Administrative Unit: Computer and Mathematical Sciences Department

Course Prefix and Number: CISS 380

Course Title: Computer Graphics

Number of: Credit Hours: 3  Lecture Hours: 3  Laboratory Hours: 0

Catalog Description: Techniques for picture development and transformation, curve and surface approximation and projections, graphical languages, data structures and their implementation, graphical systems, animation techniques. Prerequisite: CISS 350 or CISS 358. Offered Odd Fall.

Prerequisite(s)/Corequisite(s): CISS 350 or CISS 358.


Course Objectives:
- To understand graphics architectures.
- To develop graphics programs using OpenGL.
- To utilize the primitives in OpenGL.
- To write interactive routines.
- To utilize homogeneous coordinates to support both two-dimensional and three-dimensional transformations.
- To develop animated scenes.

Measurable Learning Outcomes:
- Explain basic graphics architectures
- Utilize OpenGL to build graphics programs.
- Develop both two-dimensional and three-dimensional animated views.
- Support user interaction.
- Utilize transformations to effect view models and support various projections.

Topical Outline (major areas of coverage):
- Graphics architectures
- OpenGL primitives, attributes, and color
- Orthographic views
- Three dimensional rendering
- Interaction
- Coordinate systems
- Affine transformations
- Perspective and orthogonal projections
- Hidden surface removal

Recommended maximum class size for this course: 20
Library Resources: Online databases are available at [http://www.ccis.edu/offices/library/resources.asp](http://www.ccis.edu/offices/library/resources.asp). You may access them from off-campus using your eServices login and password when prompted.

Prepared by: Lawrence West

Name ____________________________ Signature ____________________________

Date: September 12, 2005

NOTE: The intention of the master syllabus is to provide an outline of the contents of this course, as specified by the faculty of Columbia College, regardless of who teaches the course, when it is taught or where it is taught. Faculty members teaching this course for Columbia College are expected to facilitate learning pursuant to the course objectives and cover the subjects listed in the topical outline. However, instructors are also encouraged to cover additional topics of interest so long as those topics are relevant to the course’s subject. The master syllabus is, therefore, prescriptive in nature but also allows for a diversity of individual approaches to course material.

Office of Academic Affairs

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