EE 4702-1: GPU Programming

Where/When
Room 1218 Patrick F. Taylor Hall
MWF 11:30–12:20 Fall 2017
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 students doing better on the final than on the
midterm.

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.

A.D.A.  Louisiana State University is committed to providing reasonable accommoda-
tions for all persons with disabilities. This syllabus is available in alternate
formats upon request. Any student with a documented disability needing aca-
demic adjustments is requested to speak with Disability Services and the instruc-
tor, as early in the semester as possible. All discussions will remain confiden-
tial. Please contact Disability Services in 115 Johnston Hall, 225-578-5919 or at
http://www.lsu.edu/disability.