**CS316 – Graphics & User Interfaces**

**2D Programming Assignment**

This assignment will familiarize you with the basics of programming in 2D graphics. I don’t care what tool set you choose to use. You may use Java, JavaScript/Canvas in html or OpenGL with the language of your choice. Many tutorials and examples are available on the web. Feel free to review them and use them as templates but you must code this assignment yourself.

1. Write a program that allows interactive creation of polygons via mouse input. That is, click to create new vertices until you are happy with the polygon, then make some indication (double click, right click, press a key, click a button; your choice) that it is complete, and the polygon is created. Options like choosing line thickness and/or color will add points.
2. Fill the polygon with a color or texture. Optional, allow user choice of the color/texture.
3. Enhance the program to allow for interactive translation/rotation/scaling of polygons via user input. You can implement this purely by keyboard input (i.e. the arrow keys translate by some preset amount) or by mouse input with a mode select (i.e. press ‘t’ to put it into translate mode, then you can move the polygon by dragging it around the screen).

A basic working program doing step 1 will earn you a passing grade. The more you do, the higher the grade. In what you turn in, you must provide me enough of an environment to run your code and understand how it works. Remember, I will be reading your code so reasonable formatting and good comments are a must.