

CSCI-4967: Three-Dimensional Computer Graphics  
Class 3: September 9, 2004  
**Scan Conversion, Geometric Transformations**

### **Today's Class**

1. Scan conversion of lines, Bresenham algorithm
2. Scan conversion of polygons and filled shapes
3. Geometric transformations in 2D: translation, rotation, scaling
4. Homogeneous coordinates
5. Composition of transformations

### **Reading**

Chapter 3 through 3.9, Chapter 5 through 5.5, and Chapter 11.6 of Hearn and Baker.  
Chapter 3 of the OpenGL red book.

### **Activity**

Try Nate Robins' *Transformation* tutorial. Do you get the same image if you reverse the rotation and translation operations?

### **Next Class**

3D Geometric transformations.