Topics for Final Exam

CPSC 314

Rendering Pipeline

General Architecture

- Benefits/disadvantages of the pipeline design, questions on order of stages etc.

Specific Algorithms

- All stages as discussed
  - *Transformations (affine+perspective), lighting, shading, clipping, scan conversion, texturing, hidden surface removal, blending, double buffering…*

Extensions

- Vertex & pixel shaders

Other Topics

Sampling & Reconstruction

- Nyquist limit, anti-aliasing strategies etc.

Color

- Human perception and color spaces, CIE chromaticity diagram, color matching experiments etc.

Shadows, Ray-tracing, Global Illumination

- Ray-object intersections, recursive ray-tracing, acceleration data structures etc.

- Monte-Carlo algorithm for computing integrals, application to soft shadows, and glob. illum.

Wolfgang Heidrich