Career Technical Education
SoCal ROC

Many games have characters who wear very detailed armor or finely embossed clothing. These decorative flourishes would require too many polygons if they were modeled, so "Normal Maps" are used in their place. A normal map is a type of bump map for Video Games.

You can make normal maps several ways.In this project you will make a simple normal map for a round warrior shield from a bitmap image you make using PhotoShop and Illustrator. (see the "3D Max Method" on the class web site.)
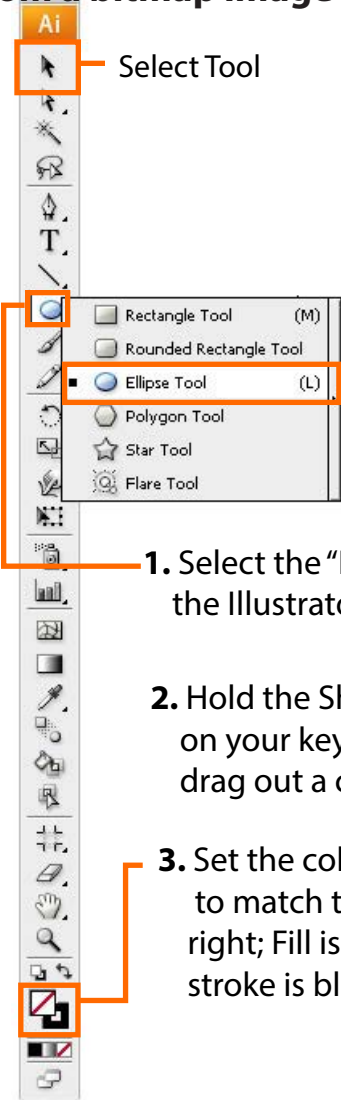
— Select Tool

You begin to design the map using Adobe Illustrator. You need to know these steps:
a. How to make a circle shape.
b. how to use the color box.
c. How to set the text tool to follow a path.
d. How to align shapes.
e. How adjust the stroke weight.

Rectangle Tool (M)
Rounded Rectangle Tool
Ellipse Tool (L)
Polygon Tool
Star Tool
Flare Tool

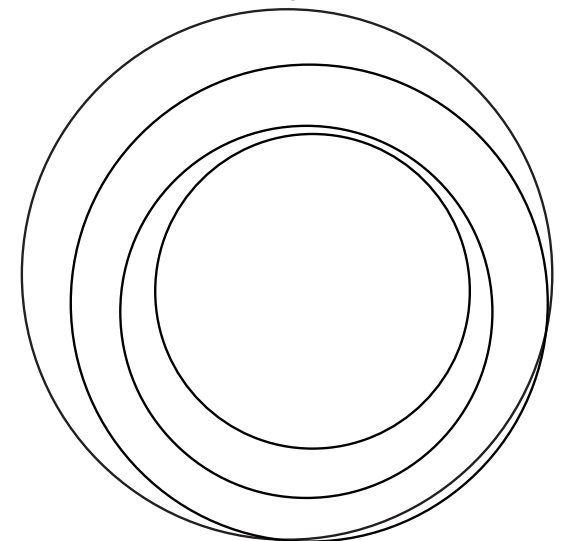**1.** Select the "Elipse" tool on the Illustrator tool box.

2. Hold the Shift key down on your keyboard and drag out a circle.

3. Set the color boxes to match those to the right; Fill is empty and stroke is black
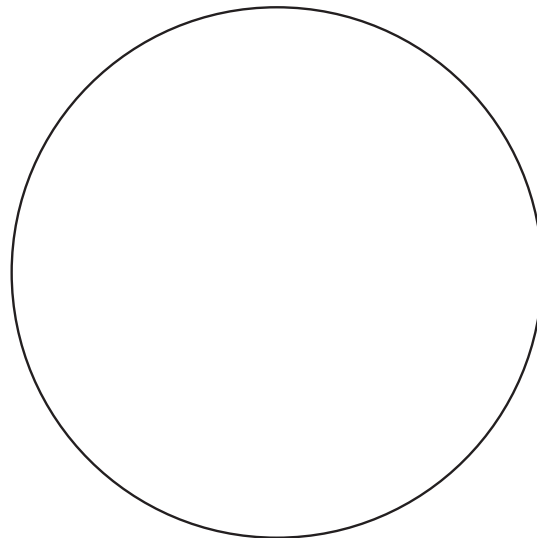
4. Next, make 3 more circles, make different sizes!

