

# CSC 418H/2504: Computer Graphics, Fall 2011

## General Information

Instructor: Patricio Simari (psimari@cs.toronto.edu)

Office Hours: TBD

Lectures: Wednesday 7-9pm, BA1230

Tutorials: Wednesday 6pm, BA1230, BA2145, BA2155 (please check course website)

Course Web Site: <http://www.cs.toronto.edu/~psimari/418/>

## Course Description

This course introduces the basic concepts and algorithms of computer graphics. It covers the basic methods needed to model and render 3D objects, including much of the following: graphics displays, basic optics, line drawing, affine and perspective transformations, windows and viewports, clipping, visibility, illumination and reflectance models, radiometry, energy transfer models, parametric representations, curves and surfaces, texture mapping, graphics hardware, ray tracing, graphics toolkits, and animation systems.

## Prerequisites

CSC336H1/350H1/351H1/363H1/364H1/365H1/373H1/375H1/378HI, MAT137Y1, CSC209H1/proficiency in C or C++ ; CGPA 3.0/enrollment in a CSC subject POST.

Recommended preparation: MAT237Y1, MAT244H1. We expect you to know basic linear algebra, geometry, and vector calculus, and be able to program in C/C++.

## Course Texts

- Peter Shirley. Fundamentals of Computer Graphics. 2nd Edition. 2005.
- David Fleet and Aaron Hertzmann. CSC 418 Lecture Notes.
- Dave Shreiner, Mason Woo, Jackie Neider, Tom Davis. The OpenGL Programming Guide. 6th Edition. 2007.
- Dave Shreiner, Ed. The OpenGL Reference Manual. 4th Edition. 2004.

## Communication

Please check either the announcements section of the course website or the announcements section of the course bulletin board at least twice a week; these are required reading. Please use the bulletin board for any questions that apply to the entire class, and use email for any private or urgent questions. Code related to any assignment should not be posted to the bulletin board. For assignment deadlines and exams, please plan ahead and email or post your message at least 24 hours ahead of the deadline or exam time to make sure you get a response in time. TAs will not reply to email.

## Assignments, Marking Scheme, and Important Dates

Assignment 1 (10%): Due October 5

Assignment 2 (15%): Due November 2

Assignment 3 (25%): Due November 30

Midterm Exam (15%): October 19

Final Exam (35%): Exam period is December 9-20

The first two assignments will have both written and programming components. The third assignment will be a project that involves creating an animation or a ray tracer.

You may work with one partner for Assignment 3 only. Due dates for written components are the start of class (7:00 PM), and due dates for programming components are 11:59 PM.

Students must obtain a mark of at least 35% on the final exam to pass the course. If a student's grade is less than 35%, the final grade will be equal to the exam grade.

Re-mark requests should be submitted in writing to the instructor within one week of an assignment or exam being returned to the student.

### **Late Assignments**

Late assignments will be penalized 15% per day for up to three days. No work will be accepted after three days.

### **Academic Misconduct**

Academic misconduct is a serious offense. All work that you submit must be your own. It is an offense to use anyone else's words, code, or ideas in anything you submit. It is acceptable to talk about ideas related to an assignment, but it is not acceptable to communicate about a solution or look at any other student's solution.

### **Computing**

We will be grading the programming portions of the assignments on CDF Unix machines. You are welcome to use any system you like to complete your work; however, all code must compile and run on the CDF Unix systems to receive credit. Please check this before submitting. We will provide starter code for most assignments.