

Instructor: Alphonso Peluso  
Spring 2010 Class-06

Complex Surface Modeling 03 \_Rhomboid Curtain Panel \_  
3D Snapping \_ Parametric Surface \_ Component Flip \_  
Topsurface \_ Camera \_ Render

**STEP ONE:** open Revit 2010 \_ open the class-05  
**Conceptual Massing** file \_ save the file as class-06  
in your class-06 mass folder \_ open a NEW family  
\_ select a Curtain Panel Pattern Based

**STEP TWO:** select the tile pattern grid \_ change  
the element type to Rhomboid

**STEP THREE:** draw a line using 3D snapping as  
shown in image 3 \_ save the file in a class-06 /  
family folder as Rhom\_Pattern\_Circle\_Shape.rfa  
\_ load into project file

**STEP FOUR:** from the project file select one of  
the divided surfaces \_ from the ribbon change the  
element type to \_ Rhom\_Pattern\_Circle\_Shape \_  
(**note:** only the model line will be visible) \_ notice  
the lines are running in the long direction of the  
roof \_ they should run in the short direction

**STEP FIVE:** ctl + tab over to the family file \_ erase  
the line \_ draw the line in the opposite direction  
using 3D snapping

**STEP SIX:** place a reference point at the midpoint  
of the line (**prior to placing the point right click  
to override the snap settings to midpoint**) \_  
select the new reference point \_ draw a vertical  
line 2' in the Z direction

Creates a new project, family annotation symbol.

Project  
Creates a Revit project file

Family  
Creates a set of custom components for a project

File name: Rhom\_Pattern\_Circle\_Shape .rfa  
Files of type: Family Files (\*.rfa)

Manage Modify Divided Surface

Rectangle  
Ellipse Frame  
Element Properties  
Change Element Type

Rhom\_Pattern\_Circle\_Shape : Rhom\_Pattern\_Circle\_Shape  
Ellipse Frame : Ellipse Frame  
Rhom\_Pattern\_Cir

