Course: 3D Design
Title: Bezier Curve Modeling – Column
Dropbox File: WineGlass.zip
Blender: Version 2.41
Level: Beginning
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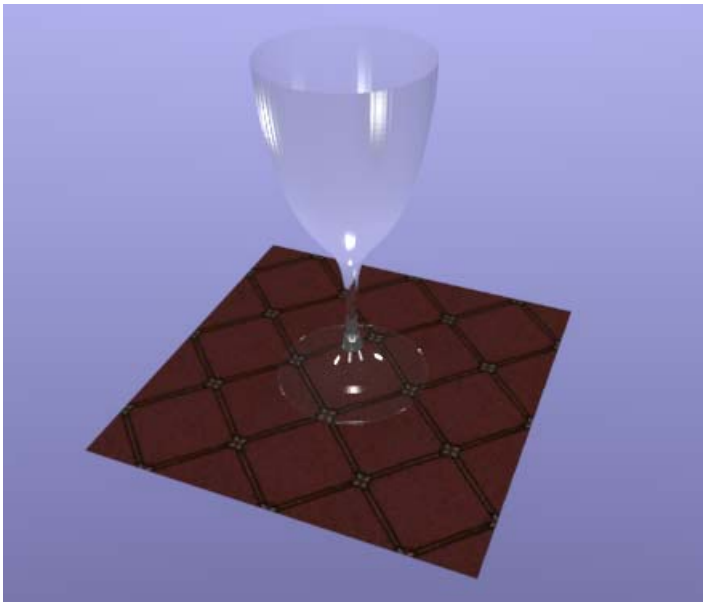
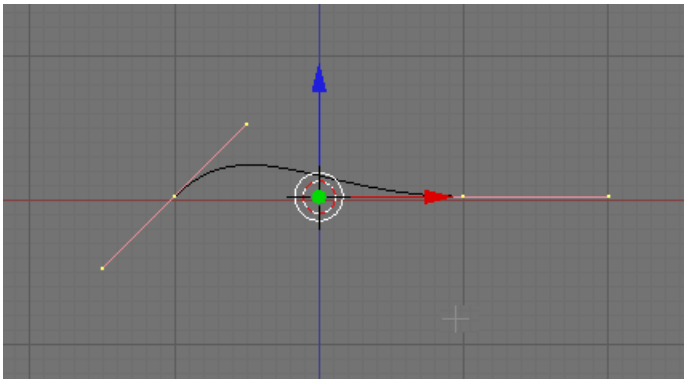
Lathe Modeling – Wine Glass



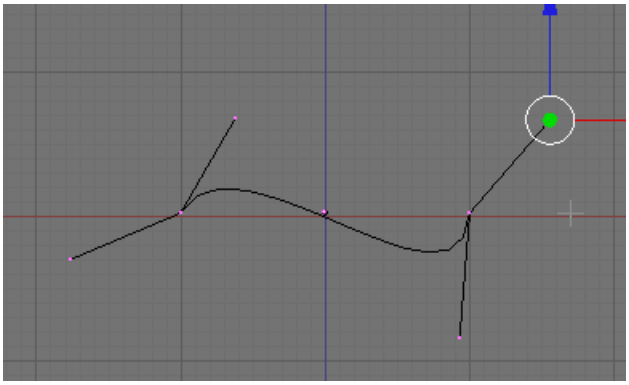
In this tutorial, we'll model a Wine Glass using Blender's Bezier Curve tools and the Mesh Spin tool.

Open MyBlender.blend (or the default if you are using MyBlender as the default Blender file). Select the default cube and delete it.

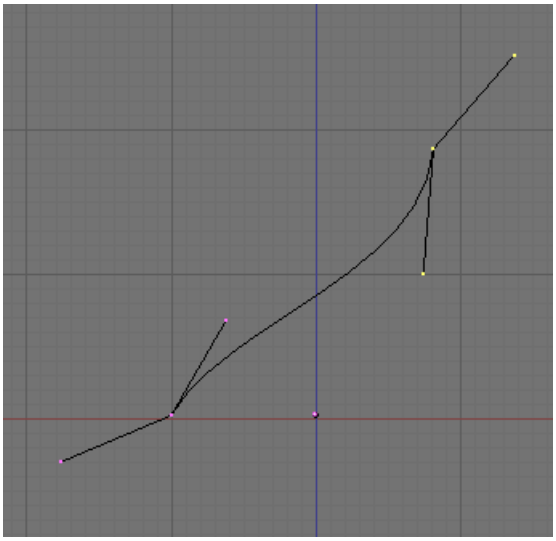
Switch to Front View. Place your 3D cursor in the center of the display. Press Space / Add / Curve / Bezier Curve.



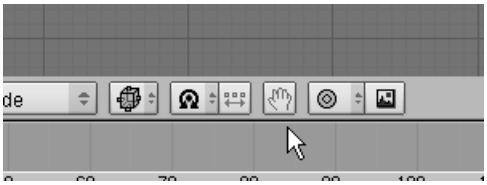
Note that the default Bezier curve has 2 endpoint vertices each having 2 control handles. By default the drawing Mode is AUTO. Press the HKEY (Handle). This changes the Bezier vertex handles to FREE drawing mode. You can now move each handle independently to alter the way the curve enters and leaves the vertex by selecting the handle and pressing the GKEY (Grab) and adjusting it.



