Final Exam

- **(90%) Classroom exam (1:05pm – 3:05pm, Thursday, 12/18/2008)**
  - Include 15 – 20 multiple choice questions and 2-3 written questions.
  - For multiple choice questions, **NO** points will be subtracted for the wrong answers.

- **(10%) Take home exam**
  - Questions will be posted on Friday, 12/05/2008 on class website.
  - Due by 11:59pm, Wednesday, 12/17/2008.
  - Email your answer to your TA, (ponce@vt.edu)
Transformation

- Affine Transformation and its properties
- 2D and 3D Transformation Matrix
- Transformation in Homogeneous coordinate system
Projection

- *Orthogonal projection*
- *Perspective projection*
  - Perspective Projections of 3-D Objects
  - Properties of perspective projection
  - Projection of lines and vanish point
  - NOT COVERED: pseudo-depth, projection matrix
Lighting and shading

- *Phong local illumination model*
  - Specular component
  - Diffuse component
  - Ambient component
- *Gouraud and Flat Shading model*
Texture Mapping

- *Texture coordinate*
- *OpenGL texture mapping functions and parameters*
  - Warping mode: GL_REPEAT and GL_CLAMP
Curves and Surfaces

- Implicit, explicit and parametric representation
  - Lines, circles and spheres
  - Tangents and normals
- Cubic polynomial form
  - Constraint condition equations for Interpolation and Hermite curves
Raytracing

- Basic raytracing algorithms
- Computation bottle neck and acceleration method
Scan Conversion

- *Midpoint algorithm*
- *Scan line algorithm*