

#### Course Description and Outlines

## AutoCAD Civil 3D Diploma

### Civil Engineering



#### Course Description

AutoCAD Civil 3D software, the building information modeling (BIM) solution for civil engineering, helps project teams deliver higher-quality transportation, land development, and environmental projects faster. Explore design ideas and analyze what-if scenarios to help optimize performance before projects are built.

#### Course Target

The trainees will be armed with the background and knowledge to apply AutoCAD Civil 3D. Trainees will learn how to create, edit and modify Civil 3D design objects, add annotation, obtain information and import/export and use Civil 3D data in other applications.

#### Course Duration

14 Sessions x 3 Hours per Session = 42 Total Hours

#### Attending the Course

- The course includes workshops and in-session applications for every set of points covered.
- Each trainee will have a chance to apply his new skills on actual project supervised by the instructor.
- The location is fully equipped with high end computers so you won't have to bring your laptop.



## Course Outlines

### Introduction

The AutoCAD Civil 3D Interface  
 Product Overview and Interface  
 Workspace and Toolspace Modify  
 Drawing Settings Viewport Scaling  
 and Text Size Templates, Settings  
 & Styles

### Points Overview

Creating Points  
 Description Key Sets  
 Point Groups  
 Reviewing & Editing Points  
 Point Reports

### Introduction to Surfaces

Surface Creation Process  
 Surface Properties & Surface Data  
 Breaklines & Boundaries  
 Surface Editing & Analysis  
 Surface Labels  
 Volume Calculations  
 Analysis Display  
 Point Cloud Surface Extration

### Parcels

Lines & Curves  
 Introduction to Parcels  
 Creating, Editing & Renumbering Parcels  
 Parcel Reports, Labels & Tables

### Grading

Grading Overview & Grading Tools  
 Feature Lines  
 Modifying Grading

### Survey

Working with the Survey Tools - Overview  
 Working with Survey Databases  
 Creating a Figure Prefix Database  
 Setting up Line Work Code Sets Importing  
 Point Files and Field books Coordinate System  
 & Convert between them Travers Adjustment

### Alignments

Roadway Design Overview  
 AutoCAD Civil 3D Sites  
 Introduction to Alignments  
 Alignment Layout Tools  
 Alignment Properties, Labels and Tables

### Profiles

Profile View Styles  
 Surface Profiles  
 Create Profile Views & Editing  
 Finished Ground Profiles

### Corridors

Assemblies Creating a  
 Corridor  
 Corridor Surfaces & Visualization  
 Corridor Section Review & Edit

### Cross Sections

Create and edit sample lines  
 Modify The Sample Line Group Properties  
 Adding Additional Section Data  
 Create section views from sample lines Edit  
 section views Style  
 Create multiple section views

## Pipe Networks

- Pipes Overview & Configuration Creating
- Networks from Objects
- Network Layout Toolbar
- Network Editing & Annotating Pressure Pipe Networks

## 3 Leg and 4 Leg intersection

- Offset parameters
- Curb return parameters
- Curb return profile parameters
- Corridor regions

## Full clover leaf

- Create polylines for Interchange
- Create Interchange Geometry Details Tap
- Create alignment for loop and ramp
- Create profiles for loop and ramp
- Determine fixed point
- Determine values for acceleration and deceleration lane
- Create corridors for four clover leaf
- Set Surface