

Syllabus
COSC 275 Introduction to Computer Graphics

Instructor: Jami Montgomery
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Course Hours: TBD
Course Loc: TBD

Office Hrs : TDB

Course Description:

This course is an introduction to computer graphics. The topics covered are fundamental concepts of 2D and 3D computer graphics. Topics include rendering geometric primitives, simple illumination, shading, texturing, surface removal, image processing and 2D / 3D graphic transformation (Linear Algebra). Students will develop several programs (approximately 5-6) using WebGL/OpenGL/GLSL API and JavaScript. Prior knowledge of WebGL/OpenGL ES/GLSL is not needed, however knowledge of software development with JavaScript or C++/Java and familiarity with simple data structures is recommended.

Prerequisites: intermediate programming experience

Required Text:

- Interactive Computer Graphics: A Top-Down Approach with WebGL, 7th Edition by Angel and Shreiner

Reference Optional:

- WebGL Programming Guide: Interactive 3D Graphics Programming with WebGL by Matsuda and Lea, 2013
- OPenGL ES 3.0 Programming Guide, 2nd Edition, Ginsburg, Pumomo, Shreiner and Munshi, 2014
- OpenGL Programming Guide: The Official Guide to Learning OpenGL Version 3.0/3.1/4.3
- <http://www.opengl.org>

Grading:

Exams : Midterm (10%), Final Project (20%)

Programing: between 6 assignments (50%)

Homework/Quizzes/Class participation: (10%)

Development Environment:

- **Browser Based**
 - **Chrome**
 - **Firefox**
- **Windows 7/8.1**
 - **Visual Studio C++ 2015 or later**

Course Grade: The letter grade assigned for course is based on total points out of the 100 and is as follows

A	100 - 94
A-	93 - 90
B+	89 - 87
B	86 - 84
B-	83 - 80
C+	79 - 77
C	76 - 71
C-	70 - 69
D	67 - 60
F	59 or below

The instructor reserves the right to adjust any grade to accommodate special circumstances or information, which has direct bearing on the academic evaluation of the student.

Tentative Topic Schedule in order of appearance:

Tentative Topic Schedule	
Topic	Week
Introduction Computer Graphics	1
JavaScript, HTML, WebGL	2
Representing Geometry and Transformation, Animation	3
Viewing/Displaying Geometry (Projections, Perspective)	3

Light and Shading	2.5
Textures	2

NOTES:

- All assignment are due before class begins on due date.
- You will demo your assignment at the beginning of class
- 25% penalty 1st day for late submission
- No make-up exams will be provided.

PROGRAMMING NOTES:

ASSIGNMENTS WILL BE IMPLEMENTED USING **WebGL!**

Many programming assignments will be given during the semester. Exact deadline will be specified in the assignment sheet. For late submission, you will lose 25% of the grade 1st day. Students may be asked to present, demonstrate or explain assignments.

Collaboration is allowed. Cheating of any form will NOT be tolerated. Any form of cheating or copying will be reported to the honor council of GU. However, students are allowed to discuss content of the assignment and general methodology. Students are not allowed to share codes or write code/solution for others.

Each programming assignment should be well documented. It must be thoroughly checked for correctness by running it on your test data.

In the case of a written assignment, I suggest that you type your answer and submit a printout. I use the following rule: "If I can't read and understand your answer then it must be wrong".

Students are responsible for all instructions, exam announcements and assignments given during REGULAR CLASS hours. Makeup exams will NOT be given. If you have trouble in taking the exam you must tell the instructor well in advance - two weeks before the exam.

Depending on the progress of the class, surprise quizzes may be given during regular class hours. No Make-ups.

Feel free to ask questions in the class or during regular office hours of the instructor/TA. If you cannot meet during regular office hours then set an appointment.