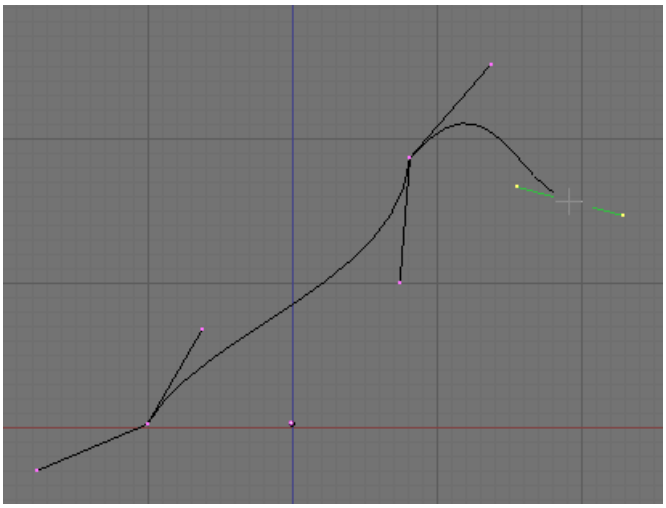
You can move an individual vertex by selecting it and pressing the GKEY (Grab) and adjusting its position.



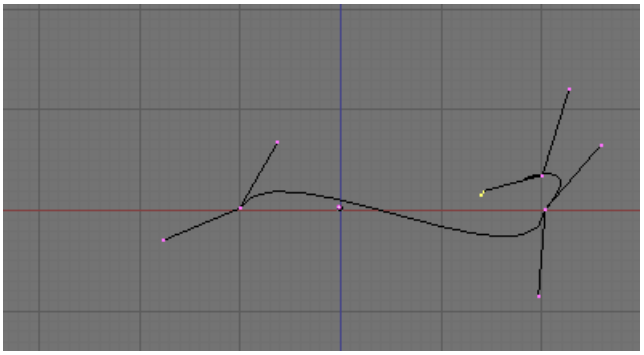
It is generally easier to work with Bezier curves and handles if you turn off the Transform Widget.



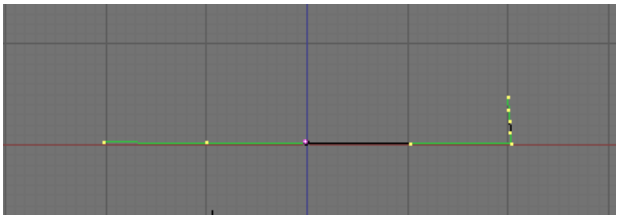
Select the rightmost vertex (not handle). Hold down the CTRL KEY and LMB click somewhere on the display. A new vertex is added (with another 2 handles).



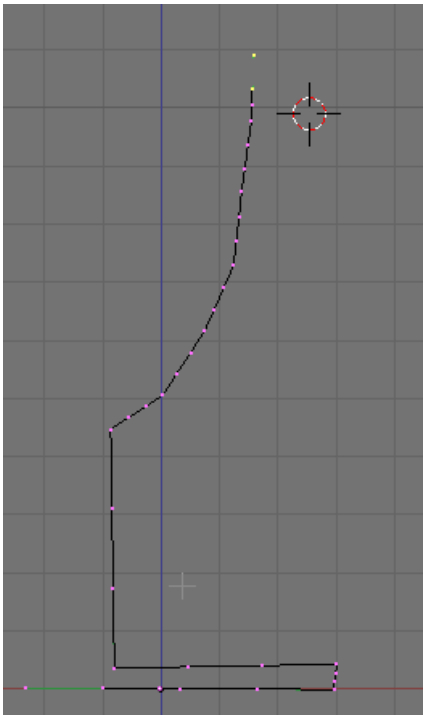
Grab each of the 3 vertices and place them as shown below.



Press the AKEY (Twice) to select all 3 vertices. With the vertices selected press the VKEY (Vector). This converts the vertex handles from FREE to VECTOR (Straight Line) drawing mode.



Select the third vertex and holding the CTRL KEY down add more vertices as shown below.



