

2D CAD

- Introduction
- File management
- Orthographic drawings
- View management
- Display management
- Layer management
- Selection methods
- Parametric drawings
- Symbol creation using block
- BOM / Joinery details creation
- Isometric drawings
- Perspective drawings
- Annotations and Dimensions
- Team work
- Layout management
- Publish and Plot

Duration: 64 hrs

Courseware Issued

- ▶ AutoCAD Reference Guide
- ▶ Project Workbook

AutoCAD 3D

- 3D Modeling concepts in AutoCAD
- 3D Co-ordinate Systems
- Understanding and usage of Viewpoint and UCS
- Wireframe Modeling & Editing
- Solid Modeling & Editing
- Mesh Modeling & Editing
- Surface Modeling & Editing
- Create & Manage 2D Views from 3D Models
- Materials, Lights & Rendering
- Working with Images
- Import and Export

Duration: 40 hrs

Courseware Issued

- ▶ AutoCAD 3D Reference Guide
- ▶ Project Work Book

MicroStation

- Introduction
- Understating the interface
- MicroStation workflow
- Working with views
- Creating and modifying elements
- Annotation tools
- Dimensioning
- Working with levels
- Working with references
- Printing methods

Duration: 64 hrs

Courseware Issued

- ▶ MicroStation Reference Guide

MX Road

- View controls
- Survey inputs and validation
- String names and Drawing styles
- Point Selection Methods
- Surface checker
- String creation and editing
- Surface analysis
- Earthwork calculation
- Alignment creation
 - ⊙ Horizontal
 - ⊙ Vertical
 - ⊙ Best fit
- Carriageway design
- Junction design
- Shoulder design
- Pavement design
- Dynamic reports
- Section views
- Final drawings

Duration: 64 hrs

Courseware Issued

- ▶ MX Road Reference Guide

AutoCAD Electrical

- Introduction
- Project management
- Schematic components
- Symbol Builder
- Circuit Builder
- Component tools
- Wire/Wire number tools
- Ladder tools
- PLC layout
- Panel layout
- Report generation

Duration: 64 hrs

Courseware Issued

- ▶ AutoCAD Electrical Reference Guide

ProSteel

- Creating and working with Workframes
- Working with Display and Area Classes
- Inserting Steel Shapes
- Shapes Manipulation
- Working with Plates
- Creating Connections
 - ⊙ End Plate
 - ⊙ Base Plate
 - ⊙ Bracing
 - ⊙ Purlin
 - ⊙ Web Angle
 - ⊙ Shear Plate
- Working with Structural Elements
 - ⊙ Handrail
 - ⊙ Stair
 - ⊙ Ladder
- User created shapes
- Part Family
- Detailing
 - ⊙ Symbol creation
 - ⊙ Grouping
 - ⊙ Material Takeoff
 - ⊙ Dimension

Duration: 64hrs

Courseware Issued

- ▶ ProSteel Reference Guide

Computer Aided Land Survey

using AutoCAD Civil 3D:

- Introduction to Survey and AutoCAD Civil 3D
- Surface creation based on the survey data from
 - ▶ Theodolite
 - ▶ Total Station
 - ▶ LiDAR
 - ▶ Google Earth
 - ▶ DEM files
- Surface Styles
- Surface Analysis
- Earthwork Calculation
 - ▶ Cut and Fill Volume
 - ▶ Grading
 - ▶ Profile View Generation
- Site Layout

Duration: 24 hrs

AutoCAD Civil 3D:

- Contents of Computer Aided Land Survey
- Transportation Design
 - ▶ Design Criteria
 - ▶ Alignment Creation
 - ▶ Corridor Creation
 - ▶ Intersection Design
 - ▶ Roundabout Design
 - ▶ Custom Assembly Creation
- Report Generation
 - ▶ Earthwork Calculation
 - ▶ Quantity Takeoff
- Pipe Layout
 - ▶ Design Rules
 - ▶ BOM
- Plotting

Duration: 80 hrs

Courseware Issued

- ▶ AutoCAD Civil 3D Reference Guide

Revit Architecture

- Introduction to BIM & Revit Architecture
- Place and modify Walls & Complex Walls
- Add and modify Wall Profiles
- Place Doors, Windows & Components
- Dimensions and Constraints
- Create Floors and Ceilings
- Curtain Walls & Stairs
- Conceptual Models
- Annotation & Schedules
- Structural Elements
- Sheets and Title Blocks
- Views, Camera, Walk-through, Render & Solar Study
- In-Place Families
- Family Creation
- Site Design
- Link Projects & Collaboration
- Design Phase
- Realistic Presentations
- Import & Export

Duration: 120 hrs

Courseware Issued

- ▶ Revit Architecture Reference Guide
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Design Visualization Pro

- Introduction to 3ds Max Design
- Understanding about primitives and selection methods
- Modeling using parametric modifiers and shapes
- Interoperability with AutoCAD and Revit Architecture models
- Handling Slate Material Editor using libraries
- Understanding about the lighting concepts
- Working with Particle Systems and Environmental Effects
- Handling daylight effects
- Working with latest Rendering Engines
- Understanding the Animation Concepts
- Working in Track views for animating the Revit models
- Video post for Animations

Duration: 40 hrs

Courseware Issued

- ▶ Design Visualization Pro Reference Guide

Max for Engineers / Architects

- Introduction to 3ds Max
- Modeling using basic primitives
- Transforming objects
- Customizing working units
- Arranging objects using utility tools
- Modeling using parametric modifiers
- Editing Poly Models – using Caddy Interface
- Spline modeling
- Landscaping and modeling using Compound Objects
- Construct using Architectural objects
- Views – Lights and Cameras
- Textures – Basic & Advance
- Particle Systems & Forces
- Importing other formats
- Basics of Animation
- Walk-through
- Advanced Rendering
- Projects

