Course organization

grading
- 40% projects (3)
- 25% final (1)
- 20% midterm (1)
- 15% homework (2)

projects
- OpenGL graphics library
- GLUT user interface toolkit
- C++
- Linux is supported, must demo on it
- may use Windows for development

Course content

definitely will cover
- geometric transformations, projections
- hidden surface removal, scan conversion
- lighting, shading
- texture mapping, sampling
- curves and surfaces
- input and output hardware, human perception

as time allows
- current hardware
- ray tracing, global illumination
- shadows, procedural models
- visualization, animation

schedule (web page)

Course outline

http://www.ugrad.cs.ubc.ca/~cs414
- pages updated often, remember to refresh
- slides will be posted morning of lecture

policies on web page

newsgroup
- ubc.courses.cpsc.414
- (WebCT will not be used)

Collaboration

individual solutions unless stated otherwise

can have two-person teams for Project 3

plagiarism policy details (web page)

Course disclaimer

topics not covered
- art and design issues
- use of commercial software packages

other graphics courses this year
- 424: Geometric Modeling
- 514: Image-Based Methods
- 533A: Digital Geometry Processing
- 533B: Animation Physics
- 533C: Information Visualization

Graphics past

1980: ray traced spheres (Turner Whitted)

Graphics past

1983 Road to Point Reyes (Lucasfilm)
Graphics past
1984 Distributed Ray Tracing (Lucasfilm)

[Cook, Porter and Carpenter. Distributed Raytracing. SIGGRAPH 84
www.acad.ohio-state.edu/~waynec/history/tree/images/pool-balls2.jpg]

Graphics past
1989 Rendering Fur (Kajiya and Kay)

[Rendering fur with three dimensional textures, Kajiya and Kay, SIGGRAPH 1989]

Graphics past
1995 Toy Story (Pixar)

[www.pixar.com/featurefilms/toy]

Graphics past
2001 Monsters, Inc. (Pixar)

[www.pixar.com/featurefilms/inc]

Graphics now
synthetic image or photograph?

http://www.alias.com/eng/etc/fakeorfoto/