AUTODESK CIVIL 3D ESSENTIAL TRAINING

Objectives

In this 3-day training session, trainee will learn the designing of simple access road and highway as well as land development projects in 3D BIM environment. After completing this course, trainees will be able to:

- ✓ Clean-up the survey data
- ✓ Generate 3D digital terrain mode
- ✓ Use surface analysis tools
- ✓ Model retaining walls, and natural slopes
- ✓ Calculate earthwork cut/fill volume
- ✓ Generating cross-section details

Training Programme Day 1

Chapter	Topic	Duration	Time
Chapter 1	**Introduction to Autodesk Civil 3D** • Interface and Commands, Generating Template & Template Installation Guide	**2-Hour**	**09.00 AM-11.00 AM**
Chapter 2	**Clean-up the Survey Drawings** • Working with Layers • Execute clean-up Commands • Importing Cleaned Survey Data into myCivil Plus Template	**2-Hour**	**11.00 AM-01.00 PM**
Chapter 3	**Creating 3D Existing / Original Ground Surface** • Creating 3D OGL Surface from 2D AutoCAD Texts • Creating 3D OGL Surface from 2D AutoCAD Points • Creating 3D OGL Surface from 2D AutoCAD Lines / Polylines / Contours	**2-Hour**	**02.00 PM-04.00 PM**
Chapter 4	**Surface Analysis in 3D** • Contour Labelling, Spot Elevations, Elevation Analysis & Slope Arrow Analysis	**1-Hour**	**04.00 PM-05.00 PM**

Chapter	Topic	Duration	Time
Chapter 5	**Road and Highway – Alignment Design** • Creating & Editing Horizontal Alignment • Alignment Labelling : Control Plan • Alignment Labelling : Fixed Interval Pegging Points with Coordinates	**1-Hour**	**09.00 AM-10.00 AM**
Chapter 6	**Road and Highway – Superelevation Design** • Generating Automatic Superelevation	**1-Hour**	**10.00 AM-11.00 AM**
Chapter 7	**Road and Highway – Profile Design** • Creating Existing Ground Profile • Creating & Editing Proposed Road Profile	**1-Hour**	**11.00 AM-12.00 PM**
Chapter 8	**Road and Highway – Assembly Design** • Creating Typical Proposed Cross-Section of a simple road	**1-Hour**	**12.00 PM-01.00 PM**
Chapter 9	**Road and Highway – Corridor Design** • Creating Proposed Corridor	**0.5-Hour**	**02.00 PM-02.30 PM**
Chapter 10	**Road and Highway – Sample Lines** • Creating Sample Lines	**0.5-Hour**	**02.30 PM-03.00 PM**
Chapter 11	**Road and Highway – Volume Calculation** • Earthwork Volume – TIN Volume Method, Cross-Section / Average End-Area and Matrix • Grid-Based Method • Earthwork Balancing	**1-Hour**	**03.00 PM-04.00 PM**
Chapter 12	**Road and Highway – Cross Section Detailing** • Generating Multiple Automatic Cross-Sections	**1-Hour**	**04.00 PM-05.00 PM**

Chapter	Topic	Duration	Time
Chapter 13	**Residential Development – Platform Design** • Converting AutoCAD Polylines into Civil 3D Feature Lines	**1-Hour**	**09.00 AM-10.00 AM**
Chapter 14	**Residential Development – Grading / Slope Design** • Creating Natural/Earth Slopes with benching • Creating Retaining Walls	**1-Hour**	**10.00 AM-11.00 AM**
Chapter 15	**Residential Development – Proposed Surface** • Generating Proposed Platform Surface	**1-Hour**	**11.00 AM-12.00 PM**
Chapter 16	**Residential Development – Earthwork Cut and Fill Volume Calculation** • Earthwork Volume – TIN Volume Method, Cross-Section / Average End-Area and • Matrix Grid-Based Method • Earthwork Balancing Creating Revision Clouds	**1-Hour**	**12.00 PM-01.00 PM**
Chapter 17	**Residential Development – Preparing Construction Drawing** • Hatching Cut-Fill Areas / Zones • Auto-Generate the Cross-Section Detailing	**1-Hour**	**02.00 PM-03.00 PM**
Chapter 18	**Importing Google Earth and BING Map Imagery** • Setting up the Coordinate System • Converting 2D satellite image to 3D satellite image using Draping Command	**1-Hour**	**03.00 PM-04.00 PM**
Chapter 19	**BIM Workflow Overview** • Integration with Autodesk InfraWorks • Integration with Autodesk Vehicle Tracking • Integration with Autodesk NavisWorks • Integration with Autodesk Revit • Integration with Autodesk 3ds Max	**1-Hour**	**04.00 PM-05.00 PM**