CMSI 371

COMPUTER GRAPHICS

Spring 2009

Midterm Review Sheet

The midterm will take place as scheduled, on February 19. It will be open everything: book, notes, handouts, and computer; thus, we'll hold the midterm in the Keck lab. You may use either your own computer or a Keck lab workstation. This guide should help you to prepare for the midterm properly.

Covered Material

The midterm covers the following areas, including all handouts and sample code that have been distributed in support of this content:

- Angel Chapters 1, 2, and 8, and Section 3.13
- Red book Chapters 1–5, 8, and 9
- Working knowledge of C and OpenGL

Sample Tasks and Questions

The following represent the types of questions or tasks that you may be asked to accomplish:

- Given some basic OpenGL code, figure out what it does (or figure out what's wrong with it)
- Accomplish simple graphics activities and operations in OpenGL
- Identify corresponding or equivalent components in different graphics systems
- Describe, analyze, or solve a problem dealing with computer graphics concepts such as:
  - Viewing volumes
  - Animation (single-, double-buffered; timing)
  - Lighting and materials
  - Transformations (translation, rotation, and scaling; pushing and popping)
  - Texture mapping
  - Window/viewport sizing
  - Custom shaders
- Answer questions (including questions that require calculations and/or computation) involving the digital representation of color
- Calculate or infer memory-related values for a graphics device, including display resolution, pixel depth, aspect ratio, number of buffers and/or screens, and direct vs. indirect color lookup
- Provide a UML diagram for some aspect of a computer graphics application (conceptual model, use case model)
- Given some application domain, select a 3D object modeling approach (constructive solid geometry, curves and surfaces, polygon mesh, combination, etc.) and explain the rationale behind your choice.