1

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4

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1

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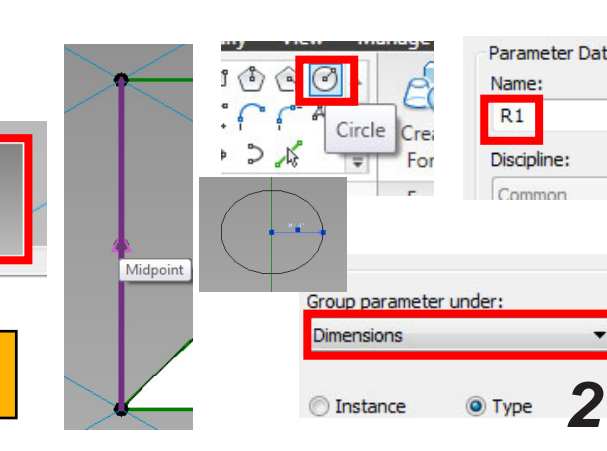
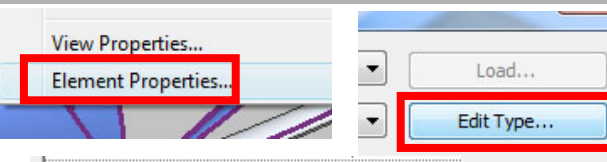
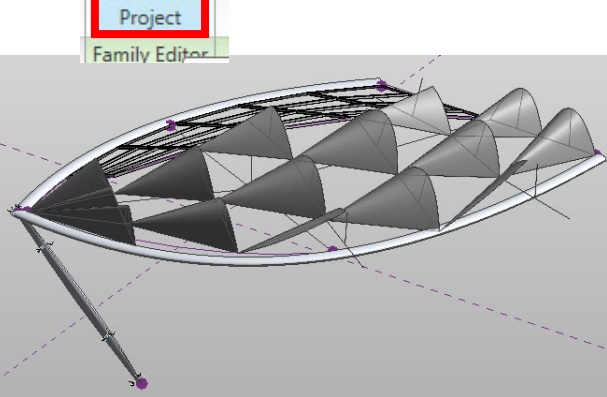
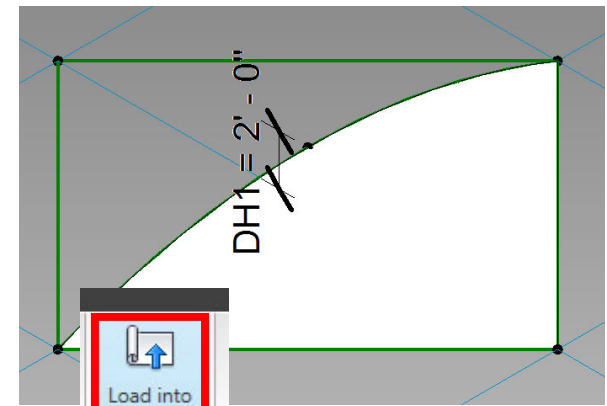
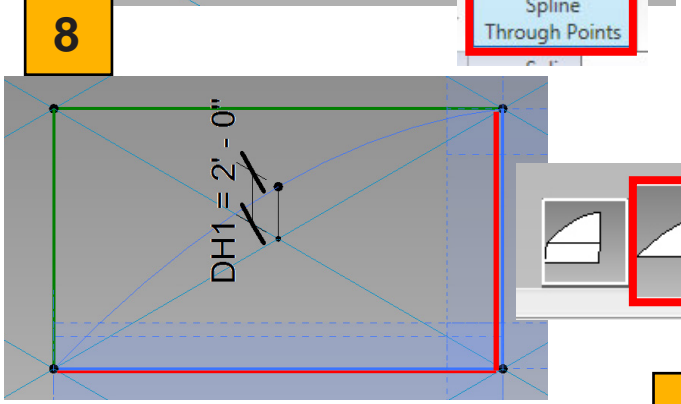
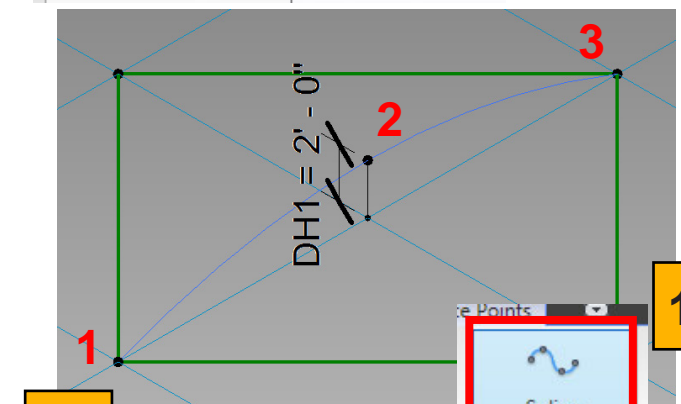
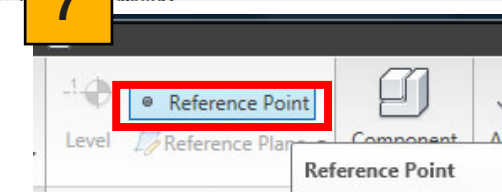
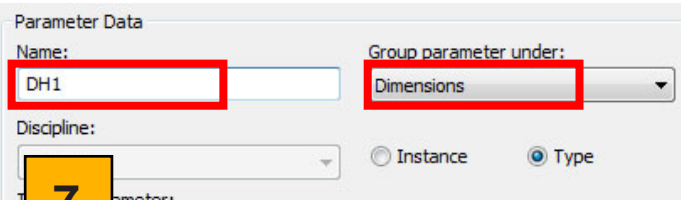
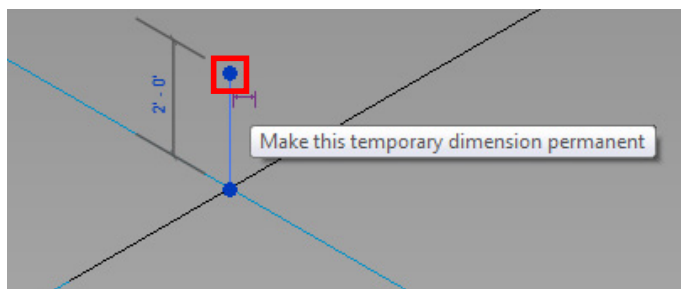
**STEP SEVEN:** make the temporary dimension permanent \_ add a label parameter called DH1 \_ group it under Dimensions

