

**AFFILIATED WITH CADTECH**



**Conducting Online  
Classes Worldwide**

**CAD Expert Group**

**High End Advanced AutoCAD**

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**Faculty : Experience : 28 Yrs. in CAD/CAM**

**Qualification : Phd.**

**Already trained more than 50 thousands Students**

## **Syllabus Autocad**

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### **AutoCAD Interface**

Introduction to AutoCAD Interface, Workspace, different type of windows in AutoCAD, Different type of AutoCAD Versions. Setting up of Units of measurements. Start a new drawing..

### **AutoCAD Commands**

Point Plotting Techniques : Approximate method, Absolute method, Relative method, Polar Method, Line Drawing methods (All Point method), Polar Tracking method.

Selections Techniques : All methods to select any object, one by one pick, windows, crossing, windows2, crossing2, last, previous, all, window polygon, cross polygon, window lasso, cross lasso, fencing.

### **Removing and adding to selection set.**

Draw commands : Circle (All methods of drawing of a circle), Rectangle, Donut, Ray, Xline (Construction Lines), Ellipse, Mline, Pline, Pol, Spl, Wi, Reg etc.

How to modify objects without using any command? Grips settings size and color settings of the grips. Gripobjlimit, gripsize, gripshot, gripover, gripstyle.

Type of lines using ltype, and width of lines and other objects. Linetype scaling.

Now this is the time to learn all about the Arc commands, Special tips and tricks to draw free hand curves and free hand drawings, after that go to options of arc command (3p, sce, sca, scl, sea, sed, ser, cse, csa, csl) (Now you are able to make any complicated free hand figures and artistic figures.

### **Now What ?**

This is the turn to know everything about measurement systems of AutoCAD, units, Limits, model view setup and get exposures to drafting settings, grids and snap settings.

After completion above part you will have to use some more commands which are useful to make drawings ie. Quick selection techniques and filters. Grouping and ungrouping.

Offset (Offset on a given distance, Free hand offset), How to cut part of any object using trim command (all method of trimming), Extend, (How to extend with trim and trim with extend), Duplicating objects, using co or cp command, Moving any object, copying or moving at a given point or on given distance and angle), Rotating & Scaling any object (with options[know what is reference rotation or scaling]), Fillet & chamfer command, (How to trim or extend using fillet command). Align, Mirroring tricks, Stretch, breaking of objects (At a specific distance and angle), Joining two collinear lines, or curves connected from end. Explode command, Creation of region, and Boolean operations on a region (Union, Subtract, Intersect), divide and measure command from point styles and from blocks.

**Array :** All type arraying techniques rectangular, polar, path array, exploded array, associative array, negative distancing in array.

**Images :** Insertion of images working and tracing on images ,changing brightness and contrast in images. draworder of images.

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### Snapping

Apart from above command it is also very necessary to know about the snapping, (snapping modes, object snapping, distance snapping)[ os command to jump on end, center, intersections, node, tangent, quadrant, insertion point, nearest, perpendicular, apparent intersections, parallel ].

- After completion of above part Now you are able to make all type of Civil, Mechanical, Architectural, Textiles, Jewelry etc drawings)

- After Completion above part now we will move for some extra commands ie. Making blocks and insertion of blocks, and multiple insert, attribute of blocks, dynamic blocks, Attdef, attedit, etc command.

- Hatching & gradient filling. Associative and exploded hatch.
- Layers : You should not make drawing in a single that zero layers. Now we will cover layer property manager. Some Layer commands will also be covered layon, layoff, laylck, layulk, layfrz, laythw, layiso, laydel, laymrg, layuniso, laycur etc...

### Dimensioning

At this instance you are being able to make drawings but after making the drawing, as you dimensioning is the beauty of drawings, so will deeply learn all about dimensioning (Friends many Institute give the knowledge of only basic dimension techniques, but we will give you in depth knowledge about the dimensioning, and dimensioning variables. (Around 60 command or variables of dimensioning will be covered)

Dimensioning methods, Unidirectional and aligned methods, Exploded dimensioning and Associative dimensioning, tad, hor, ver, ali, diametrical, radius. How to change the size of the arrow, text, exe, exo, text, gap, tvp. (Scaling of dimensions). How to use blocks in place of arrow in dimensioning (What is separate arrow head techniques ? ).

Suppression of one or both extension lines and dimension lines. How to round off the dimension text.

