



AutoCAD Training Course: 2D Drafting, Annotation, Layouts and 3D Solids



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Introduction:

AutoCAD Training Course: 2D Drafting, Annotation, Layouts and 3D Solids is a 10-day course for engineering, technical and drafting teams that ends with a plotted drawing set of plans, sections and details for a case project. Units lose time and credibility when drawings arrive with inconsistent layers, wrong dimension scales, broken external references and sheets that plot differently on every machine. Nominees already prepare or revise drawings at work and learn through daily hands-on labs at the workstation. CoreConcept Training Center delivers this AutoCAD training course.

Course Objectives:

- Set up AutoCAD drawings from templates with correct units, layers, text styles and dimension styles for the unit's discipline
- Produce accurate 2D geometry with drawing, modify and precision tools, including object snaps, polar tracking and arrays
- Annotate drawings with text, dimensions, hatching and multileaders that scale correctly across several viewport scales
- Build reusable content with blocks, attributes, dynamic blocks and external references, and control drawing quality with constraints and standards checks
- Issue drawing sheets through layouts, viewports, page setups, plot styles and sheet sets with linked title block fields
- Model simple 3D solids and generate 2D views, quantity tables and schedules from drawing data

Target Audience:

- Engineering teams responsible for preparing design drawings and markups in civil, mechanical, electrical and building projects
 - Technical teams responsible for revising as-built, maintenance and shop drawings for plants and facilities
 - Drafting teams responsible for producing drawing sheets to the organisation's CAD standards
 - Technical office teams responsible for issuing, packaging and archiving drawing sets for contractors and clients
 - Site and workshop teams responsible for converting sketches and survey measurements into dimensioned drawings
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Course Outline:

Day 1: AutoCAD Interface, Drawing Setup, Units and Templates

- AutoCAD Ribbon, Command Line and Workspace Configuration
- DWG, DWT and DXF File Types for Drawing Exchange
- Drawing Units and Absolute, Relative and Polar Coordinate Entry
- Drawing Template Creation with Preset Layers and Text Styles
- Zoom, Pan, Named Views and Selection Window Techniques

Day 2: Drafting Standards, Layers and Precision Drawing Aids

- ISO 128 Line Types, Line Weights and View Conventions
- Layer Naming Scheme with Colour, Linetype and Lineweight Properties
- Object Snaps, Object Snap Tracking and Polar Tracking Settings
- Orthographic Projection in First-Angle and Third-Angle Arrangements
- Layer States Manager and Viewport Layer Property Overrides

Day 3: Drawing and Modify Commands for Production Geometry

- Line, Polyline, Circle, Arc and Rectangle Drawing Commands
- Offset, Trim, Extend and Fillet for Outline Geometry
- Move, Copy, Rotate, Scale and Mirror Editing Sequences
- Rectangular, Polar and Path Arrays for Repeated Elements
- Grips, Properties Palette and Match Properties Editing

Day 4: Text, Dimensioning, Hatching and Annotation Scaling

- Text Styles with Single-Line and Multiline Text Formatting
- Dimension Styles for Linear, Aligned, Angular and Radial Dimensions
- Annotative Objects and Annotation Scale Across Viewport Scales
- Hatch Patterns, Gradient Fills and Associative Hatch Boundaries
- Multileaders and Revision Clouds for Drawing Markup

Day 5: Guided Lab Case: Floor Plan and Part Drawing to Standard

- Floor Plan Drafting from a Dimensioned Hand Sketch
 - Mechanical Part Drawing with Orthographic and Hidden Line Views
 - Section View Drafting with Cutting Plane Lines
 - Dimension and Note Placement on the Week-One Case Drawings
 - Drawing Checklist Peer Review of Layers and Dimensions
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Day 6: Blocks, Attributes, Dynamic Blocks and External References

- Block Definition, Insertion and DesignCenter Library Organisation
- Block Attributes for Door, Window and Equipment Tags
- Dynamic Block Parameters and Actions for Variable Components
- External References Attach, Overlay, Clip and Path Management
- Tool Palettes for Content Reuse Across Project Drawings