**STEP EIGHT:** place a reference point on top of the line \_ select the 3 points shown in image 8 \_ from the ribbon click on spline through points

**STEP NINE:** select the new spline and the lower half of the rhomboid \_ click on create form \_ select surface from the flyout menu

**STEP TEN:** click on load into project \_ to change the height driver select the divided surface \_ right - click and select element properties from the fly-out menu \_ click on Edit Type \_ under dimensions change DH1 = 1' \_ click OK twice

**STEP ELEVEN:** change the U grid = 8 and the v grid = 10 \_ ctrl +s (save) \_ ctrl + tab over to the family file \_ create a reference point at the midpoint of one of the line segments \_ select the reference point \_ draw a circle with a 1" radius \_ add a label parameter called R1 \_ group it under dimensions



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**STEP TWELVE:** select the circle and the perimeter reference lines \_ click on Create Form\

**STEP THIRTEEN:** from the ribbon click on Types to test the label parameter \_ click on load into project

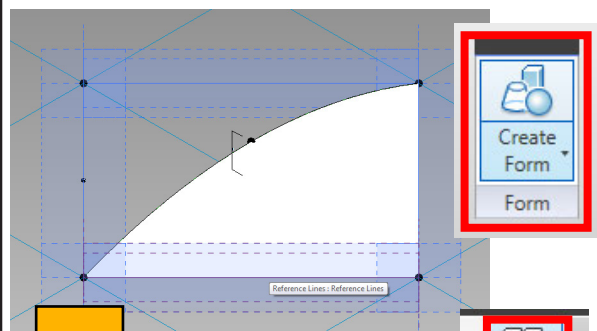
**STEP FOURTEEN:** select the other divided surface \_ from the ribbon change the other surface to Rhom\_Pattern\_Circle\_Shape \_ right-click and select element properties \_ under Pattern Application \_ check on Component Flip \_ click OK

**STEP FIFTEEN:** save the file \_ open the Class-04 project file

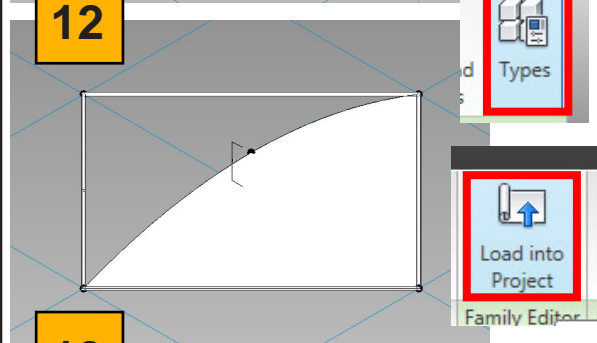
**STEP SIXTEEN:** from the ribbon under massing & site \_ click on show mass \_ click on place mass \_ from the place mass tab \_ click on place on work plane \_ click on load family \_ browse for the Class-06 conceptual mass file

**STEP SEVENTEEN:** using the move button align the conceptual mass file with the project file \_ (**note:** this is not as easy as it should be. do your best)

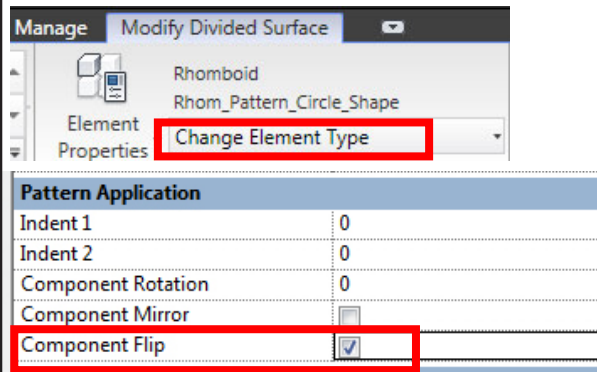
**STEP EIGHTEEN:** the alignment of the component that we flipped is not working properly \_ ctrl + tab back to the massing file \_ select the geometry \_ right-click \_ select element properties \_ check component mirror \_ change component rotation to: 180 \_ click on load into load into project



