CS 450: COMPUTER GRAPHICS

COURSE AND SYLLABUS OVERVIEW

SPRING 2015

DR. MICHAEL J. REALE
INTRODUCTION

• Welcome to CS 450 Computer Graphics!

• Computer Graphics is, simply put, the art and science of using computers to generate imagery. In this course, we will:
  • Present and discuss computer graphics approaches, theory, and techniques
  • Implement some of these approaches both with and without OpenGL
TOPICS COVERED

• The Fundamentals of Computer Graphics
• OpenGL/GLUT
• Drawing Lines and Curves
• Drawing and Filling Polygons
• Basic Antialiasing
• 2D and 3D Transformations
• 2D and 3D Clipping

• 3D Viewing Transforms
• Parametric Splines and Surfaces
• Visible Surface Detection
• Basic Illumination Models
• Texture Mapping
• Computer Animation
• ...and more (if we have time)!
WHITHER AND WHEN?

• Kunsela Hall C202
• Tuesday and Thursdays
• 10 AM to 11:50 AM (Eastern Time)

• Course Website: http://web.cs.sunyit.edu/~realemj/2015spring/cs450/

• Assignments, class agendas, and useful links/information will be posted to the class website as we progress, so be sure to check it frequently!

• All assignment submissions will be made through Angel.
“I CANNOT LIVE WITHOUT BOOKS.”
– THOMAS JEFFERSON

- Primary Textbook:
    - Get the 3rd edition if you can help it! 4th edition is acceptable, but it’s not as good (and more expensive)

- Additional Textbook (NOT REQUIRED):
INSTRUCTOR

• Dr. Michael J. Reale
  • Please address me as:
    • Dr. Reale, Prof. Reale, Doctor, Professor, or Battle-Captain Reale
• Email: realemj@sunyit.edu OR realemj@cs.sunyit.edu
• Office Phone: 315-792-7227
• Office Location: Kunsela Hall C224
• Office Hours: After class, by appointment, or:
  • Mondays and Wednesdays from 12:30pm - 3:30pm
  • Most Tuesdays and Thursdays from 2:00pm - 3:30pm

• If you have a question/problem/concern, PLEASE contact me!
GRADING

• Quizzes: 5%
• Tests (Midterm and Final): 10%
• Programming Assignments: 70%
• Term Project: 15%

• Late assignments will be accepted, subject to time-dependent grade penalty. For every day the assignment is late, 5% will be deducted from the grade for that assignment.
QUIZZES AND TESTS

• We will have frequent quizzes (once a week if we can help it)
• Missed quizzes may not be made up.
• There will be two tests: a midterm and a cumulative final
ASSIGNMENTS

• This is a programming-heavy course
• ALL code submitted MUST be written in C/C++
  • *Exception:* Shader code will be written in GLSL
• Assignments will be POSTED to course website: [http://web.cs.sunyit.edu/~realemj/2015spring/cs450/](http://web.cs.sunyit.edu/~realemj/2015spring/cs450/)
• Assignments will be SUBMITTED on [Angel](http://web.cs.sunyit.edu/~realemj/2015spring/cs450/)
• We will have 3 or more assignments + a term (code) project
TERM PROJECT

• There will be a term project that will require you to implement some computer graphics concept or approach (or potentially develop your own)

• A list of project options will be posted around mid-semester
  • If you have an alternative idea, let me know

• Term projects are INDIVIDUAL projects; they are NOT GROUP PROJECTS

• You will be expected to:
  • Implement a given approach (either from a book or a paper)
  • Submit both the code and a brief report
  • Give a short presentation/demo near the end of semester
OTHER RESOURCES

- Real-Time Rendering book website:
  - Has buckets of links and information, including links to whole free books!
- OpenGL main page:
  - [https://www.opengl.org/](https://www.opengl.org/)
  - Documentation, tutorials (although many are old and crufty)
ACADEMIC HONESTY

• Your work in this course (including your homework, programs, code, assignments, projects, documentation, quizzes, and exams) should be yours and yours alone.

• You shall not plagiarize, copy, buy, or steal any of the above in any form from anyone else and submit it as your own work.

• You shall not cheat in any way, shape, or form on any exams, quizzes, assignments, projects, or homework in this (or indeed any other) course.

• You may talk with other students to grasp a CONCEPT or IDEA related to the material in this course. You may NOT, however, discuss specifics of a given assignment, project, or program. Cheating shall be suspected if your work is effectively identical to the work of another, if your answers are stylistically inconsistent, and/or if you are unable to explain the work you submitted.

• Various penalties for academic dishonesty and violations of the SUNY PI / SUNYIT Academic Integrity Policy apply. Evidence of cheating will result in a failing course grade.

• At the end of the day, you need to be able to do the work in this course yourself in order to learn the material. You don’t need to cheat to succeed. I have office hours, an email address, and a phone: ask me questions!

• Students are also responsible for taking reasonable precautions to prevent copying or dissemination of their assignments.

• See the student handbook for more information.
ABOVE ALL...

• Learn!
• Code!
• Have fun!