Adjust the vertices so you have a smooth curve.
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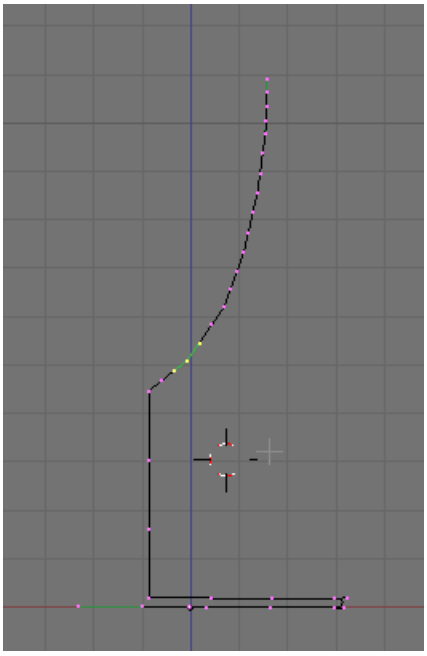
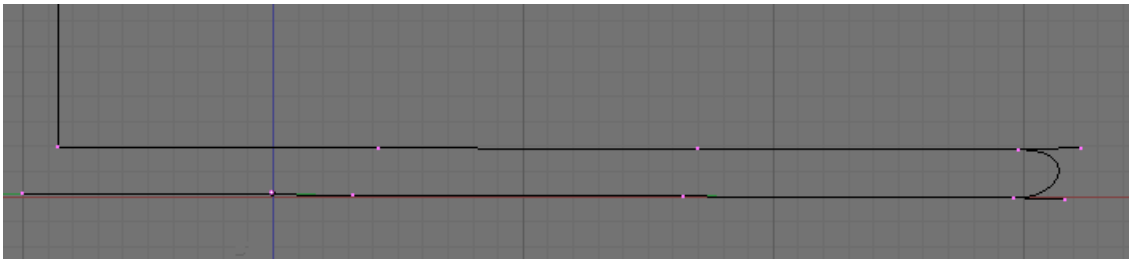
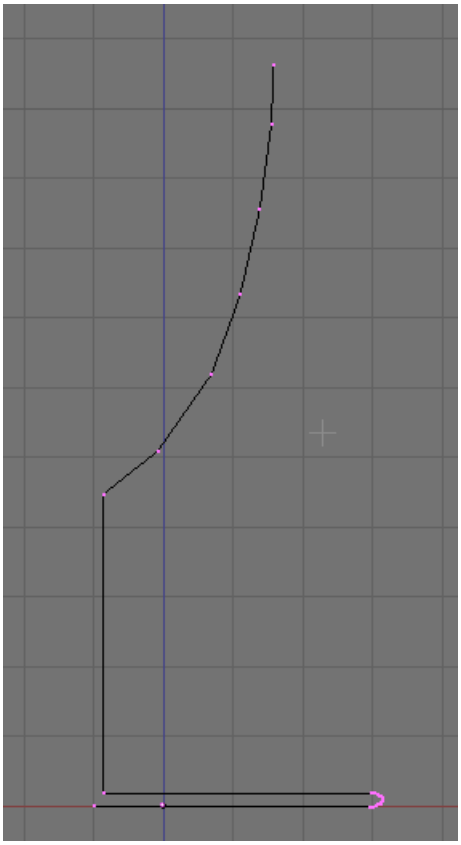


Note: Curve the bottom base.

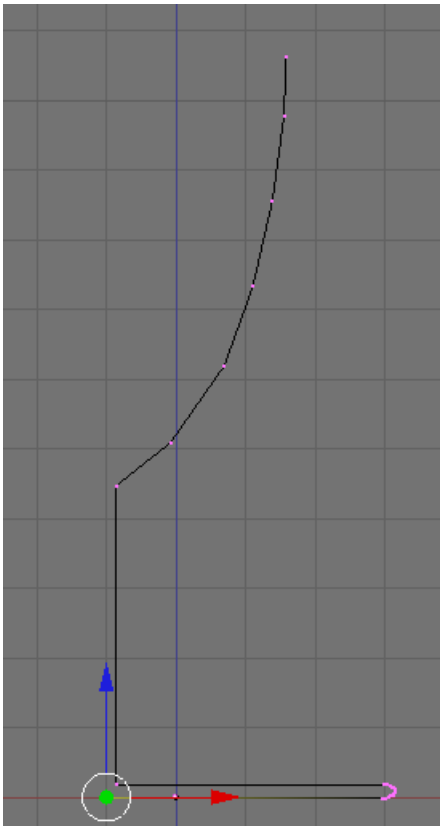


TAB out of Edit Mode. Press ALT-C and convert the Bezier curve to a Mesh.

The curve is now a mesh object and we can therefore use the mesh tools. **TAB to Edit Mode**.

