

CS 450: Computer Graphics

Spring Semester 2013

MWF 9:30-10:30AM, SE 102.

Professor:

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Office Hours:

Monday: 11:40-12:30, 3:10-3:30
Wednesday: 11:40-1:00, 3:10-5:00
Thursday: 9:00-12:00, 3:10-3:30
Friday: 11:40-12:00
And by appointment

Course Description:

Objectives: This course introduces the theory and programming issues involved in rendering graphic images. Theory includes the physics of light and surfaces, surface illumination equations, and algorithms for rendering scenes using ray tracing. Visual surface algorithms, 3D viewing transformations and projections, anti-aliasing, 3D model transformation, illumination models, texture mapping, animation, and interactive graphic techniques are also presented.

Prerequisite: CS221N (Data Structures). Knowledge of Java, object-oriented programming and data structures.

Textbook: Edward Angel and Dave Shreiner, *Interactive Computer Graphics, A Top-down approach with Shader-based OpenGL*, 6th Edition, Addison-Wesley, 2011.

Evaluation: Your course grade will consist of the following percentages:

Homework assignments:	10%
Programming projects:	25%
Research Paper:	10%
Tests:	30% (10% each)
Final Project:	25%

Homework: Your homework will consist of a combination of written assignments and programming projects, throughout the semester, as well as a final project. This will account for 60% of your grade.

Graded assignments will be due at the beginning of class. Late assignments will be assessed a penalty of 10% per day. Once an assignment has been graded and returned to the class, that particular assignment will no longer be accepted.

Written homeworks: Written assignments should represent the quality expected of upper level college students. Each answer to an assigned problem should be preceded by a copy of the question it is answering. Show all work. The process is as important, if not more so, than the answer. Work may be handwritten, but should be neat, legible, and stapled if necessary. Ragged edges from pages torn out of a spiral notebook are unacceptable. *Scissors, staplers and other basic office supplies are available in the campus bookstore at a modest cost.*

Programming assignments: All programs should compile and run. Develop your solution step by step so that your program does something, even if the output that it produces is not completely correct. Programming assignments should be documented. At a minimum, a program should

contain a comment section at the top with your name, the date, the purpose of the program, and a description of any inputs and outputs. Each logical section of code should be preceded by at least a brief one line sentence fragment describing what the section of code does. We will view the result of programming assignments in class, when possible.

Attendance: You are expected to attend all lectures and are responsible for all materials covered in class and as well as material covered in assigned readings. Planned absences must be authorized in advance and any excused absence must be documented with the proper paperwork. If you must miss class, please check with a classmate to get notes or find out about schedule changes or assignments you might be unaware of.

Tests: There will be two tests during the semester as well as a comprehensive final exam. These tests along with the homework and projects will provide materials for the evaluation of your understanding and progress. If you have an A in the course going into the final, then the final exam will be optional. If you take the exam, it will contribute to your final grade in the course. If you do not have an A in the course and do not take the final exam, you will have a grade of zero for this portion of your grade.

Disability Accommodations: . If you have a documented learning disorder and need additional time or other accommodations, please have the counseling center send me the documentation. Then, meet with me to discuss a test format and schedule a time when you will take the exam. All information will be kept confidential. No accommodations can be made without the proper documentation in advance of scheduled exams.

Academic Dishonesty

For all assignments, including programming assignments, please remember to pledge your work. The **Honor Pledge at Eckerd means you agree to this statement** “On my honor, as an Eckerd College student, I pledge not to lie, cheat, or steal, nor to tolerate these behaviors in others.” Suspected violations of the Honor Code will be referred to the Eckerd College Honor Council.

Homework is based on the book, notes from class lectures, and work you will do on the computer. You may drop your lowest homework. Unless specifically stated in the assignment, you need to do your work BY yourself. A small amount of help from a lab assistant or friend is allowed to indentify SYNTAX errors in programs or to discuss general concepts covered in class. However, the work you submit for grading must be your own. Do not discuss specific homework problems. Do not work side-by-side in lock step with another student in the class. **Do not give any homework material to another student or receive any homework material from another student, in either written or electronic form.** Failure to follow this requirement will be considered a violation of the Eckerd College Honor Code and will be referred to the Honor Council.

Of course, I am always available during office hours to answers your questions, clarify specific aspects of the assignment which may be unclear to you, or help you to understand concepts with which you may be struggling. Learning the materials we will cover in this class will hopefully be an enjoyable experience for you as a computer science major!

Semester Schedule Disclaimer

The attached schedule for lectures, tests and assignments in the course is subject to change. All changes to the schedule will be announced in class and/or via your campus email address. You are responsible for ensuring an awareness of the announcement of any such changes. **You must read your campus email.** In the event of a campus evacuation you are expected to take your textbook, syllabus, and course notes with you and to check your email daily.