Duration: 80 hrs

Courseware Issued

- ▶ Max for Engineers / Architects

Building Estimation and Costing

- Work Breakdown Structure
- Manual Takeoff Tools: Area, Backout, Linear, Count
- Automatic Takeoff Tools: Model, Search, Single Click
- Assembly & Validate Takeoff Data
- Compare & Display
- Report Generation & Export
- Introduction
- Customizing currencies & Catalog Creation

Duration: 24 hrs

Courseware Issued

- ▶ Building Estimation & Costing
- ▶ Reference Guide

STAAD.Pro

- Introduction to Structural Engineering
- Introduction to STAAD.Pro V8i
- Model Generation and Editing
- Assigning loads
- Automatic load generations:
 - ▶ Slab, Wind and Moving loads
- Creating Load Combinations
- Concrete Design
 - ▶ Column and Beam design
- Seismology
 - ▶ Seismic Analysis and Design
 - ▶ Dynamic Analysis
 - ✘ Response Spectrum
 - ✘ Time History Analysis
- FEM / FEA
 - ▶ Introduction
 - ▶ Water Tank Design
 - ▶ Slab Design
 - ▶ Staircase Design
 - ▶ Shear wall Design
 - ▶ Bridge Deck design using STAAD.Beava
- Steel Design
 - ▶ Introduction
 - ▶ Steel Frame Structure Design
 - ▶ Overhead Transmission Line Towers Design.
 - ▶ Steel Structure design with Pushover Analysis
- Foundation Designs
 - ▶ Isolate, Combined, Strip, Mat and Pile Cap
- Report Generation and Plotting

Duration: 80 hrs

Courseware Issued

- ▶ STAAD/Pro v8i Reference Guide
- ▶ PWB - Structural Engineering

Ansys Civil

- Introduction to Structural Engineering
- Introduction to FEM/FEA
- Introduction to Ansys + CivilFEM
- Model generations
- Assigning loads
- Concrete Design
 - ▶ Beam
 - ▶ Column
 - ▶ Slab
 - ▶ Staircase
 - ▶ Water Tank
 - ▶ Foundation
- Seismic Analysis and Design
- Bridge design
- Steel Design

Duration: 40 hrs

Courseware Issued

- ▶ Ansys Civil Reference Guide

RCC Detailing

- Introduction
 - ▶ RCC Detailing
 - ▶ AutoCAD Structural Detailing
- Effective Usage of Country Specific Templates and Standards
- Element Creation
 - ▶ Automatic
 - ▶ Manual
- Slab Creation with Surface distribution
- Drawing Preparation
- Bar Bending Schedule
- RCC Detailing of
 - ▶ Foundation
 - ▶ Column
 - ▶ Beam
 - ▶ Slab
 - ▶ Staircase
 - ▶ Retaining Wall
 - ▶ Concrete Pipe
 - ▶ Concrete Tank
- Export
- Print

Duration: 40 hr

Courseware Issued

- ▶ Reference Guide
- ▶ RCC Detailing

Revit MEP

- Introduction
 - ▶ MEP Design
 - ▶ Revit MEP
- Work Sharing
- Family Creation
 - ▶ Solid Modeling
 - ▶ Equipment
 - ▶ Light Fixture
 - ▶ Devices
- Electrical Design
 - ▶ Lighting Analysis
 - ▶ Power and Communication Design
- HVAC Design
 - ▶ Heating and Cooling Load Analysis
 - ▶ Logical Systems
 - ▶ Mechanical System and Duct Work
 - ▶ Mechanical piping System
 - ▶ Inspect System
- Plumbing Design
- Fire Protection System
- Schedules
- Documentation
- Sheet Setting
- Printing

Duration: 80 hr

Courseware Issued

- ▶ Reference Guide
 - ▶ Revit MEP
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PPM Concepts

- Introduction to project planning and management
- What is a project?
- What is project management?
- Project management context
- Phases in project management
 - ▶ Initiation
 - ▶ Planning
 - ▶ Execution
 - ▶ **Monitor and control**
 - ▶ Closing
- Knowledge areas
 - ▶ Time management
 - ▶ Cost management
 - ▶ Scope management
 - ▶ Quality management
 - ▶ Risk management
 - ▶ Human resources management
 - ▶ Procurement management
 - ▶ Integration management
 - ▶ Communication management
 - ▶ **Stakeholder Management**

Duration: 24 hrs

Courseware Issued

- ▶ PPM Concepts Reference Guide

Microsoft Project

- Calendar
- Task/Relationships
- Work Breakdown Structure
- Constraints and Recurring Task
- Define and Assign Resources
- Resource Analysis and Leveling
- Baseline
- Update Project Progress
- Tracking
- Earned Value Analysis
- Customization and Formatting
- Generate Reports

Duration: 40 hrs

Courseware Issued

- ▶ MSP Reference Guide
- ▶ Work Book

Primavera

- Data Structure of Primavera
- Calendars
- Work Breakdown Structure
- Activities / Relationship / Constraints
- Scheduling
- Activity Resource and Project Code
- Create and assign Roles and Resources
- Resource Analysis and Levelling
- Baseline
- Update and track Project Progress
- User Define Fields, Global Change, Views
- Check In/Check out
- Generate Reports

Duration: 40 hrs

Courseware Issued

- ▶ Primavera Reference Guide
 - ▶ Primavera workbook
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