

CSC 418/2504 Computer Graphics, Winter 2008

Instructor	Ady Ecker
Teaching assistants	Jacobo Bibliowicz, Ryan Schmidt, Xiang Cao
Lectures	MW 3pm, WB 116
Tutorials	W 4pm
Office Hours	W 5-6pm, BA 2200 or 5247

Online <http://www.cs.toronto.edu/~adyecker/graphics/index.html>

Synopsis

The 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: affine and perspective transformations, parametric curves and surfaces, visibility, illumination and reflectance models, texture mapping, ray tracing and animation.

The student should be comfortable with elementary linear algebra and geometry. It is assumed that the student is comfortable programming in C++ on the CDF Unix system.

Readings

The course will follow the lecture notes by professors Fleet and Hertzmann, and parts of the book by Peter Shirley, *Fundamentals of Computer Graphics, second edition*, A. K. Peters, 2005. The book is available for online reading at the U of T libraries website. There will be no required weekly readings, but students are expected to know the relevant chapters for the exam. Other recommended books are: Alan Watt, *3D Computer Graphics, Third Edition*, Addison Wesley, 1999.

J. D. Foley, A. van Dam, S. K. Feiner, and J. F. Hughes. *Computer Graphics: Principles and Practice in C, 2nd Edition*, Addison Wesley, 1995.

Shreiner et al., *OpenGL 2.1 Programming Guide, Sixth Edition*, Addison-Wesley, 2007 (version 1.1 available online).

F.S. Hill, Jr. *Computer Graphics Using OpenGL, Third Edition*, Prentice Hall, 2006.

Grading

	Estimated due date	weight
A1 – basic geometry (written)	Jan 21	10%
A2 – perspective projection (written)	Feb 4	10%
Midterm exam	Feb 11 or Feb 13	10%
A3 – basic OpenGL (programming)	Mar 10	15%
A4 – ray tracing (programming)	Apr 7	15%
Final exam		40%

Collaboration policy: for the two written assignments, you may use any written source including the internet. You are not allowed to discuss the questions with other people. You may discuss the programming assignments with other people, but the code should be your own. Lateness policy: No late assignments will be accepted, as solutions will be given in tutorial.