

# Computer Graphics

CS 320  
Spring 2011

**Instructor:** Tom Kelliher  
Hoffberger 140  
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Office hours: MWThF 12:30–1:20pm. Other times by appointment.

**Class:** Hoffberger 149  
MWF 10:30–11:20am  
<http://phoenix.goucher.edu/~kelliher/s2011/cs320/>

## Learning Objectives:

At the end of this course students will be able to:

1. Apply the model-render paradigm to the design of graphics programs.
2. Employ multiple viewing techniques to simplify the rendering process.
3. Decompose complex real objects into simple geometric objects for rendering.
4. Design and implement significant 2-D and 3-D graphics programs using the C programming language and the OpenGL API.
5. Describe the 2-D and 3-D transformations that take place in the graphics pipeline.
6. Integrate physics computations into computer graphics programs.

## Textbooks:

1. E. Angel, *Interactive Computer Graphics: A Top-Down Approach Using OpenGL*, 5th ed. Addison Wesley, 2009. Required.
2. E. Angel, *OpenGL: A Primer*, 3rd ed. Addison Wesley, 2008. Optional, not available in College bookstore.
3. M. Woo, et. al., “OpenGL Programming Guide: The Official Guide to Learning OpenGL, Version 2.1,” 6th ed. Addison Wesley, 2007. Optional, not available in College bookstore.
4. S. P. Harbison and G. L. Steele, Jr., “C: A Reference Manual,” 5th ed. Prentice Hall, 2002. Optional, not available in College bookstore.

## Other Resources:

OpenGL and other documentation and example programs will be made available through links to Web sites, man pages on phoenix, and file repositories on phoenix.

**Grading:****Grade Distribution**

A = [92%–100%], A- = [90%–92%), B+ = [88%–90%), B = [82%–88%), B- = [80%–82%), etc. Grades are “one point rounded.”

**Course Point Distribution**

The following is tentative. There are 600 total points for the course.

1. Projects — There will be three or four projects during the semester. Projects will be worth a total of 300 points.
2. Term project — The term project will be worth 150 points. It will be due and presented at the “final.”
3. Exam — There will be one midterm, worth 150 points. Tentatively, the midterm will be April 6.

**Course Handouts:**

Most course handouts may be made available once in class. They may always be obtained from the class home page.

**Participation:**

Attendance of classes, while not required, is quite important. Attendance and participation are necessary learning components. Please inform me beforehand if you will be absent. Remember that you are responsible for making up missed work.

**Electronic Communication:**

From time-to-time, I will need to send e-mail messages to the class. These messages will be addressed to your official Goucher e-mail addresses. You are responsible for checking your e-mail on a timely basis.

**Distractions:**

Cell phones must be turned off or set to “silent” during class. If you must enter late, do so as unobtrusively as possible. Likewise if you must leave early. Please use mental telepathy if you must hold a personal conference during class. I have ways of making you not talk!

**Integrity:**

Academic dishonesty will not be tolerated. We are all bound by the Academic Honor Code.