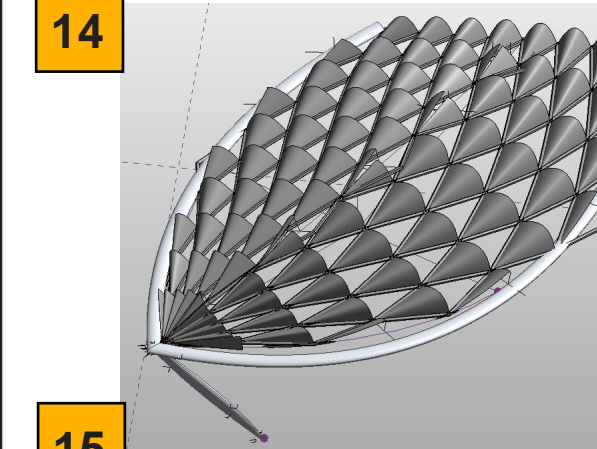
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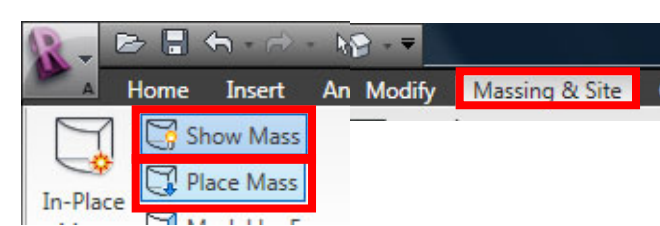
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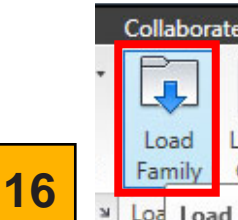
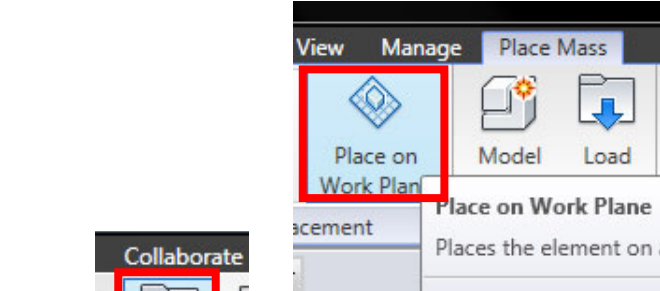
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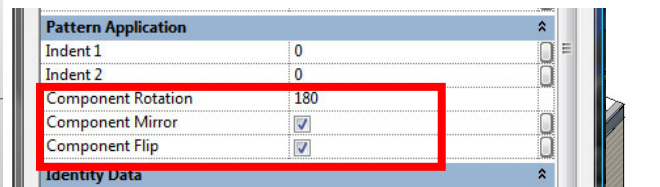
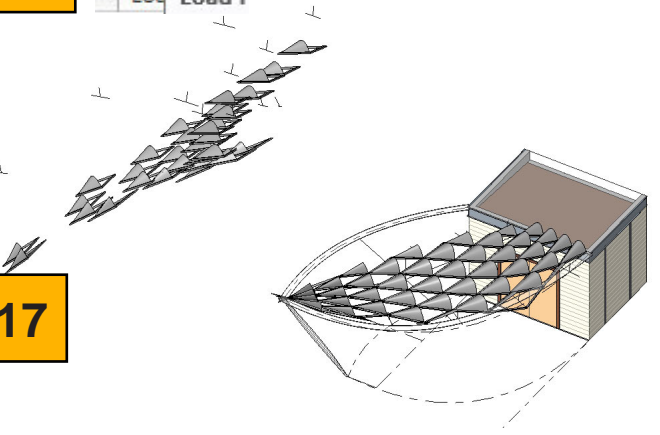
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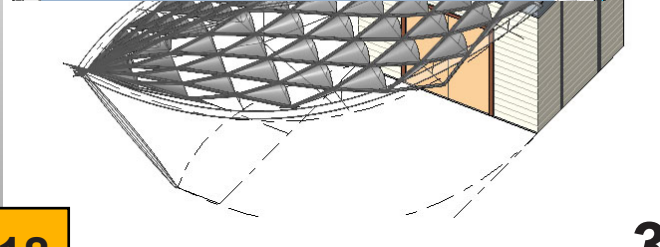
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### Toposurface