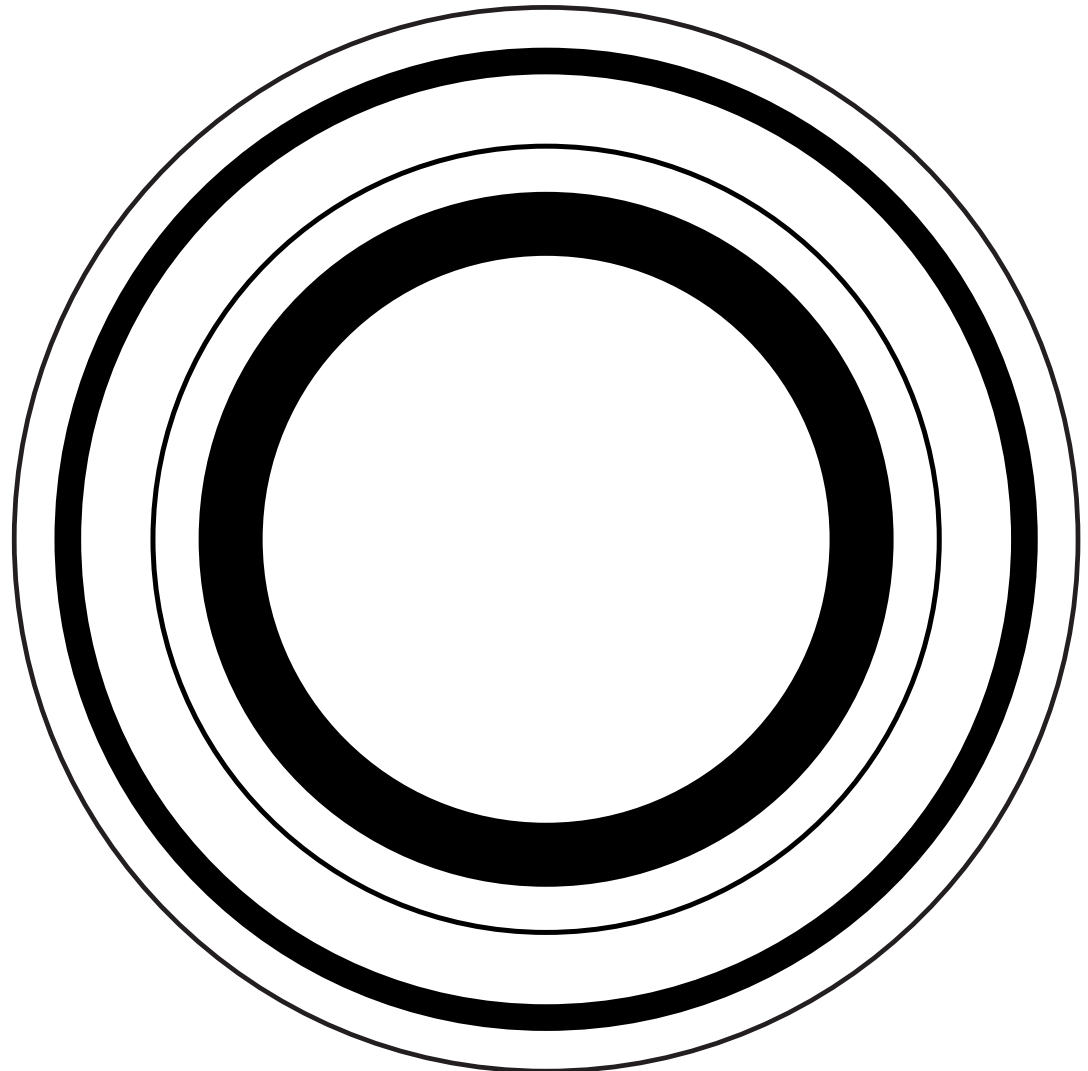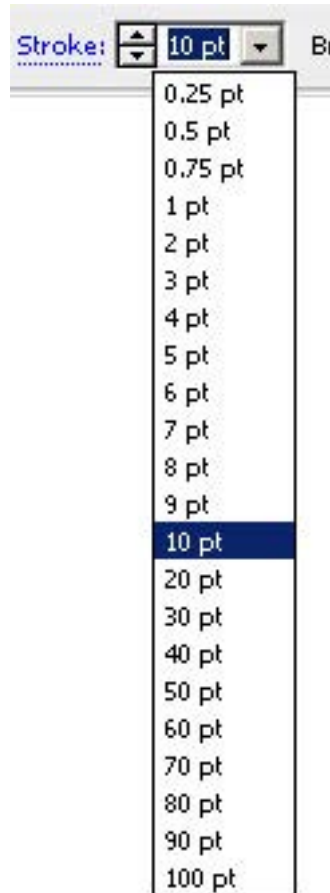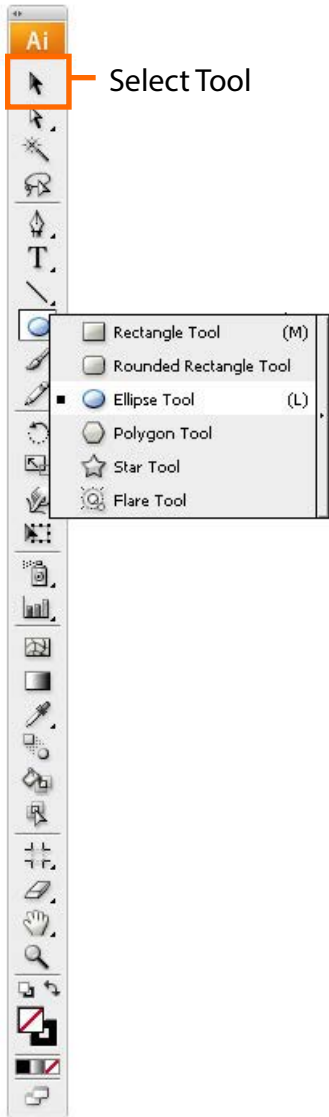**5.** Move them together so they roughly are concentric (sharing the same center)