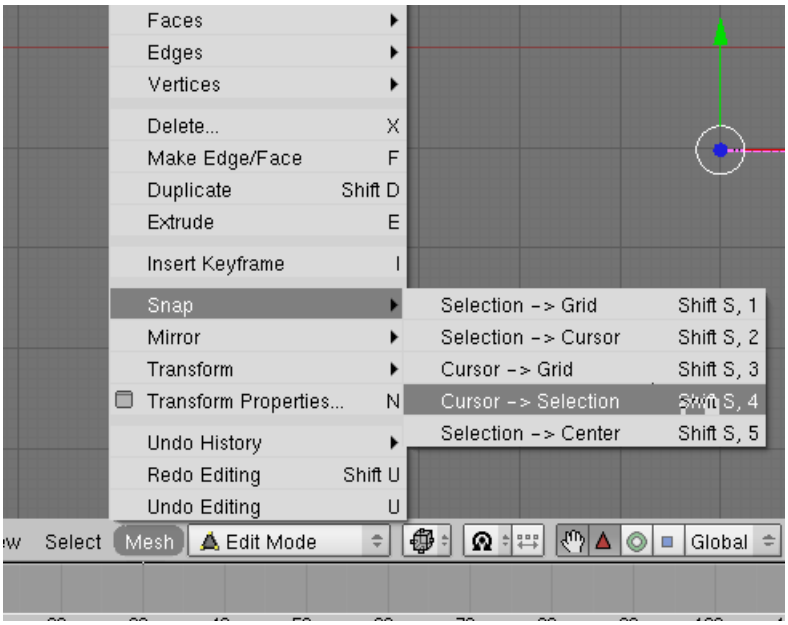


Turn back on the Transform Widget. Select the first vertex only.

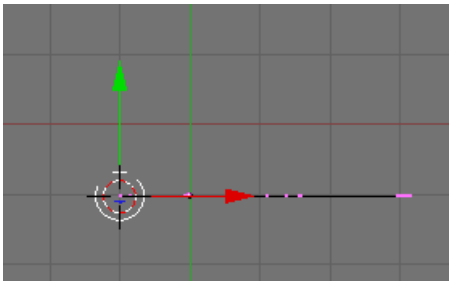


Save your file F2.

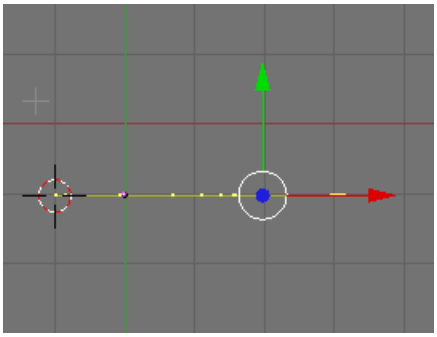
Switch to top view. Blender's Spin (Lathe) tool will create a series of duplicate vertices in a circular fashion (clockwise or counter-clockwise) around a given point in the Z direction of the viewport. This given point is always the position of the 3D cursor. For this reason we need to position the 3D cursor in the top view so that it is in the exact center of the wine glass. This is why we selected the first vertex. Press on the Mesh menu button on the 3D viewport header and select Snap / Cursor - > Selection (or SHIFT-S-4.



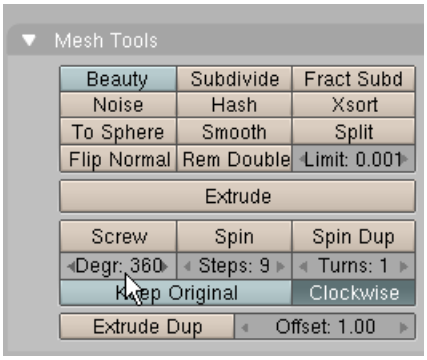
This places the 3D cursor in the same position as the end vertex.



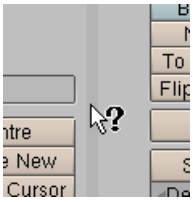
NOW PRESS THE AKEY TO SELECT ALL OF THE VERTICES.



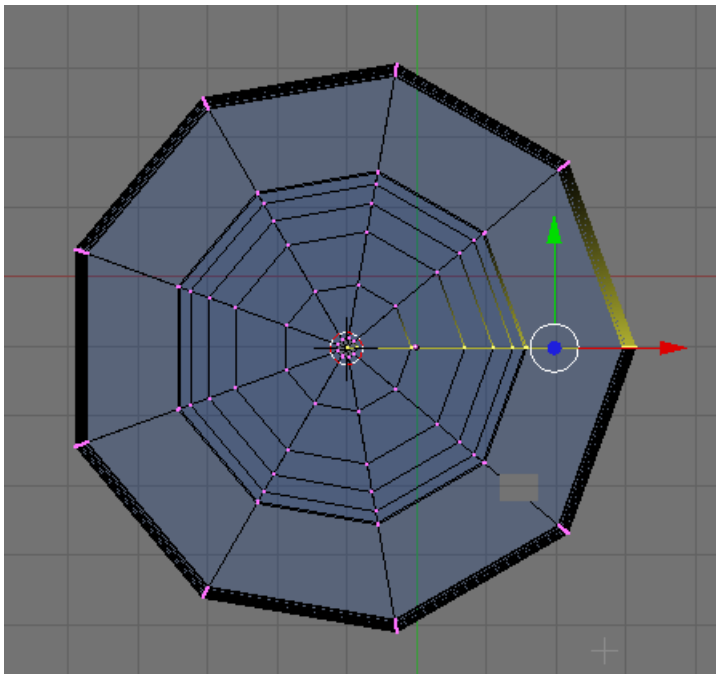
In the Mesh Tools Panel set the DEGRees setting to 360.



In the Mesh Tools Panel press the SPIN button. Because the MyBlender file has a number of 3D viewports, a question mark will display on the screen.