**STEP NINETEEN:** from the project browser double click on site plan \_ type **VG** \_ click on the Imported Categories tab \_ Un check Imports in Families

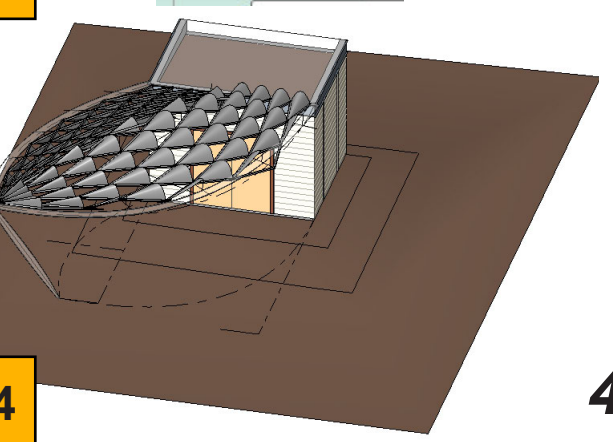
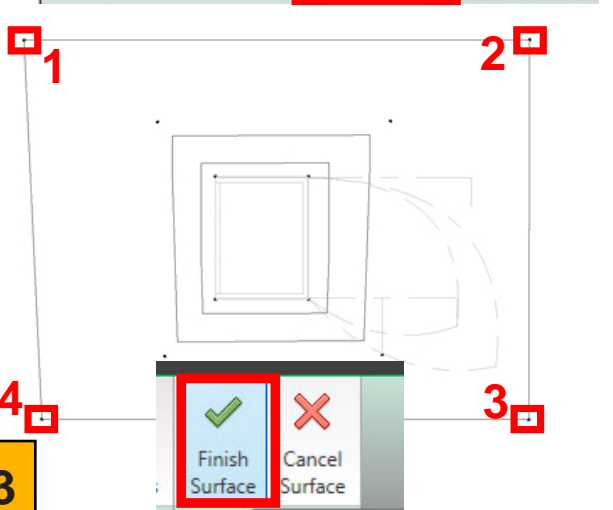
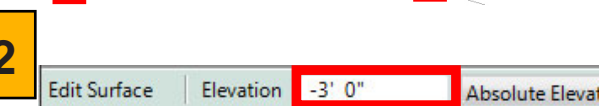
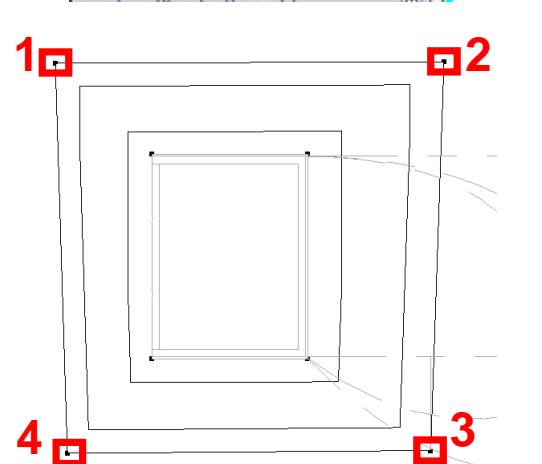
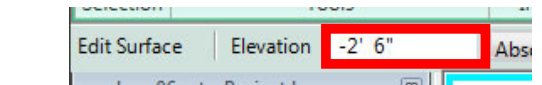
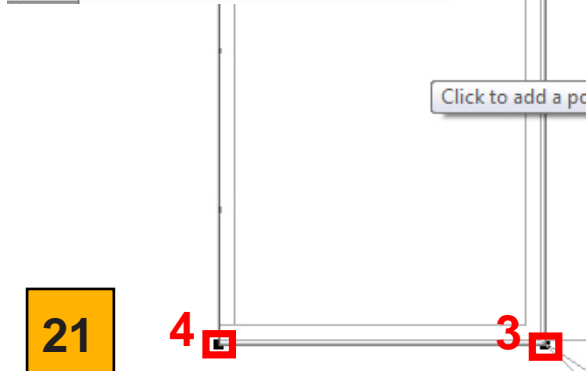
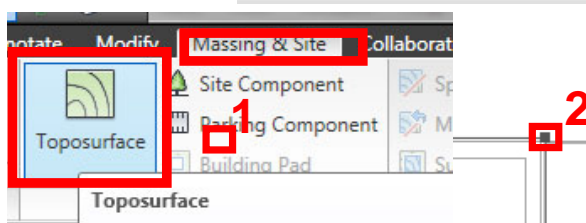
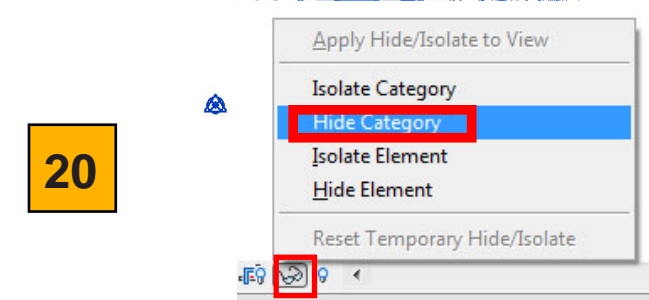
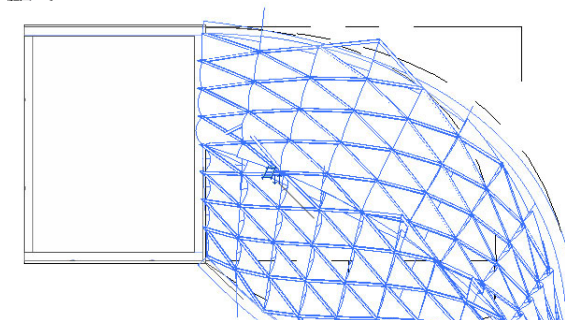
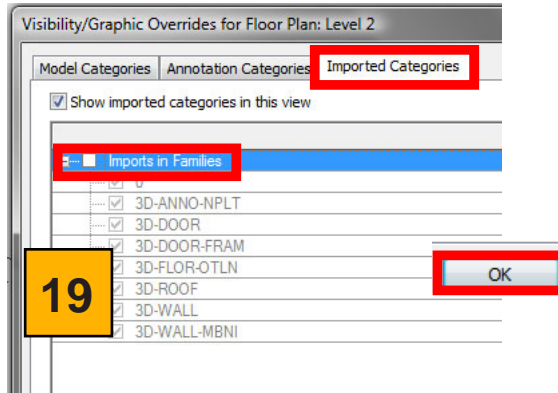
**STEP TWENTY:** select the family \_ from the view control tab \_ click on the eyeglasses \_ select hide category from the flyout menu

