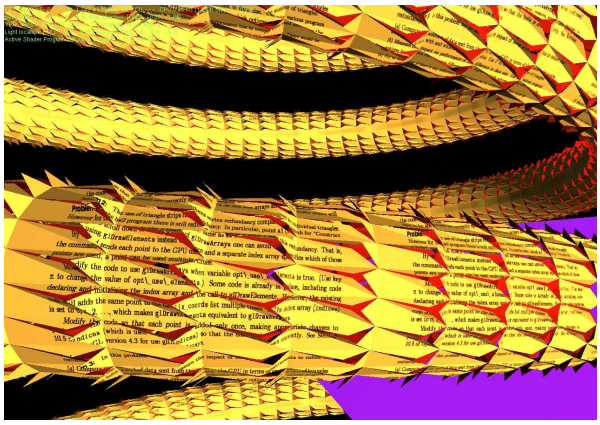
EE 4702-1
GPU Programming



Where/When
Room 3142 P.F. Taylor Hall
MWF 10:30–11:20 Fall 2013
`http://www.ece.lsu.edu/koppel/gpup/`

Who
David M. Koppelman
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Office Hours: Monday–Friday: 14:00–15:00.

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
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.