

# Notes- AutoCAD day!

Tuesday, March 18, 2014 8:04 AM

Class was held in the light lab

## Important things to remember while drafting:

Draw everything full scale in model space

Draw things specifically where they go and only once

Helps with lining up objects (bolts, holes...)

Makes sure you didn't copy something incorrectly

Helps with 3D (you want to see how pieces will relate together in real space)

Layout

PLAN

SIDE  
(SECTION)

FRONT  
(ELEVATION)

## Layers

There is no such thing as too many layers

Labels are important!

Systems ( A for architecture, F for fixtures and furniture, S for scenery, R for reference, N for notation)

R-Object outlines (so you can reference the shape without using all the framing in another drawing)

S-Flat A1 framing

S-Flat A2 framing

S-Flat A2 section

Scenery pieces want to be in different layers so you can manipulate the pieces separately for printing

## Setting up a drawing to print

Create a new layer called VPORTS (autoCAD already uses this layer so call yours the same so that they work together)

Non-printing layer! You will see them but they won't appear in plotted drawing

MV command to create a viewport

(PS command to return to paper space)

Viewport is an object you can select and then set in attributes the scale you need

1/2 in Construction drawings

1/4in whole space

1in detail drawings

Lock display so scale doesn't change

VP Freeze allows you to turn on and off layers in your viewport

You can copy a viewport and turn on/off the different scenery pieces to have them separate but relate to each other on the page

You can clip viewports

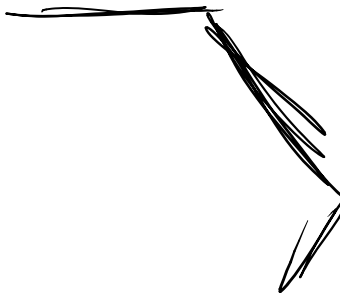
Draw an object to use to clip and then use the clip function (select viewport then clipping object)

Way to be sure your viewport never has any objects behind your title block

TOP VIEW



Create a UCS (user coordinate system) to show objects in an orientation that makes sense on the page



Once you are done building an object LOCK THE LAYER! So you can't mess them up when manipulate/build new objects

## Dimensions

They belong in paper space DO NOT PUT THEM IN MODEL SPACE!  
Dimensions in paper space show up in the right size (so you can read them)  
N-Dim layer  
Units command - Architectural  
D, Dimensions Style Manager Window  
Color by layer  
Line weight by layer  
Line type by layer (or continuous)

Symbols and Arrows  
Closed blank arrows

3/16 standard size comes from hand drafting but we can drop it all down to 1/8 because after printing it is still legible

Text alignment (horizontal, align with dimension line)

Primary units  
Turn off zero suppression so zero shows in your dimensions  
You can create a template for small objects that suppresses zero so you don't clutter the drawing with zero feet

Dimensions should be on the fewest sides and the convention is on the bottom and left hand side

Aligned dimensions - diagonal distance between 2 points  
DimAng, angle

## Color

Use it to control line weight or line type  
CDPS - color dependent plot size  
Colored lines on screen will not translate into color printed lines, all lines can be black when printing

Plot style table  
Screening how opaque you want the line to be (50% greyscale, 100% solid black)  
Great for greyscaling building or scenery on light plot

Use color to help you read and work in space, use color that relate to the real world to help you distinguish materials ( wood yellow, steel grey, lauan orange...)

Objects --- Medium Weight  
Sections lines --- Heavy Weight  
Outline of title block --- Heavy Weight  
Building --- Light Weight

## System Variables

Line type scale  
DIMASCOC  
2:  
Dimensions will associate with an object in model space  
If you change the size of the object in model space the dimension will change in paper space  
0:  
Dimensions the size the object will actually print and not associated with an object in model space



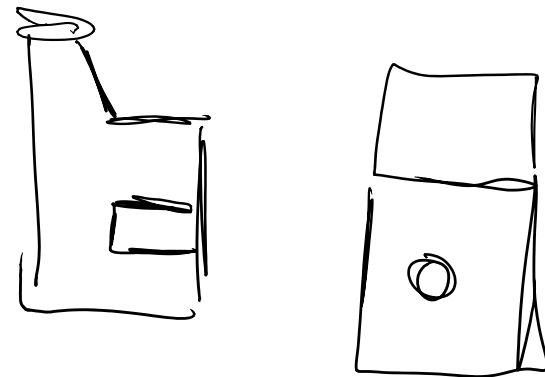
Our eyes read from top left to bottom right  
 Notes should be in top left  
 Look at whole plate as composition  
 Not too much white space  
 Well balanced

### 3D to 2D

3D workspace

Union command to join box to wedge  
 Subtract command to subtract cylinder

Now have one irregular shaped 3D object



Now we need it to make sense in 2D on paper

Brute force! (if you don't have to go back and edit)

Flat Shot

Get it set up in an isometric view you want and get a picture of that object (a block)

Do not show obscured lines in an isometric view!!!!

Through setting the attributes in Flat Shot you can show sections as well with hidden lines

Not a lot of control in how it is shown

Annoying to update

### SolProf

Only can be used inside a model space viewport  
It creates layers so you can turn off your object and use new layers to show the object in 2D  
(profile hidden & profile visible)

### SolView

Creates a viewport of the top (default)  
SolView Ortho, use to create your orthographic views  
SolView Axillary view, define a plane  
True size and shape of plane  
SolView Section, take a slice of the object  
SolDraw, renders the drawing with conventions section hash, hidden lines  
Creates names of layers from the viewport name you gave when prompted using  
SolView

### SOLIDEDIT

Moved the hole in our object  
Return to paper space and run SolDraw

\*\* since the SolDraw layers get re written every time you run it do not add info to these  
layers because you will lose the info in your next draw\*\*\*

### Template

Save as template so you don't have to reset everything for each use  
Save anything you want in your template  
When you open a template it creates a new file with your template info (blocks, attributes, layers ) already in file

REMEMBER TO USE THE HELP FILE IT IS A RESOURCE  
GOOGLE IS YOUR FRIEND THERE IS LOTS OF USER GENERATED SUPPORT AND INFO