6. Select all of the circles and using the "Align" tool set on the menu, click the icon to center all of the circles.

Now that you have the circles aligned, we will vary the thickness (weight) of the lines.

7. Select one of the circles.

8. Drop the Stroke menu and select 10.

Select Tool

Rectangle Tool   (M)
Rounded Rectangle Tool
Ellipse Tool   (L)
Polygon Tool
Star Tool
Flare Tool

Stroke: 10 pt

0.25 pt
0.5 pt
0.75 pt
1 pt
2 pt
3 pt
4 pt
5 pt
6 pt
7 pt
8 pt
9 pt
10 pt
20 pt
30 pt
40 pt
50 pt
60 pt
70 pt
80 pt
90 pt
100 pt

Next you will select one of the circle and place a decorative border onto it.

9. Locate the "Borders_Decorative and choose a boarder design.

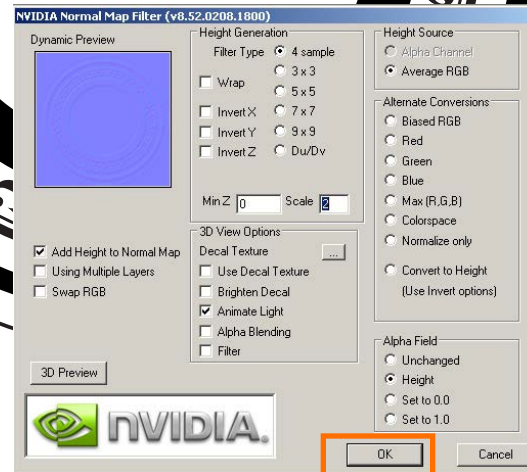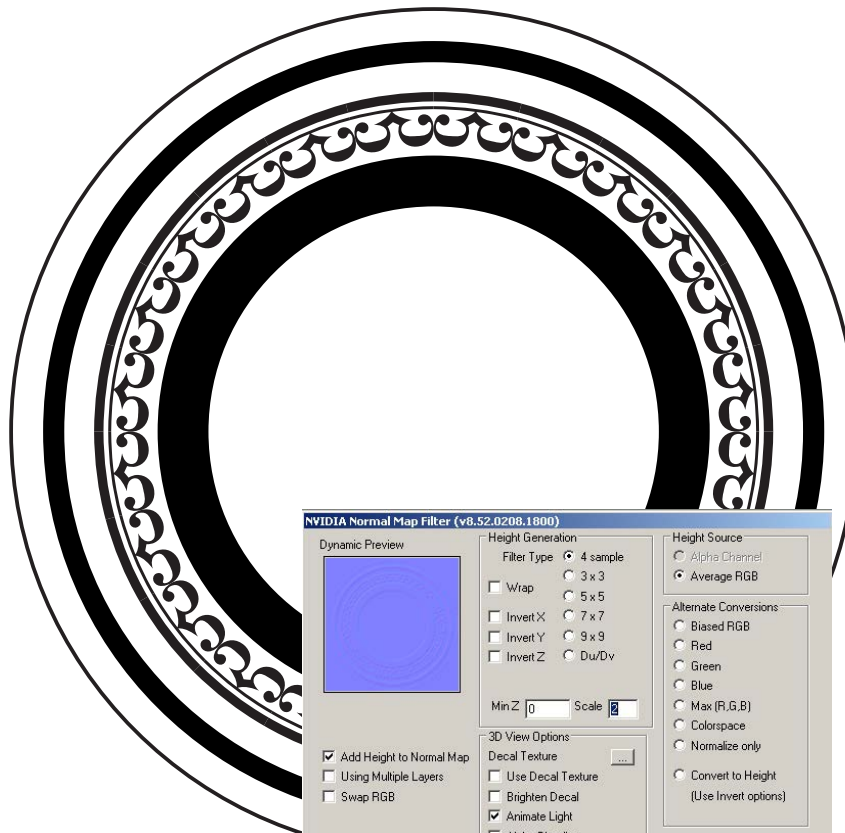**10.** Save your file into the proper folder for this project.
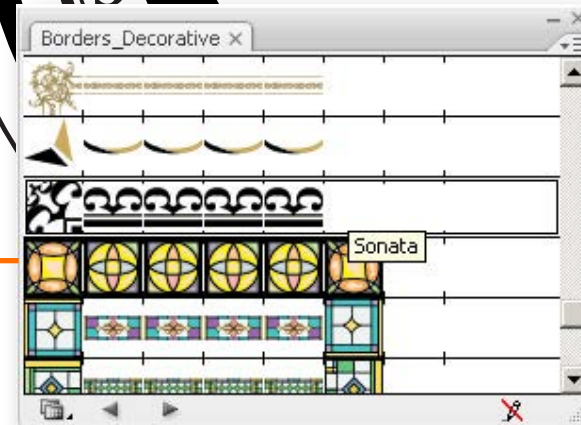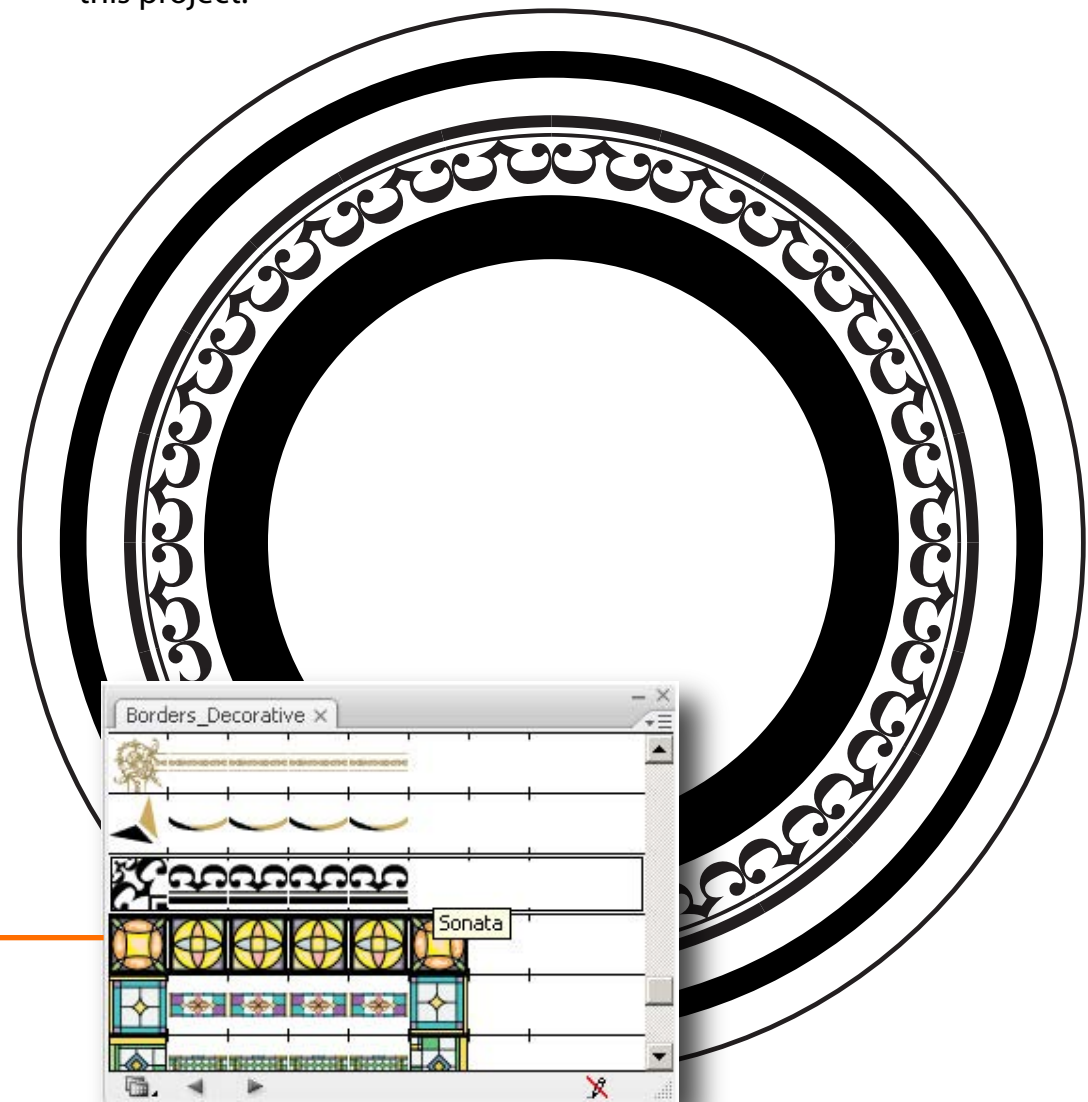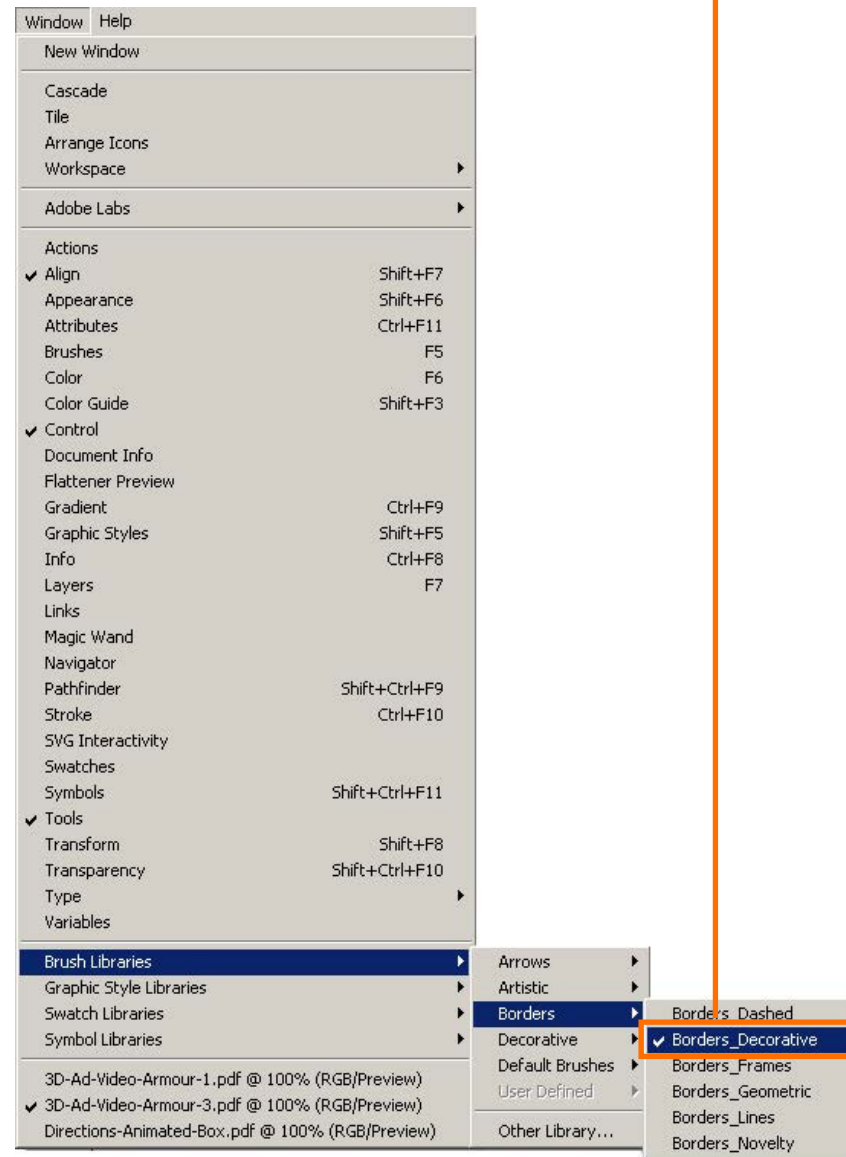
You will now open the sheild design in Adobe PhotoShop and convert it into a Normal Map.