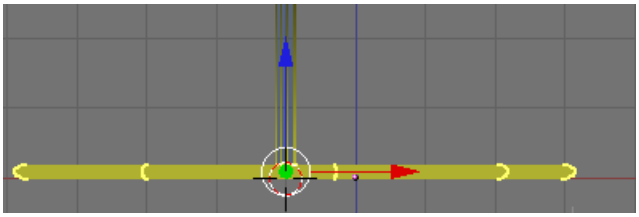
This is because Blender does not know which viewport to use for the SPIN tool. LMB click anywhere in the Top View and Blender will “Spin” the vertices creating the wine glass shape.



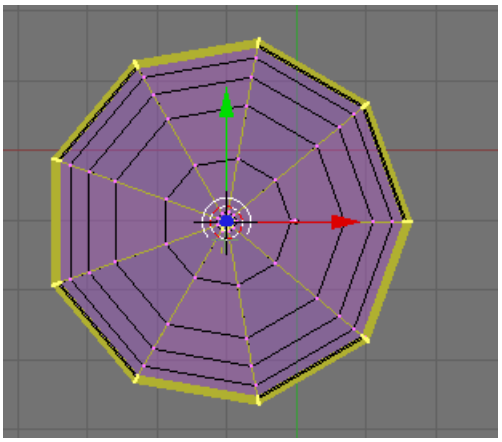
The Lathed shape has duplicate vertices at the start/end point. Press the AKEY twice to select all of the vertices. Press the WKEY (Special Menu) and choose to Remove Doubles.

Blender will remove the doubles and will let you know the number of vertices removed. Press the AKEY to deselect the vertices. Switch to Front View.

Press the BKEY and Box select the bottom vertices as shown.

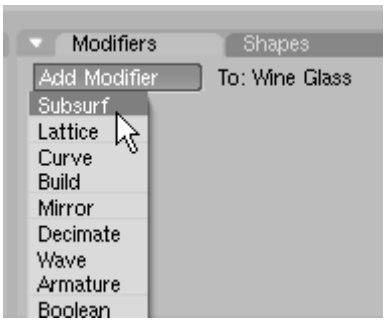


Switch to Top View and Scale the vertices down to slightly larger than the top of the glass.

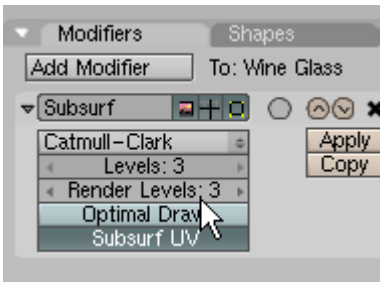


Switch back to Front View. Press the ZKEY for a shaded View.

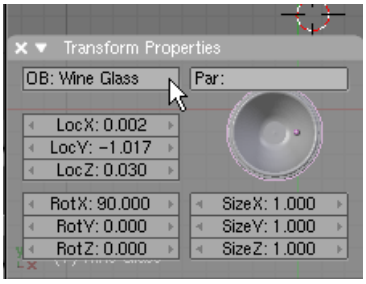
In the Modifier's Panel press the Add New Button and select a SubSurf modifier from the dropdown list.

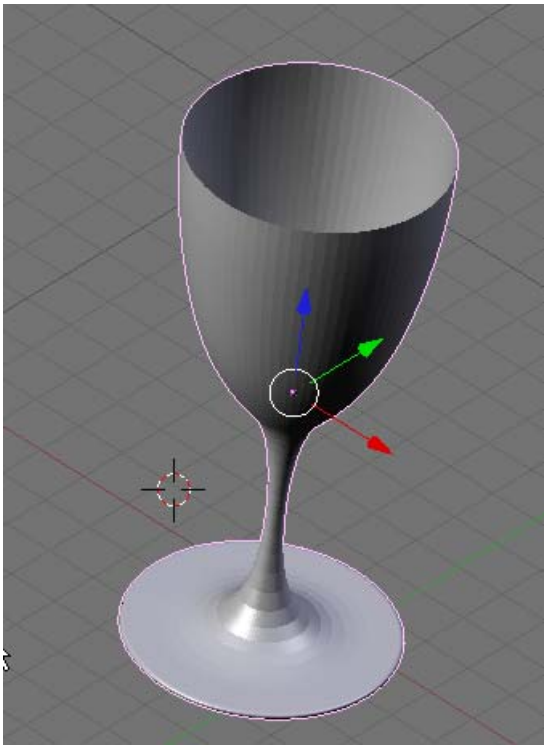


In the SubSurf controls set the Levels to 3 and the Render Levels to 3.

