

AutoCAD Civil 3D 2018 : Essentials Training Course Outline – Residential Development Module



Course Description

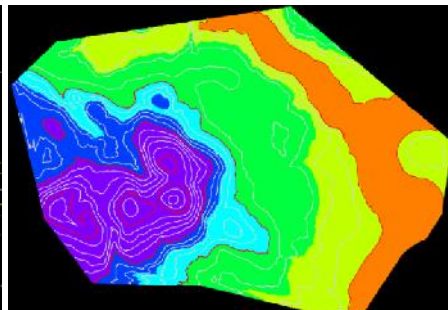
Autodesk AutoCAD Civil 3D has been well known for robust and versatile Building Information Modeling (BIM) solution for civil and infrastructure projects.

In this 2-day training session, you will learn the tools to clean-up the survey drawings, converting them into 3D information and transpose them into 3D digital terrain model (DTM) surface.

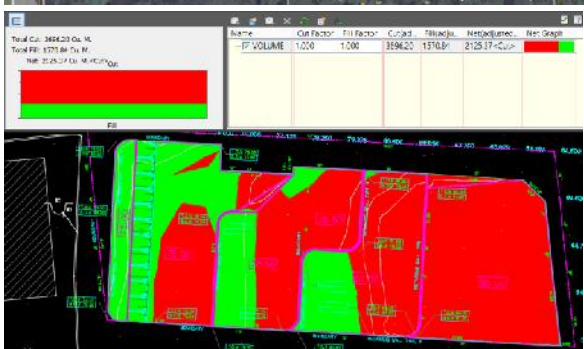
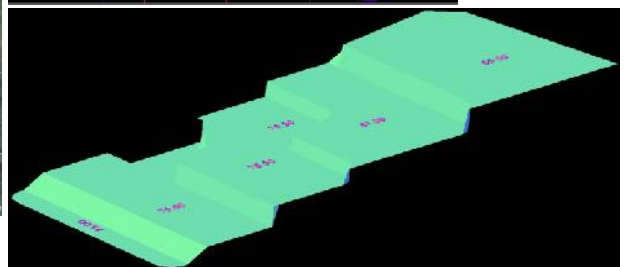
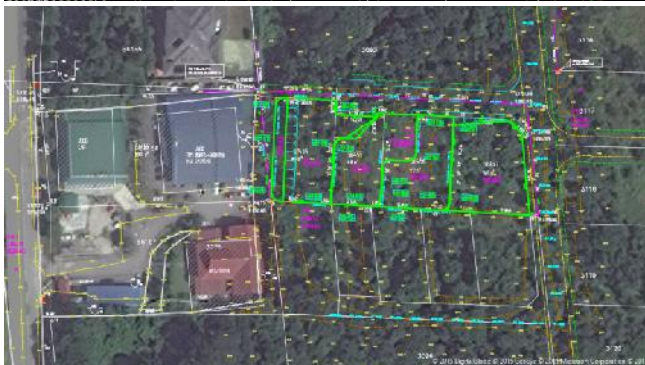
Comprehensive analysis tools are available among others; water catchment area, elevation and slope analysis based on local standard.

A model is not completed without the proposed platform levels being modeled into the 3D surface and proper earthwork cut/fill volume calculation will be achieved based on TIN Volume Method, Average End-Area Method and Grid Method. Learn how to quickly balance the earthwork volume to the optimum design and produce compelling cross-section detailing and hatching of cut/fill zones.

In the end, when the model is finalised, we shall embed Google Earth and BING map images into the proposed 3D model for impressive and informative presentation for the project portfolio.



Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	10.00	15.00	6.00	Red
2	5.00	20.00	35381.72	Orange
3	20.00	25.00	73799.77	Yellow
4	25.00	30.00	95733.16	Green
5	30.00	35.00	116321.68	Cyan
6	35.00	40.00	161871.53	Blue
7	43.43	51.25	57687.00	Purple



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Course Outline – Day 1

Introduction to AutoCAD Civil 3D

-) Interface and Commands, Generating Template & Template Installation Guide

Clean-up the Survey Drawings

-) Working with Layers
-) Execute clean-up Commands
-) Importing Cleaned Survey Data into AutoCAD Civil 3D Template

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

Surface Analysis in 3D

-) Contour Labelling, Elevation Analysis & Slope Arrow Analysis

Course Outline – Day 2

Residential Development – Platform Design

-) Converting AutoCAD Polylines into Feature Lines

Residential Development – Grading / Slope Design

-) Creating Natural/Earth Slopes
-) Creating Retaining Walls

Residential Development – Proposed Surface

-) Generating Proposed Platform Surface

Residential Development – Earthwork Cut and Fill Volume Calculation

-) Earthwork Volume – TIN Volume Method
-) Earthwork Volume – Cross-Section / Average End-Area Method
-) Earthwork Balancing

Residential Development – Preparing Construction Drawing

-) Hatching Cut-Fill Areas / Zones
-) Auto-Generate the Cross-Section Detailing

Importing Google Earth and BING Map Imagery

-) Setting the Coordinate System
-) Draping Google and BING Map images onto Surface

BIM Workflow Overview

-) Integration with Autodesk InfraWorks
-) Integration with Autodesk Vehicle Tracking
-) Integration with Autodesk NavisWorks

Note: The suggested course duration is a guideline. Course topics and duration may be modified by the instructor based upon the knowledge and skill level of the course participants.