



Course ID: 12d – 2C1

Two Day – Basic Civil Design

Summary:


This course introduces people to the use of 12d Model and its concepts for civil engineering projects.

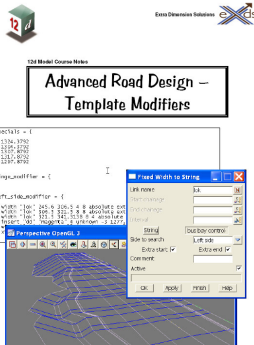
This course is for people with some 12d Model experience. Understanding of basic road design is essential.

Prerequisites:

Experience in 12d Model with completion of the **One Day – Introduction to 12d Model Software** (12d – 1A) or working through the “Getting Started for Design” manual is required.

Course Contents:

	<h3>Basic Road Design</h3> <p>Participants will learn to:</p> <ul style="list-style-type: none">• Create a tin (triangulated irregular network) of survey data.• Create the horizontal and vertical geometry of a road alignment.• Investigate the tools available for accurately locating road geometry.• Create the template for a road, and apply the template to the alignment to create a simple road design.• View the road design in a perspective view, and do a drive through of the new road.• Edit the road alignment, and run the design again. Observe changes in cut and fill volumes, and extent of cut and fill.• View the cross sections to assess the design.• Edit the template and produce a second proposed road.• Produce Plan, Longitudinal and Cross Section drawing information, ready to output to CADD for presentation
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Template Modifiers

Participants will:

- Use a many template file to stop and start the road strings at an intersection.
- Inspect the cross sections created by the template modifiers.
- Apply topsoil stripping to the design, and assess the effect on earthwork volumes.
- Triangulate the design strings, and compare the volumes calculated "tin to tin" with the volumes reported from cross section end areas.
- View the road design in a perspective view, and do a drive through of the new road.
- Use template modifiers to introduce super elevation onto a curve with transition spirals.
- Create a bus bay area and insert a table (spoon) drain
- Overlay an existing road and ensure the design cross fall matches the existing pavement.
- Add an additional lane and ensure existing cross fall is maintained.
- Adjust the slope of the batter for part of the design to reduce earthworks and introduce a retaining wall.
- Create a T-intersection and grade kern returns.
- Chain the design functions together to allow quick and effective re-designs if changes occur.

This course is aimed at users with a working knowledge of 12d Model, and some experience of road design.

Please note the content for all EXDS training is the use of 12d Model Software, EXDS does not teach civil and surveying principles.

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