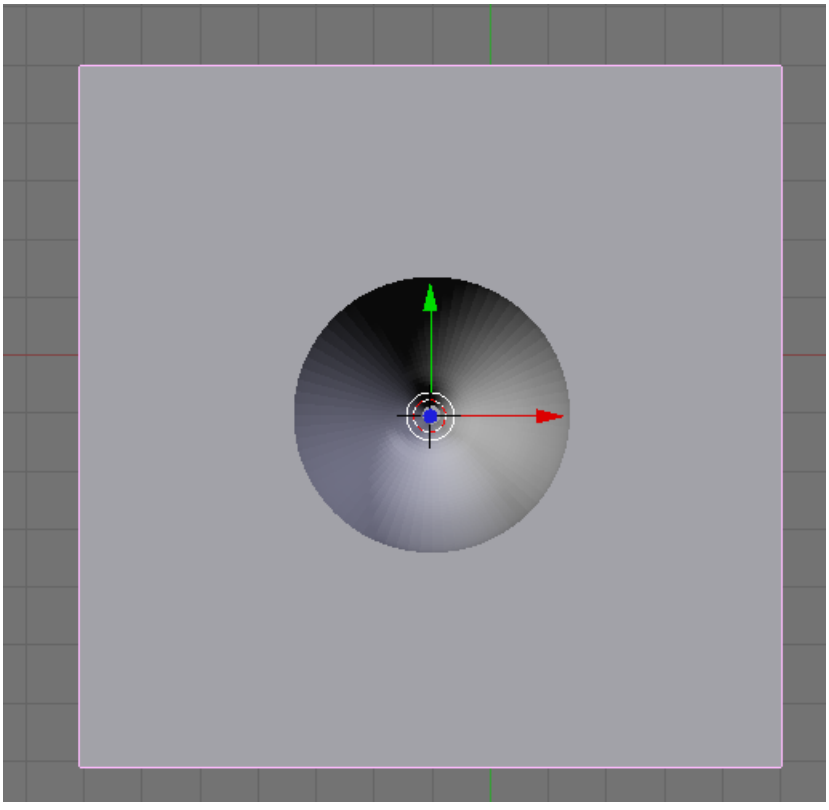


In the Mesh Panel press the Center New button to re-center it. **TAB out of Edit Mode**. In the Transform Properties Panel name this object Wine Glass.

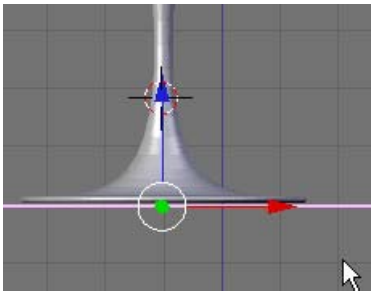




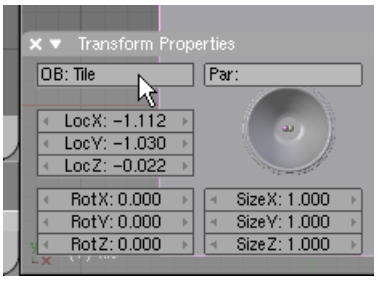
Switch to Top View. Press the AKEY to deselect the wine glass. Place your 3D cursor in the center of the glass. Press Space / Add / Mesh / Plane. Once it is added, TAB out of Edit Mode. Press the SKEY and scale the Plane as shown below.



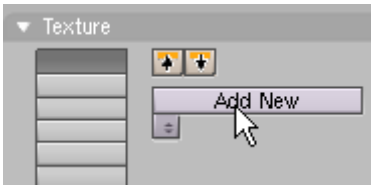
Switch to Front View. Use the Blue Transform Widget arrow to position the plane under the glass.



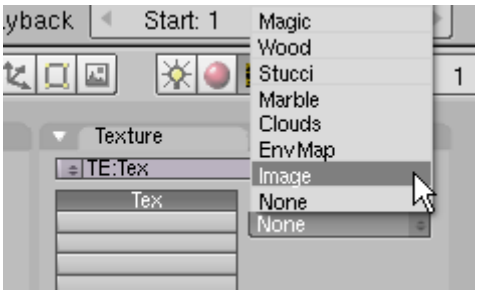
Name this object Tile.



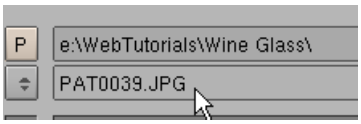
Save your file F2. Select the Tile object. Press F5 (Shading) In the Material Panel press Add New. In the Texture Panel press the Add New button.



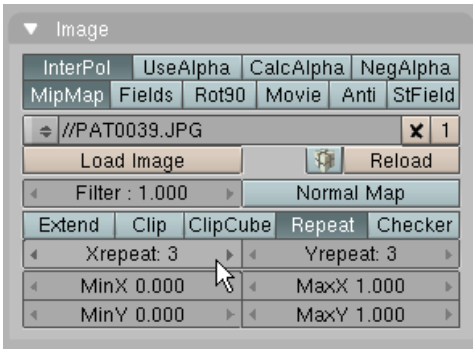
Press F6 (Texture). In the Texture Panel use the Texture Type dropdown box to select Image.



In the Image Panel press the Load Image button. Select the PAT0039.jpg image file. This file is located in the WineGlass.zip file.

