

CMSC 498M – Game Programming Spring 2010

Lectures: Mondays and Wednesdays, 3:30pm – 4:45pm, CSI 1122

Course Page: <http://www.cs.umd.edu/class/spring2010/cmsc498m/>

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

Office hours: Mondays and Wednesdays 2:15 – 3:15pm, 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; all required reading and lecture notes will be posted on the class web-page.

Prerequisites: CMSC 427 or equivalent. Good knowledge of C/C++ programming. You should be able to independently design, code, and debug moderately sophisticated programs. You should also feel comfortable about concepts related to vectors (spaces and products) and matrices (inversion, products, transformations).

Course Grading: Project: 50%, Midterm: 20%, Final Exam: 30%

Project: This is a major programming project over the course of the semester with intermediate milestones. Each project can be done in teams of up to 4 students. Team members will work together to come up with their own game concept. Each team will decide how to divide the work fairly among its members. The final projects will be presented to the class at the end of the semester.

Team members will be asked to rate the other members according to their contribution. Each team member will receive a separate grade according to their contributions to the project and final presentation. Grades will be based on technical game requirements as well as game design, playability, documentation, and presentation.

Final Exam: Final Exam will be 1:30pm – 3:30pm on Saturday, May 15, 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. As in all courses, students shall abide by and uphold the University's Code of Academic Integrity. Violations of these policies will be dealt with harshly, and typically result in the assignment of a failing XF grade for the course. Please consult the [Student honor council page](#) for further information.

Students with Disabilities: Any student eligible for and requesting reasonable academic accommodations due to a disability is requested to provide, to the instructor in office hours, a letter of accommodation from the Office of Disability Support Services (DSS) within the first two weeks of the semester.

Religious observances: The following dates are recognized by the campus for religious observance. Good Friday Fri., April 2, 2010 and Passover Sundown, Mon., Mar. 29 - Sundown, Wed., Mar. 31, 2010. I will try my best to accommodate students of other faiths on an individual basis. Please provide me with a list of all holidays you observe during the semester by the end of the first week of classes.

Video Shows: From 3:25pm – 3:30pm, before each class I plan to show a video illustrating graphics and games. This is cultural: attendance is optional, and you will not be held responsible for knowing what is presented.

Tentative Course Plan is on the other side of this handout.

Tentative Course Plan

Here is a tentative course plan. Depending on time and feedback from you, the class, some topics may be added or dropped, and the order of topics may change.

Jan 25	Overview of the Course and Introduction to Games
Jan 27	Graphics Pipeline Overview
Feb 1	Game Architecture
Feb 3 & 8	Game Engines and Ogre3D
Feb 8	Initial Project Proposal Due
Feb 10	Graphics Architectures
Feb 15 & 17	Modeling for Games
Feb 22	Illumination and Lighting Design
Feb 24	Shader Programming
Mar 1 & 3	Game Physics
	Initial Project Prototype Due
Mar 8	Animation and Quaternions
Mar 10	Midterm
Mar 22	Realism and Believability
Mar 24	Artificial Intelligence for Games
Mar 29 & 31	Path Planning
Apr 5	Distributed Multiplayer Games
Apr 7	Networking Basics
Apr 12	Socket Programming
Apr 14	Storytelling
	Advanced Project Prototype Due
Apr 19	Sound rendering
Apr 21	Displays and Game Peripherals
Apr 26	Software Engineering and Game Production
Apr 28	Casual Games
May 3	Tales from the Front Lines – Industry Guest Lecture
May 5	Final Project Presentations
May 10	Course Wrap up
May 15	Final Exam , 1:30pm – 3:30pm, Saturday