

EE 4702-1

GPU Programming

Where/When

3129 P. Taylor Hall, Mon. Wed. Fri. 9:40–10:30 Fall 2009
<http://www.ece.lsu.edu/koppel/gpup/>

Who

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Office Hours: Monday–Friday: 14:00–15:00.

Prerequisites

By Topic: Programming in C++, physics, calculus.

Topics

- Introduction
 - Graphics software/hardware organization.
 - Physical simulation quick overview.
 - Term project introduction.
- Mathematics of 3D Computer Graphics
 - Coordinates, vectors, lines, planes, intercepts, etc.
 - Basic transformations, projections.
- Basics of 3D Computer Graphics & OpenGL
 - Primitives and scene representation.
 - Material properties, color, lighting approximations.
 - Basic texturing.
- CPU Physical Simulation
- GPU Organization and Programming
 - Modern GPU organization.
 - Data staging and efficiency issues.
 - OpenGL Shading language.
- Texturing Techniques
- GPU 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.