**STEP TWENTY ONE:** from the ribbon under thw Massing & Site tab click on Toposurface \_ from the options tab change the height to **-6"** \_ **place 1 point in each corner of the shed**

**STEP TWENTY TWO:** set the elevation = **-2'6"** \_ place 4 more points as shown in image 22

**STEP TWENTY THREE:** set the elevation = **-3'0"** \_ place 4 more points as shown in image 23 \_ from the ribbon click on Finish Surface

**STEP TWENTY FOUR:** from the project browser \_ goto a 3D View



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**STEP TWENTY FIVE:** select the toposurface \_  
from the ribbon click on Edit Surface \_ select the  
upper right point \_ from the options bar set the  
elevation to **-6'** \_ click on finish surface

**STEP TWENTY SIX:** from the project browser \_  
go the camera view (3d View 1) \_ using **VG** hide  
the imported categories

**STEP TWENTY SEVEN:** from the project browser  
\_ goto a level 1 view \_ position the camera to see  
the entire shed

**STEP TWENTY EIGHT:** from the view control bar  
\_ change the view to shading with edges \_ click on  
turn on shadows

**STEP TWENTY NINE:** from the view control bar  
\_ click on the teapot to bring up the rendering  
window \_ click on render

**STEP THIRTY:** from the rendering window click  
on Export \_ Save the jpeg file in your Class-06 /  
Images folder

#### ASSIGNMENT 06:

Using what we have learned from the in class  
tutorials finish your Revit model, set up a camera  
and render a view.  
Before next class post the in-class rendering and  
your studio rendering.

