# Civil 3D Essentials
Training course outline

Civil 3D is the de-facto standard software for civil engineering and design. It provides everything you need for surveying, mapping, design, documentation and analysis.

Civil 3D Essentials training provides a thorough grounding in Civil 3D for beginners. On completion you will be able to use Civil 3D for civil design, transportation work, land planning and development.
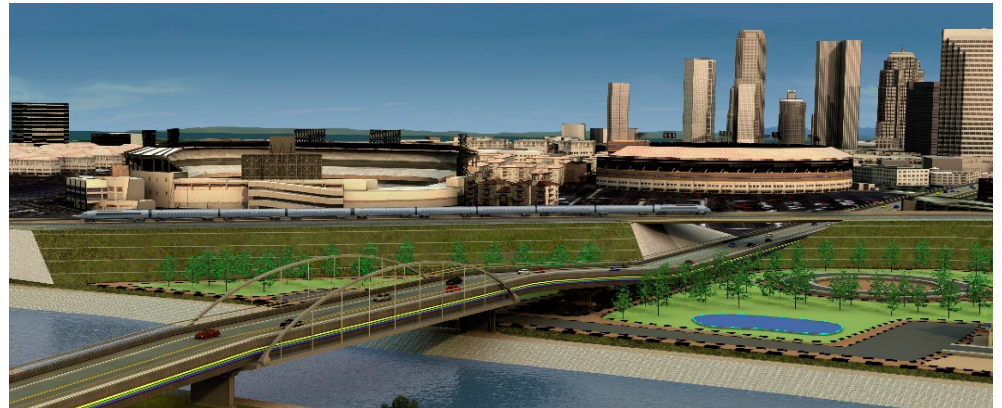
Course summary
Teaches the fundamentals of Civil 3D, including:

- Working with point data.
- Surface modelling.
- Developing sites.
- Modelling roads, corridors and pipe networks.
- Data sharing, presentation and visualisations.

Duration
3 days.

Who should attend?
Newcomers to Civil 3D and novice Civil 3D users who want a thorough grounding in the application and its key features.

Typical delegates include civil engineers, land planners and surveyors.

Prerequisites
Delegates should be familiar with the fundamentals of AutoCAD for 2D design, as taught in our AutoCAD Essentials course.

In-class or live online
You can attend course in-person at any of our centres, or participate online from your place of work or home.

Whilst attending training at our centres, delegates have the use of a computer running licensed AutoCAD Map 3D software to practice the techniques taught.

To read about our approach to online training, see armada.co.uk/onlinetraining.

General information
Armada is an Autodesk authorised Training Centre (ATC), and our *Civil 3D Essentials* course is accredited by Autodesk.

Civil 3D courses are hosted by Autodesk Certified Instructors (ACIs) vast experience using Civil 3D professionally.

Course fees can be paid by card or bank transfer. We accept purchase orders from UK-registered companies and public sector organisations.

If you're self-funding your training, you can pay in staged payments, interest-free, over 12 months.

Course materials and certificate
Delegates receive:

- A comprehensive Civil 3D training guide.
- An e-certificate from Autodesk confirming attendance on an accredited *Civil 3D Essentials* training course.

After course support
Following Civil 3D training, you're entitled to 30 days' email support from your trainer.

Further information
See armada.co.uk/course/c3d.

Course syllabus
See over.

Course syllabus

Topics	Sub-topics
Getting Started with Civil 3D	Windows on the Model
	It's All About Style
	The Underlying Engine
	Labeling Lines and Curves
	Creating Curves
	Using Transparent Commands
	Using Inquiry Commands
	Establishing Drawing Settings
Data Input	Survey:
	The Survey Tab
	Exploring the Survey Database
	Using the Figure Prefix Database
	Using the Survey Data Wizard
	Automatic line generation from Points and Code Sets
	Points:
	Anatomy of a Point
	Creating Basic Points
	Basic Point Editing
	Point Styles
	Point Label Styles
	Point Tables
	User-Defined Properties
Surface Modelling	Creating Surfaces in Civil 3D
	Refining and Editing Surfaces
	Surface Styling and Analysis
	Comparing Surfaces
	Labeling the Surface
	Calculating Volume from two surfaces
	Creating Isopachyte surface
	Viewing and analysing Isopachyte surfaces

Topics	Sub-topics
Pipes and Pipe Networks	Parts Lists and Part Builder:
	Planning a Typical Pipe Network - a Sanitary Sewer Example
	The Part Catalog
	Part Builder
	Part Styles
	Part Rules
	Parts List
	Pipe Networks:
	Defining property and location
	Exploring Pipe Networks
	Pipe Network Object Types
	Creating a Sanitary Sewer Network
	Changing Flow Direction
	Editing a Pipe Network
	Creating an Alignment from Network Parts
	Drawing Parts in Profile View
	Adding Pipe Network Labels
	Creating an Interference Check between a Storm and Sanitary Pipe Network
Alignments and Corridors	Profiles:
	Elevate Me
	Profile Display and Stylization
	A Better Point of View
	Profile Utilities
	Editing Profile Views
	Corridors:
	Understanding Corridors
	Creating a Simple Road Corridor
	Corridor Anatomy
	Adding a Surface Target for Daylighting
	Applying a Hatch Pattern to a Corridor
	Creating a Corridor Surface
	Performing a Volume Calculation
	Creating a Corridor with a Lane Widening

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Topics	Sub-topics
Alignments and Corridors *continued...*	**Alignments:** Creating a Horizontal Alignment Creating a Profile from an Alignment Vertical Alignments Offset Alignments Using Widened Alignments Editing and refining Alignment Geometry **Assemblies and Subassemblies:** Subassemblies Building Assemblies Working with Generic Subassemblies Working with Daylight Subassemblies Saving Subassemblies and Assemblies for Later Use **Intersections and roundabouts:** Getting Creative with Corridor Models Using Alignment and Profile Targets to Model a Roadside Swale Modeling a Peer-Road Intersection Modeling a Cul-de-sac Modeling a Widening with an Assembly Offset Using a Feature Line as a Width and Elevation Target **Cross Sections and Mass Haul:** The Corridor Lining Up for Samples Creating the Views Creating a Single-Section View It's a Material World A Little More Sampling Annotating the Sections

Topics	Sub-topics
Grading	Working with Grading Feature Lines Grading Objects
Data Sharing and Presentation	**Data Shortcuts:** What Are Data Shortcuts? Publishing Data Shortcut Files Using Data Shortcuts **LDT and LandXML:** What Is LandXML? Handling Inbound Data Sharing the Model **Quantity Takeoff:** AutoCAD 3D Modelling Workspace Handling Inbound Data Sharing the Model **Plan Production:** Preparing for Plan Sets Prerequisite Components Using View Frames and Match Lines Creating Plan & Profile Sheets Creating Section Sheets Supporting Components **Visualisation:** AutoCAD 3D Modelling Workspace Handling Inbound Data Sharing the Model