



About the Course

This course will provide the learner with an overview of major functions involved in the Metro system. It will provide a roadmap for learners to understand the concepts involved in civil, structural, architectural & MEP functions for planning and design of Metros. These concepts are reinforced with demonstrations and real case studies/projects that have been successfully carried out in major cities in India and abroad. It provides brief knowledge to the learner to steer through their career in the field of metro rail, which is currently the most sought-after mode of mass transportation in rapidly growing urban hubs. The course also provides insights on the future modes of transportation, to supplement the learner to stay adept amidst the rapid advancement of technology in this field.



Key Topics

- ▶ Transit oriented development
- ▶ Planning of Metros
- ▶ MEP systems in Metros
- ▶ Contracts and Quality
- ▶ Elevated stations and viaducts
- ▶ Underground stations and tunnels
- ▶ Earth retaining systems
- ▶ Analysis and design of stations (STAAD.Pro) and diaphragm walls
- ▶ Future trends in transportation



Course Objectives

The objective of the course is:

- ▶ To introduce the core concepts of planning, systems and procedures, structural analysis, and design of underground and elevated metros
- ▶ To impart the concepts about the various types of construction methodologies adopted in the metro industry
- ▶ To acquire knowledge on design of underground and elevated metro stations
- ▶ To enable the learners to involve in engineering works related to metro planning and construction

Learning Outcomes

On successful completion of the course, the learners will be able to:

- ▶ Create the basic layout of elevated and underground metro stations as per laid down codes and regulations
- ▶ Interpret design recommendations, modelling and analysis using STAAD Pro and codes of practice for elevated and underground metros
- ▶ Design the earth retaining systems for the excavations of underground stations
- ▶ Select suitable construction practices for underground and elevated metros
- ▶ Comprehend the MEP systems used in metros and latest trends in transportation systems