11. On the file menu select "Open" and find your Adobe Illustraor sheild design and open it.

14. Open the NVidia "NormalMapFilter".
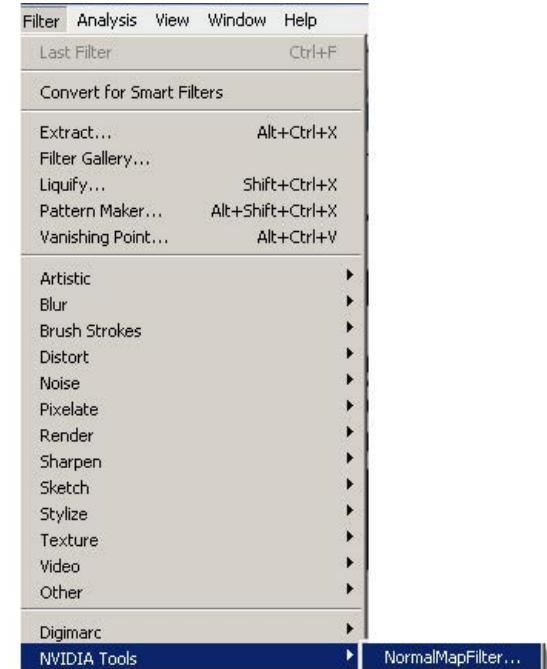
12. Next you need to flatten the file.

13. Now size the image to 512x512 pixels
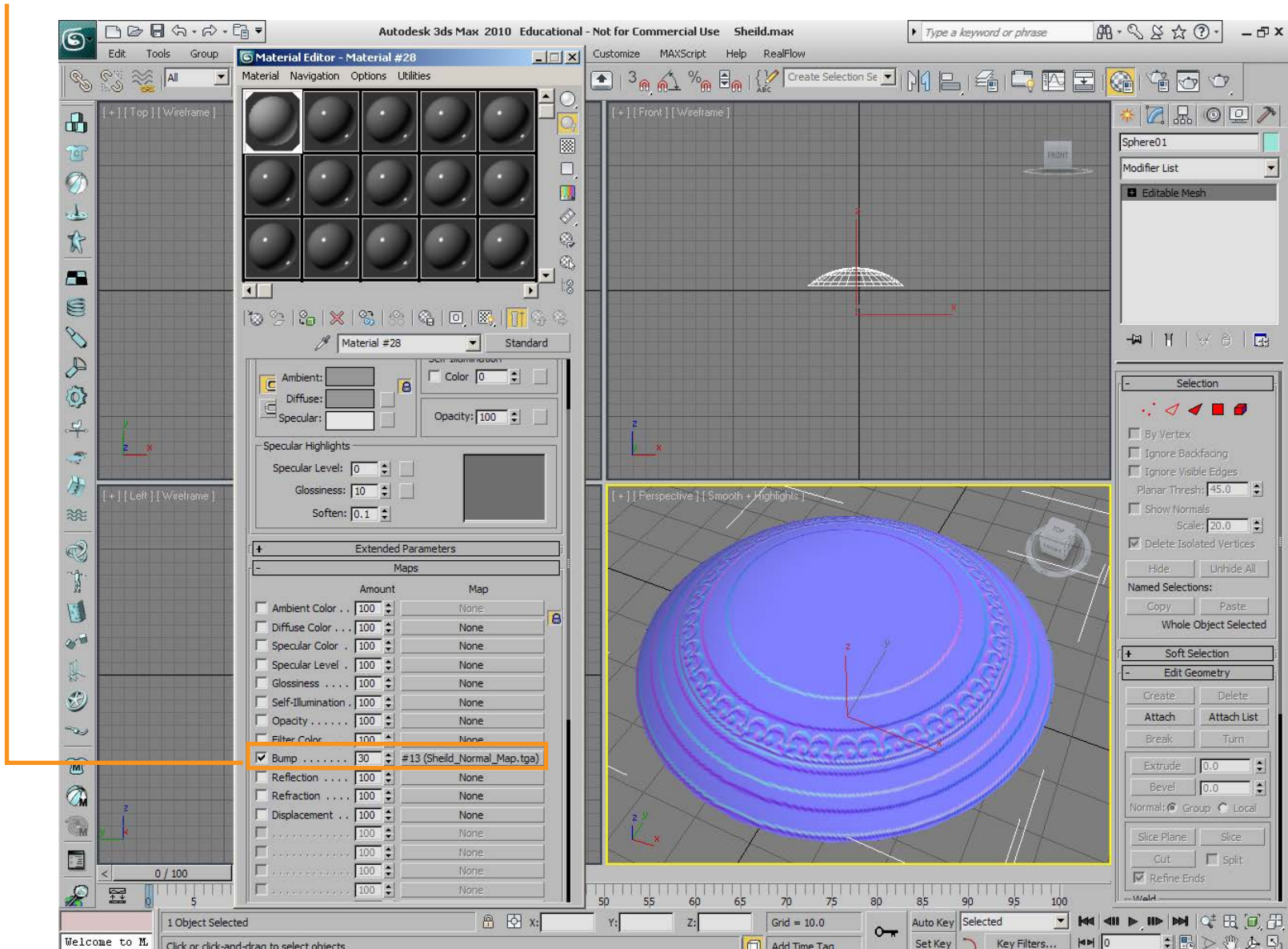
15. Select "OK"

16. The design wil look something like this. Save this as Targa file.

Open 3D Max and create a flattened Hemisphere to use as a sheild

16. Open the "Material Editor" and place the "Targa" sheild design into the Bump Map slot.

17. Export the file into UDK.