EE 4702-1
GPU Programming

Where/When
Room 149 EE Building
MWF 13:30–14:20 Fall 2015
http://www.ece.lsu.edu/koppel/gpup/

Who
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Office Hours: Monday–Friday: 15:00–16:00.

Prerequisites
By Course: CSC 3102.
By Topic: Programming in C++.

Topics
• Introduction
  Graphics software/hardware organization.
  Physical simulation quick overview.
• Basics of 3D Computer Graphics
  Coordinates, vectors, lines, planes, intercepts, transforms, …
  Primitives and scene representation.
• GPU Organization and Shader Programming
  Rendering pipeline, programmable shaders, and OpenGL Shading Language.
  Shader programming for graphical and non-graphical computations.
• GPU Physical Simulation and CUDA or OpenCL Programming
  Physical simulation techniques.
  CUDA, Compute Shader, or OpenCL programming for physical simulation.
Topics subject to change.

Text
To be determined.

Grading
35% Midterm Exam • 35% Final Exam • 30% Homework and Projects
Plus/minus grading will be used. Final exam weight may be increased for a student who shows significant improvement on the final exam.

Late assignment penalty: 10% per day late deducted. Missed-midterm-exam policy: at instructor’s discretion either a makeup exam, use final exam grade for midterm grade (i.e., 70% final exam weight), or use of zero for midterm grade. Daily attendance: optional, however students are responsible for all material, instructions, and notices presented in class.