CS 4204 Computer Graphics

Final Exam Preview

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Final Exam

• **(90%) Classroom exam (10:05am – 12:05pm, Friday, 12/07/2007)**
  - 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 Tuesday, 12/04/2007 on class website.
  - Due by 11:59pm, Thursday, 12/13/2007.
  - 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

- *Orthographical 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