**How to dimension a drawing in two units?** How to write units in main and alternate dimensioning?

What is %% in dimensioning? Center line marking using dimensions, change the center mark size (Cen and dimcen) updating the dimension. For mechanical students we will some extra dimensions techniques like we will provide the extra knowledge of limits, fit and tolerance, positive tolerance and negative tolerance, in mechanical drawing. Text outside and force line inside (Tofl). Placing ticks in place of arrows, extensions of dimension line in tick dimensions. Jog, leader and multileader, dimension break. Text location edit, text edit, text rotation in dimension. Zin zeros in inches & feet drawing. Tih, toh, to force the text to be inside the extension line using tix. Suppress outside extension dimension line using soxd variable. Setting up of new dimension style and quick dimensioning, annotative dimensions, Base line and continuous dimensioning, which dimension variable can not be updated?.

**In this part we will all possible aspect of dimensioning in AutoCAD**

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### **Tesxt**

After completion of dimension now you have to place the text in your drawing....

Text : type of text in AutoCAD, dynamic text and multiline text or arc aligned text, text scaling, text styles, dynamic text options option

[Left/Center/Right/Align/Middle/Fit/TL/TC/TR/ML/MC/MR/BL/BC/BR]

Text mask and unmask text, justify text and explode the text, Automatic text numbering, enclose the text within the object. Text case change method.

**Now your drawing is ready, You have completed dimensioning of your drawing and placed text as required**

### **Working functions of all functions keys : F1 to F12;**

Match attribute, overkill, change property, stretch and lengthen, chprop commands.

View commands, Zoom command and options [All/Center/Dynamic/Extents/ Previous/ Scale/ Window/Object] Real time zoom. Splitting drawing screen into multiple viewports, and merging multiple viewports into single. How to isolate/Unisolate and hide/Unhide any object

Inquiry commands : dist, list, dblist, id, area, measuregeom, etc.

### **Now What ?**

### **Printing :**

In depth Printing knowledge is also necessary You must be aware with different type of paper sizes, printing preferences, printer selection, page setup, plot stamp, plot scaling, page setup manager, plot styles, plot area, plot orientation, ctb files, plot shaded options, background plotting, transparency plotting, plot quality, plotting on paper, publishing, or making of single page or multipage portable document format, of jpg, windows meta files and other graphics type of files. We will also teach you about the plt and plt to dwg conversions.

After printing of a drawing you might be required to export the drawing files so now you need to know about the import export options.

Some Other Important Options :

Layout : A layout is a 2D working environment to create drawing sheets. The area within a layout is called paper space, where you can add a title block, display scaled views of model space within layout viewports, and create tables, schedules, notes, and dimensions for your drawing.

Working with paper space and model space, model view setup, multiple viewports in layout views, Layout scaling. Multiple layouts.

### **Customization**

AutoCAD Customization : AutoCAD is completely customizable, in this part of program you will learn how to make your own menus, toolbars, ribbon etc. using customize user interface. Some more commands for AutoCAD customization, like command line show hide, cursorsize changing, color changing of AutoCAD graphics and text screen, font size change in autocad screen. Navigate between text and graphics screen, You can make your own styles of linetype, multiline, dimensions etc.

### **Drawing REcovery**

What You will do if Your AutoCAD file get corrupt or unable to open?

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Some times AutoCAD file get corrupts and it is unable to open, we can recover the file from auditing and recover. We can use backup files from temporary files. And other techniques to get back corrupt drawing files.

**Parametric AutoCAD :** Now AutoCAD is also having parametric features, It has constraints Geometrical constraints (hor, ver, parallel, perpendicular, tangent, fix, equal, smooth, coincident, concentric, collinear, symmetrical) and Dimensional constraints [Linear/Horizontal/Vertical/ Aligned/ ANGular/ Radius/Diameter/Form/Convert]. Show or hide constraints, AutoConstrain, Delete constraints, parametric manager.

**Templates :** In this sections You will have to make your own template .dwt files, which is also very useful to save valuable time.

Now it is the time to know how to create your own styles, ie, multiline styles, linetypes, hatch patterns, super hatch etc. After creation of these styles you will be taught how to rename these styles.

### **Removing Unused things :**

Suppose you have many block which you are not using in the file or you have made some linetypes and now you don't have the need of the these styles, so you can remove unused block, layers, linetype styles, mline styles, text styles etc. (This section is all about purging).

### **:Tips and Tricks Session :**

Now this is the time for Tips and tricks zone. We will have a look for some tips and tricks which we have invented during our 30 yrs. Of experience. Definitely this will help you to become the master of the AutoCAD. Now we will teach you how to make a drawing in very faster way.

**[ Students! we can challenge any other institute, that they can not work faster then us] We are also interested to make our students very fast in AutoCAD.]**

Now you are aware with the tips & tricks to make a drawing in a faster way. After this we will teach you how to make a shortcut of any command ie everything about command alias editor. Program parameter file i.e acad.pgp will also be introduced.