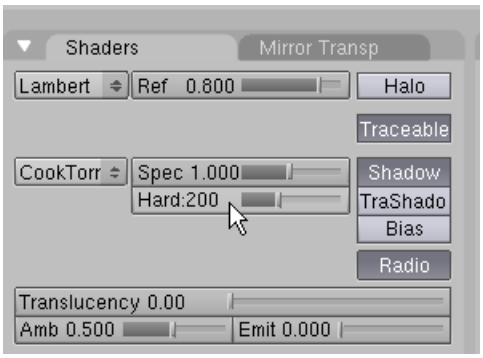


In the Image Panel set the Xrepeat and the Yrepeat to 3.

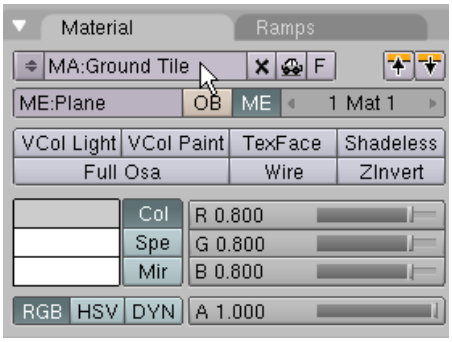


Press the Material Buttons icon to return to the material panel. (Or press F5)

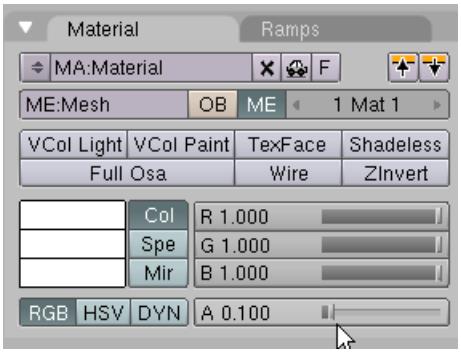
By default the Mapping for this texture is set to Flat. Select the Shaders Tab. In the Shaders Panel set the Specular to 1 and the Hardness to 200.



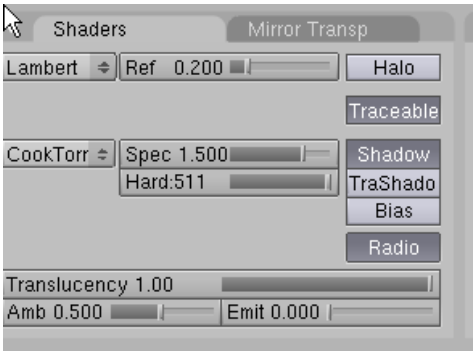
In the Materials Panel name this material Ground Tile.



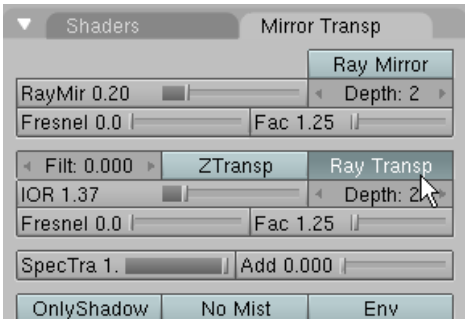
Select the Wine Glass. In the Materials Panel press the Add New button. In the Material Panel set the Alpha to .1 and set the Red Green and Blue color sliders to 1.



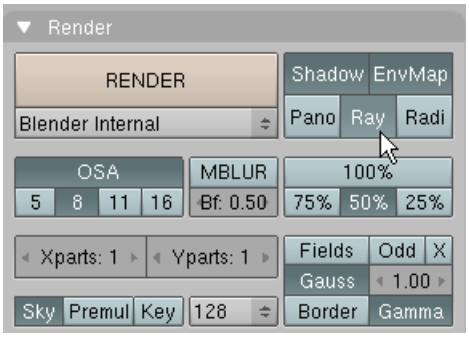
Press on the Shaders tab. In the Shaders Panel set the REFlectivity to .2, set the SPECularity to 1.5, set the HARDness to 511, set the TRANSLUCENCY to 1, set the AMBient to .5 and the EMIT to 0.



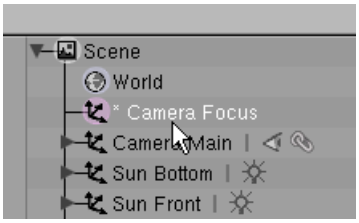
Press the Mirror Transparency Tab. In the Mirror Transparency Panel set the RAY Mirror to .2, set the IOR to 1.37 and press the RAY TRANSPARENCY button activating it.



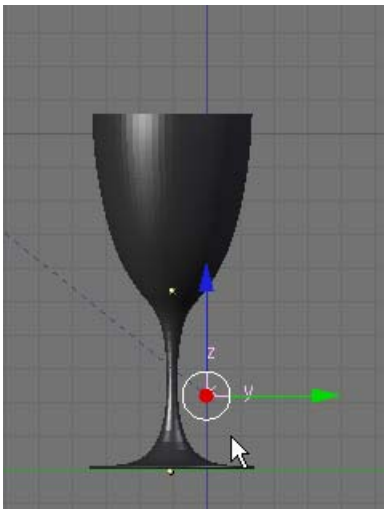
Press F10 (Scene) In the Render Panel make sure the RAY button is activated.



