of this course, the participant will be benefited by having confidence to work with Clients, Consultant and Contractor in Road construction projects.

Learning out line

Planning & Development Stage

- Planning
- Project Development
- Concept of Detail Project Report
 - Survey & Investigation
 - Highway alignment.
 - Social and environmental aspects on road construction project
 - Traffic survey and pavement design
 - Cross drainage and Bridges design
 - Material survey
 - Road safety audit and economic analysis
 - Project Cost Estimate
 - Bidding, Construction & Supervision

Construction Management

- Function of Construction Management
- Procurement of Contractor
- FIDIC contract
- Evaluation
- Contract Award
- Project stages
- Procurement stage
- Contractor progress payment schedule
- Construction Activity Documentation
- Post Construction stage

Refreshers course for Fresh Engineer's

Road Construction & Practice

- Pre Construction Activities
- Arrangement of logistic
- Survey and layout of project center line
- Right of Way (ROW) marking at site
- Concept on flexible pavement construction
- Concept on Rigid pavement construction
- Construction of Culverts & Bridges
- Construction Material and Quality Control.
- Highway Drainage
- Construction of Reinforced Earth Structure
- Construction of River Training and Protection work
- Road safety during construction
- Concept on Road furniture and Safety Items
- Special requirement of Hill Road
- Tree Plantation
- Reconciliation of material.
- Concept of Measurement of works and Billing
- Concept of As Built Drawing

Road Maintenance

- Maintenance activities of road works
- Maintenance of Bridges & Culverts.
Maintenance work programme

Contract management in road construction project using FIDIC contract

Training Duration

2 Days

Introduction

This practical training course explains and illustrates contract management in FIDIC contract based road project. The course is designed to help the participants working in employers, consultants or contractors by imparting knowledge of FIDIC contract management.

Who can benefit

Senior level officials in the Employer, Consultant and Executing Agencies.

Prerequisite

Degree in Civil Engineering.

Course Benefits

At the end of this course, the participant will be benefited by gaining knowledge of FIDIC contract management. This in turn will develop confidence to work with Clients, Consultant and Contractor in Road construction project

Learning out line

Basic Terms and Concepts

What is Contract Management?
Contracts & FIDIC

Understanding of Contract Management

- What can go wrong, and why?
- Managing long term contracts.
- Communication
- Contract Administration
- Elements of Contract Administration
- Supervision Contract Monitoring
- Quality Assurance System-(QAS)
- Construction Programmed (CP)
- Effective Control
- Extension of Time (EOT)
- Liquidated Damages
- Managing Change - Change Control
- Types of Change or Variation

Responsibilities of the Main Parties

Clause 1 - General Provisions and General Issues
Clause 2 - The Employer
Clause 3 - The Contractor
Clause 4 - The Engineer
Clause 5 - Construction Contract: Nominated Subcontractors

Management of Projects

Clause 6 - Staff and Labour
Clause 7 - Plant Material and Workmanship
Clause 8 - Commencement Delays and Suspension
Clause 10 - Employer's Taking Over; Defects Liability

Procedures

Clause 12 - Construction Contract: Measurement and Evaluation
Clause 13 - Variations and Adjustments
Clause 14 - Contract Price and Payment

Contract management in road construction project using FIDIC contract

Risk, Liability and Force Majeure

Clause 17 - Risk and Responsibility,

Clause 18 - Liability and Insurance

Clause 19 - Force Majeure

Claims and Disputes and Arbitration

Clause 20 - Claims, Disputes and Arbitration

Inherent Project risk

Contractor's Claims and Employer's Claims; Claims procedures

Disputes

Amicable Settlement

Dispute Adjudication Board Arbitration

Tests on Completion

Clause 9 - Tests on Completion

Clause 11 - Plant Contract: Tests after Completion

Suspension and Termination

Clause 15 - Termination by Employer

Clause 16 - Suspension and Termination by

Contractor

Implementations of Social & Environmental safeguards policies

Training Duration

6 Days

Introduction

This course introduces Social and Environmental policies in the construction and highway industries. You will develop an understanding of the principles of RP Implementation and Environmental Mitigation Plan, Mitigation measures during construction of safe roads.

Who can benefit

Senior level officials/ Middle level in the Employer, Consultant and Executing Agencies.

Prerequisite

A normal degree or Civil Engineering degree

Course Benefits

At the end of this course, the participant will be benefited by understanding implications of Social and Environmental policies, This in turn will develop confidence in working with Clients, Consultant and Contractor in Road construction project

Learning out line

Basic Terms and Concepts

Social safeguard measures

Land Acquisition Act

Resettlement Plan

Understanding of Social and Environmental activities

- Implementation of Resettlement Plan
- Clearances requires under EIA
- Procedure for Prior Environmental Clearances (EC)
- Validity of Environmental Clearance (EC)
- Environmental Impacts associated with Project Location, Planning and Design
- Environmental Impact due to Construction
- Environmental Management Plan
- Environmental Mitigation Measures

Practical Training on Modern Survey Equipments

Training Duration

6 Days

Introduction

This course introduces the uses of modern survey equipment like Total Station, GPS in the construction in order to expedite survey work with precision. You will be conversant with the uses and principles of modern survey equipment in the construction project.

Who can benefit

Survey professional, working with Executing Agencies, Consultant and Employer.

Prerequisite

A Diploma or normal graduate

Course Benefits

At the end of this course, the participant will be benefited by learning uses and principle of Total Station, GPS in Road Construction, which in turn develop automation in the survey work in Road construction project

Learning out line

- Total Station Surveying
- Components Used in Total Station Surveying
- Advantages of Total Station Surveying
- Types of Total Station Surveying
- Traverse types.
- Fixation of Centre line, Cross section.
- Preparation of Plan & Profile.



Learning that enhance the engineering skills

An approach to Road Safety and Safety Audit

Training Duration

2 Days

Introduction

This course introduces guidance to workers in a wide range of disciplines, who are involved in different aspects of road construction activity in different settings. You will develop an understanding of the principles of construction safety and promote the design safety and promote the design and construction of safe roads

Who can benefit

Road safety Managers /Technical/junior level in the Executing Agencies, Consultant and Employer.

Prerequisite

A Diploma or normal graduate

Course Benefits

At the end of this course, the participant will be benefited by understanding implications Safety policies and safety measures to be complied in Road Construction. This in turn will build capabilities of those working as professional or contributors to the field of road safety

Learning out line

- Legislation
- Safety, Health and Environment Management
- Safety Management Issues
- Traffic Management and Safety
- Construction Safety
- Temporary Structures Safety
- Worker and Work Zone Safety
- Electrical and Mechanical Safety