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CSC418H/2504 – Computer Graphics
Winter 2016

Section L0101 Lecture Wednesdays 3-5 in SS1085, Tutorial on Mondays @ 3pm SS1085
Section L5101 Lecture Tuesdays 7-9 in MP137, Tutorial on Tuesdays @ 6pm MP137 (before lecture)

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Office hour location: BA3219
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Course website: http://www.dgp.toronto.edu/~egarfink/courses/CSC418

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, animation systems.

Prerequisites

One of: {CSC336H1 Numerical methods, CSC350H1 Numerical algebra and optimization, CSC351H1 Database design, CSC363H1/364H1/365H1 Computational Complexity and Computability, CSC373H1/375H1 Algorithm Design, Analysis, and Complexity, CSC378H1 Data Structures and Algorithm Analysis}
and

MAT137Y1 Calculus

and

CSC209H1 Software Tools and Systems Programming or proficiency in C or C++

and

CGPA 3.0/enrolment in a CSC subject POSt.

The student is expected to read background material on the hardware and local software, and should be comfortable with elementary linear algebra, geometry, and vector calculus. It is also assumed that the student is comfortable programming in basic C++

Grading

50%: Three assignments with weights 10%, 15%, 25%, approx. every 3 weeks.
50%: One in-class test (15%) and a final exam (35%).

Assignments are due by 11:59pm on the due date. Exact submission instructions will be provided with the first assignment. The written portions, if hand-written, should be legibly scanned and submitted electronically as well.
For each day late, including weekends, 15% of the total possible points will be deducted (a day ends at the due time). No work will be accepted if it is more than five days late.
See the course website for additional grading policy details, including missed test and remarking policies.

Textbooks

Required weekly readings are from:
- • P. Shirley, Fundamentals of Computer Graphics, 3rd Edition, A. K. Peters, 2009
- • In-class lecture slides and links from course web site

The following textbooks are suggested:
- • David Schreiner et al., OpenGL Programming Guide: The Official Guide to Learning OpenGL, Version 4.3 (8th Edition), Addison-Wesley

A number of free online tutorials are also available for learning OpenGL. See the course website for additional supplementary textbooks and links.

Tutorials

Tutorials will have specific learning objectives and may have readings to do in advance. Tutorial topics are listed on the course web site. Tutorial rooms based on the first letter of the student's family name. There is no tutorial during the first week.

Communications
Students are responsible for checking the course web site and the course forum regularly (see the course web site for a link to the forum). The instructor will make all attempts to reply to email within 24 hours.

Accommodations for Disabilities
Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or Accessibility Services at (416) 978-8060 or accessibility.utoronto.ca.

Academic Integrity
You are expected to follow and comply with the University's Code of Behaviour on Academic Matters. This code concerns plagiarism, improper collaboration on work, cheating on tests and exams, and other offenses. See http://www.artsci.utoronto.ca/osai/students.