**Next session : Transparent commands,** How to use calculator in between command or how to invoke a command while working in another command.

**How to make a slide?**

### **Shell Command :**

Invoke notepad in AutoCAD and write a shell script. How to make a shell program to make slide show. How to run command continuously in a specific time interval. Around 10 programs will be made during this session.

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### Some other things

**DIESEL** (Direct interpretively evaluated string expression language) and Modemacro.

**Hardware acceleration.**

Curve resolution, hyperlink, syswindows, drawing properties, drawing history.

Search path, file names and file locations ie temporary files, backup files, autosave files etc.

Right click customization, aperture, pickbox, pickadd, pickfirst, highlight, dragmode, profiles.

How to find the drawing making time etc...

### Online AutoCAD

Geographics location, signup, timezone selection, coordinate system selection, position the marker according to spatial location, marking longitude and latitude, crop data from online imagery, distance and area calculation from online imagery. How to switch off the geolocations.

**Brain Check (skill Test)** Introduction to Vbaide, and vlide making commands.

## 3D

Snap Settings vs Grid Settings, f5 Functions, Isometric View Creation, making some objects using isometric techniques. User's Coordinate systems vs World Coordinate system. All Options of UCS command like [Face/NAMED/OBJECT/Previous/View/World/X/Y/Z/ZAxis] <World>:

Setting up of working plane.

### View Point

Vpoint command and its options, and plan command etc.

**Wire Frame Modelling** : using .xy, .yz, .xz, 3dface command for wireframe objects.

**Surface Modelling** : revsurf, rulesurf, edgesurf, tabsurf etc.

### Shade mode and options

[2dwireframe/Wireframe/Hidden/Realistic/Conceptual/Shaded/shaded with Edges/shades of Gray/SKetchy/X-ray/Other] <2dwireframe>:

### Solid Modelling :

Box, cone, wedge, torus, sphere, pyramid etc commands, psolid,

Extruding to a solid or surface, Extrude along a path, sweep, revolve,

Thicken command, Subtraction, Union, and Intersection

Advanced 3d

Sweep & options, lofting an object,

Drawing Practice

Furniture based drawings, Building Drawings, Mechanical Drawings According to the domain.

Furniture Carving will be covered in Advanced 3d AutoCAD, Assembly Instructions, Solid Profiles,

Profile in Layouts, Flattening of the solid objects. Carving on flat and rounded surfaces.

Light effects

In depth study of different types of lights.

All type of lights light type [Point/Spot/Web/Targetpoint/Freespot/freeweB/Distant] <Freespot>:

And their effects like

[Name/Intensity factor/Status/Photometry/Hotspot/Falloff/shadoW/Attenuation/filterColor]

### Material :

AutoDESK material library, making own material, different type of effects of material, tiling, bump, tint, brightness, transforms images, like scaling, position etc.

Using all materials like wood, stone, water, grass, fabric etc.

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### **Slicing**

Slice command to cut solid into two or more objects and other options of slice.  
[planar Object/Surface/Zaxis/View/XY/YZ/ZX/3points] <3points>

### **Section**

Getting Sections of a solid and options of Section command  
[Object/Zaxis/View/XY/YZ/ZX/3points]

**Solid Editing :** Face, Edge and body Solid editing and options like  
[Imprint/seParate solids/Shell/cLean/Check]

### **Solid History**

### **Workspace**

Different type of working space in autocad, Model space and Paper space. Indepth study of model space and paper space, using layout in paper space, ucsicon, Making template for paper space for printing.

### **Mesh Editing in AutoCAD,**

**3d Chamfering and 3D Filleting, 3d rotate, 3darray and 3d mirror, 3dorbit, 3d corbit.3dpoly, 3dalign, 3dmove,**

### **How to calculate the weight of any object in AutoCAD.**

Render presets, settings exposure, Setting of Render Environments, Render Output Size, Final Rendering and Final Output.

# **CAD CAM**

**If You want to become an expert then learn from experts**

## **Other Courses**

### **Solid Works**

Creo  
ArtCAM  
3DsMax  
Rhino gold  
Visual LISP  
GIS  
Land Survey  
Global Mapper  
AutoCAD Map3d

### **Google Earth**

ArcGIS  
Master CAM  
Aspire 3d  
JD Paint  
Z Brush  
Catia  
AutoCAD Electrical  
AutoCAD Civil  
AutoCAD Mech.

### **STAAD**

Revit Architecture  
Road Estimator  
Advanced Excel  
Eradas  
Matlab  
Advanced 'C'  
Embedded System  
Robotics....

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**Machine Design.**

**Building Design.**

**Land Survey**

**G . I . S**

**Jewellery**

**Textiles**

**Interior**



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