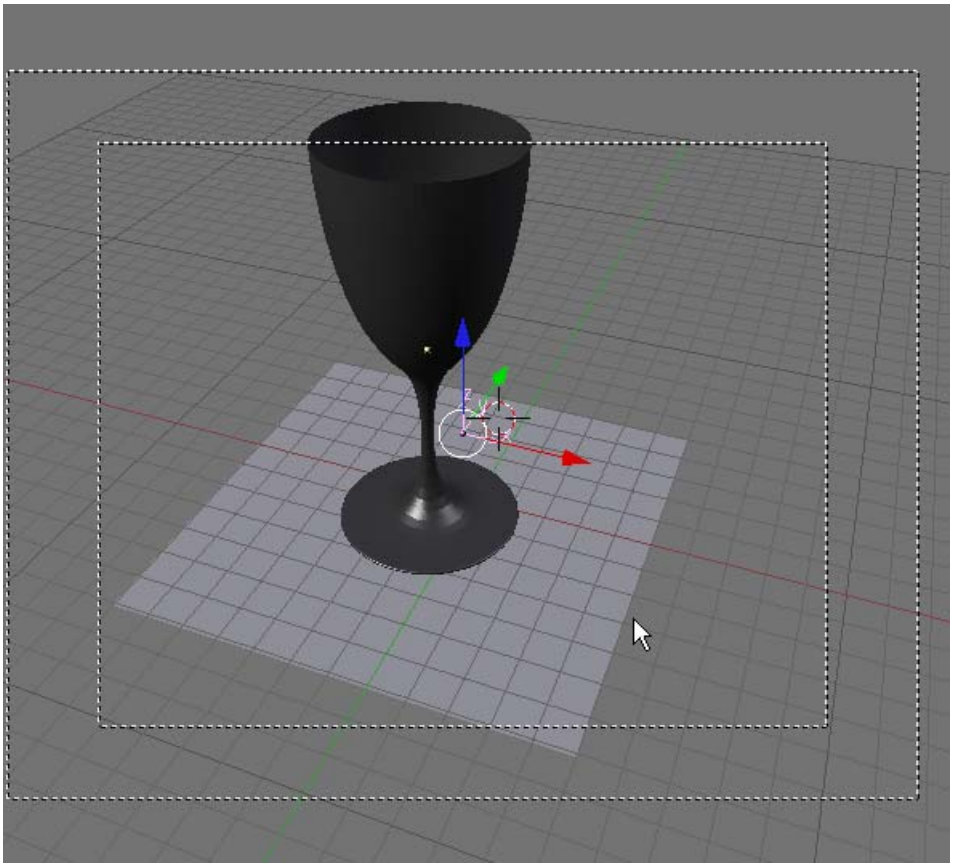
Add Layer 10 to the scene. This layer contains the Camera and Camera Focus objects. Select the Camera focus from the Outliner Window.



Set the camera focus to the side of the wine glass and about mid-stem.

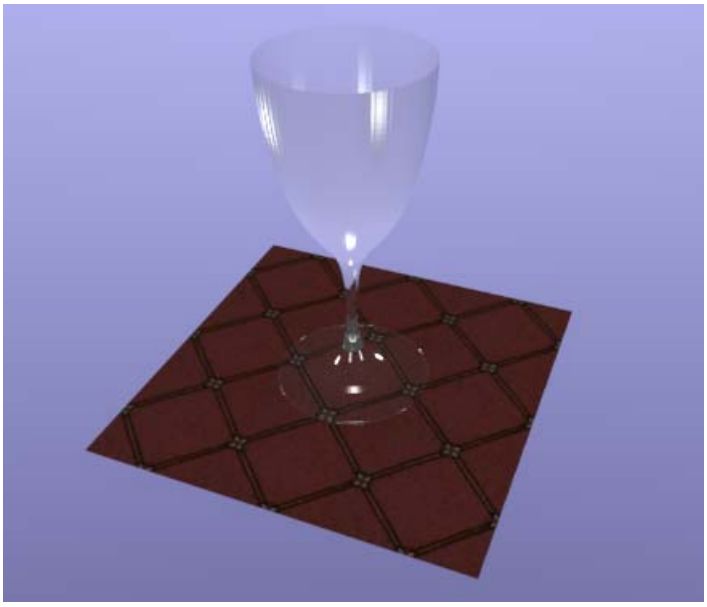


Change the lower right perspective view to camera view. Position the camera so that the camera view is similar to the image below.

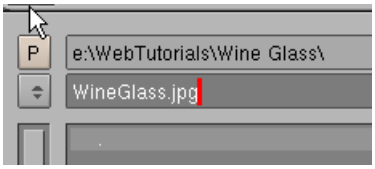


Add layer 20 to the scene. This layer contains the lighting set-up.

Render F12.



You can save your rendering as an image file by pressing F3. Select the directory you want the image saved and name the file (you must add the .jpg file extension). Press Save JPEG when finished.



A finished copy of this tutorial file named WineGlassComplete.blend is located in the WineGlass.zip file.