Day 7: Parametric Constraints, CAD Standards Checking and Drawing Quality

- Geometric Constraints for Parallel, Perpendicular, Tangent and Coincident Relationships
- Dimensional Constraints and Parameters Manager for Design Intent
- CAD Standards Checker with DWS Files for Layer Conformance
- Purge, Audit and Recover Commands for Drawing File Health
- Revision Blocks and Change Tables for Drawing Revision Control

Day 8: Layouts, Viewports, Plotting, Sheet Sets and Collaboration

- Paper Space Layouts and Scaled Viewports for Drawing Sheets
- Page Setups, Plot Style Tables and PDF Output Settings
- Sheet Set Manager with Title Block Fields and Sheet Lists
- eTransmit Packages and Xref Binding for Drawing Issue
- DWG Compare and Markup Import for Reviewer Comments

Day 9: 3D Solid Modelling, Visual Styles, 2D Views and Data Extraction

- User Coordinate Systems and ViewCube Navigation in 3D Workspace
- Extrude, Revolve, Sweep and Loft Commands for Solid Creation
- Boolean Union, Subtract and Intersect Operations on Solids
- Visual Styles with Base, Projected and Section Views from 3D
- Data Extraction Wizard and Table Objects for Quantity Schedules

Day 10: Lab Capstone: Complete Drawing Set for a Case Project

- Case Project Brief and Drawing Set Sheet Index Planning
 - General Arrangement Plans Using Xrefs, Layers and Annotation Scales
 - Building Sections and Construction Details with Hatching and Dimensions
 - Door and Window Schedules from Extracted Block Attribute Data
 - Drawing Set Publishing Through Sheet Set and Peer Review
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Skills You Will Gain:

- CAD Template Configuration
- Precision 2D Drafting
- Annotation Scale Management
- Block and Attribute Library Building
- External Reference Coordination
- Parametric Drawing Control
- Sheet Set Publishing
- Basic 3D Solid Modelling

Why Attend This Course:

- Deliver a plotted case project drawing set of plans, sections and details to the engineering manager or technical office lead
- Decide when to use blocks, external references, constraints or sheet sets so that a drawing set stays consistent as revisions arrive
- Avoid reissued sheets, wrong plotted scales and broken references that delay approvals and add rework to contractor and client submissions
- Pass on templates, layer schemes, block libraries and plotting set-ups to colleagues who draft for the same unit

Conclusion:

Back at work, the participant hands the engineering manager or technical office lead a case project drawing set built on a unit template, layer scheme, block library and sheet set. The unit can adopt these as its drafting baseline for the next issue of drawings and use the extracted schedules for quantity checks. After the first drawing issue prepared this way, the unit should review plotted scale errors, external reference problems and revision turnaround to decide which templates and standards files need updating.

Frequently Asked Questions FAQ:

What should participants know before the AutoCAD training course on 2D drafting, annotation, layouts and 3D solids?

Participants need basic computer skills and familiarity with engineering or technical drawings. No previous AutoCAD experience is required. Bringing a sketch, a marked-up drawing or a typical sheet from their own unit helps them apply each lab to real work.

How does the AutoCAD training course on 2D drafting, annotation, layouts and 3D solids differ from a drawing reading course?

It teaches participants to create, annotate and issue drawings in the software. A drawing reading course teaches how to interpret issued drawings and specifications on site, while advanced 3D design courses build detailed parametric models and assemblies.

Why does AutoCAD 2D drafting use annotation scaling and paper space layouts?

Geometry is drawn full size in model space, while layouts and annotation scaling set how text, dimensions and hatching appear on each plotted sheet. One drawing can then be shown at several scales without redrawing or resizing notes.

What do participants take back from the AutoCAD training course on 2D drafting, annotation, layouts and 3D solids?

Participants take back a plotted case project drawing set of plans, sections and details, with the drawing template, layer scheme, block library, sheet set and schedules they built, ready to adapt to their own unit's drawings.
