



Tishk International University

Surveying and Geomatics Engineering

Total station training course with Civil 3D

Objective:

The aim of this training course is to provide participants to gain knowledge and skill related to Total station instrument including (parts of total station, setting up, measurements and layout) and AutoCAD Civil 3D software to create surface and to manage all collected data and prepare them to layout.

Theory lecture explain the concepts of total station working mechanism with AutoCAD Civil 3D software followed by practical exercise, which helps to gain practical understanding and essential skill sets required for present surveying works.

Training Learning outcome:

After completing the course participants will be able to:

- Define How Total Station works
- Define the vertical and horizontal angle measurement using Total Station instrument
- Understand coordinate system.
- Perform topographical survey and Data collection
- Produce survey surface and map using AutoCAD Civil 3D
- Prepare data to layout in civil 3D
- Understand the stakeout concepts and realize it

Topics	Theory	Practical
Components of Total station and Setting up	1 hour	2 hours
Angle and distance measurement	1 hour	2 hours
Coordinate measurement	1 hour	2 hours
Creating coordinate system	1 hour	2 hours
Establishing control points and Data collection	1 hour	4 hours
Download and Upload to PC and introduction to civil 3D	1 hour	1 hour
Importing points and creating surface in civil 3D	1 hour	2 hours
Preparing points from civil 3d to total station	1 hour	1 hour
Layout of coordinates	1 hour	2 hours
Total hours:	9 hours	18 hours



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Topics	Date	Time
Components of Total station and Setting up	5/4/2020	2-5 PM
Angle and distance measurement	7/4/2020	2-5 PM
Creating coordinate system	9/4/2020	2-5 PM
Coordinate measurement	12/4/2020	2-5 PM
Establishing control points and Data collection	14/4/2020	2-5 PM
Download and Upload to PC and introduction to Civil 3D	16/4/2020	2-5 PM
Importing points and creating surface in Civil 3D	19/4/2020	2-5 PM
Preparing points from Civil 3d to total station	21/4/2020	2-5 PM
Layout of coordinates	23/4/2020	2-5 PM

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