

CMSC 828V – Recent Advances in Graphics and Visualization

Fall 2009

Lectures: Tuesdays and Thursdays 12:30pm – 1:45pm CSIC 2120

Course Page: <http://www.cs.umd.edu/class/fall2009/cmssc828v/>

Professor: Amitabh Varshney, 4407 AVW, (301)405-6761, varshney@cs.umd.edu.

Office hours: Tuesdays and Thursdays 2:00 – 3:00pm, or by appointment. For an appointment, just drop by my office, or call me, or send me an email and we can fix up a time.

Texts: There is no textbook for this course; just read papers that will be posted on the class webpage

Prerequisites: CMSC 427, 740, or equivalent

Grading: Presentations: 20%, Midterm: 20%, Project: 30%, Final Exam: 30%

Final Exam: Final Exam will be 1:30pm – 3:30pm on Friday, December 18, 2009.

Academic Conduct: I expect high standards of professional conduct and ethics. All work that you submit in this course must be your own or approved in advance by the instructor.

Tentative Course Plan

Sep 1	Overview of the Graphics Pipeline and the Course
Sep 3	Tiled displays
Sep 8 and 10	Graphics and Multicore Architectures
Sep 15 and 17	GPU and Multicore Programming – History and General Principles
Sep 22 and 24	Parallel Programming and Memory Hierarchies
Sep 22	First Project Report Due
Sep 29 and Oct 1	General-Purpose GPU programming – CUDA
Oct 6 and 8	Multiresolution Meshes
Oct 13	Midterm
Oct 15	Classical Examples of Graphics and Visualization
Oct 20 and 22	Basis Functions for Graphics
Oct 27 and 29	Spectral Graphs and Meshes
Nov 3 and 5	Spectral Geometry and Harmonics
Nov 10 and 12	Visual Saliency and Perception
Nov 17 and 19	Symmetry and Self-Similarity
Nov 24 and Dec 1	Digital Displays
Dec 3	Visualizing Time-Varying Data
Dec 8	Project Presentations and Final Project Report
Dec 10	Course Wrap-up
Dec 18	Final Exam, Friday, 1:30pm-3:30pm