Interactive Computer Graphics Fall 2016 CMPS 4213 & CMPS 5353 - Syllabus

MWF 11:00-10:50  Bolin Science Hall 320

Instructor: Richard P. Simpson, Bolin 126E; Tel.: 397-4191; E-Mail: richard.simpson@mwsu.edu

TEXT: Interactive Computer Graphics: A top-Down approach with shader-based OpenGL 6th Edition. Older editions will not work!. Will also look at the second/third editions for examples of immediate mode code and earlier hardwired pipelines. PPTs and text code can be obtained from here.


SUPPORT TEXT: OpenGL SuperBible 6th edition

TUTORIALS: OpenGL Tutorial, Another OpenGL Tutorial, History of OpenGL, Blender Tutorial

Main Web Sites: OpenGL.org

General: This is a project intensive course on 3D graphics. It will include software development using OpenGL as well as the reading of research papers concerning recent advances in graphics hardware and software. Although several of the projects will run under OpenGL 3.3 subsequent projects will make use of 4.1 features. If you would rather use Linux that would be OK but my system level debugging support will be mainly limited to Windows and Visual Studio 2017. All modern OpenGL applications require the use of vertex and fragment shaders and as a result we will spend considerable time writing these. If time permits we also will investigate tessellation and compute shaders. A look at old immediate mode code will also be discussed. If you wish to do software development on a home computer or laptop you need one that supports OpenGL 4.1 or higher. You may download a GPU Capability Viewer (GPU Caps Viewer), or and extension viewer such as GLview to check out your architecture. Most recent, 3 years or younger, graphics cards can handle OpenGL 4.1 and up. Each graduate student will give a 45 minute lecture on a special topic in computer graphics.
Grading: Projects 40%, 3 Exams 40% 1 Final 20%

Projects: This course is project intensive and expect up to 5-6 programs to be given during the course. Each project is to be written in C++ and OpenGL and turned in within an envelope with your name (or group name) and project number printed on the outside. Include a printout of your source and associated output, if appropriate, together with a jumpdrive(or CD) containing the programs .exe, .cpp and other necessary files such as data or necessary libraries. Make sure that your program runs off the drive before(CD) turning it in.

Doc: Your programs are expected to be documented professionally (15% of your grade). This implies that each and every function (or class) be documented as to its purpose, I/O requirements and other interesting features. Include a general program heading at the top of your application that clearly defines the purpose of the program, method of execution, your name and project #. Please use *'s to delineate your comments.

Include a (Signed!) disclaimer at the top of the program, above your initial documentation, stating that this program is all your own work. If you forget to do this I will count 10% off and return it to you for signature.

Language: We will be using Visual studio 2017 this semester as well as OpenGL. These run on Win 10. Your may download OpenGL libs and dll's from the Microsoft’s Web site or other locations. 3D Modeling will be done on your home machines or the Alienware Graphics Workstations in Lab 120 using Blender.

Academic Policies:

Policy on Academic Honesty

The Department of Computer Science had adopted the following policy related to cheating (academic misconduct). The policy will be applied to all instances of cheating on assignments and exams as determined by the instructor of the course. (See below for link to MSU definitions.)

- 1st instance of cheating in a course: The student will be assigned a non-replaceable grade of zero for the assignment, project or exam. In addition, the student will receive a one letter grade reduction in course.
- 2nd instance of cheating in a course: The student will receive a grade of F in course & immediately be removed from course.
- All instances of cheating will be reported to the Department Chair and, in the case of graduate students, to the Department Graduate Coordinator.

Policy on Testing Process
The Department of Computer Science has adopted the following policy related to testing.

- All bags, purses, electronics (turned off), books, etc. will be placed in the front of the room during exams, or in an area designated by the instructor.
- Unless otherwise announced by the instructor, nothing is allowed on the desk but pen/pencil/eraser and test papers.
- No student is allowed to leave the room during an exam and return.

See Also:


**Campus Carry:** Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the University’s webpage at https://mwsu.edu/campus-carry/rules-policies.

NOTE: All students should refer to the current MSU Student Handbook and Activities Calendar for university policies related to class attendance, academic dishonesty, student responsibilities, rights and activities.