

# CSCI 490, Spring 2005

Computer Graphics

[www.cburch.com/cs/151/](http://www.cburch.com/cs/151/)

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**Hours:** MF 10a-11a, TR 1:10p-2p  
drop-ins, appointments always welcome

## Goal

You should emerge from this course familiar with techniques and applications of computer graphics, as well as related fields. While the specific topics studied will reflect student and professor interest, this will certainly include both fundamental 2D graphics algorithms and 3D graphics rendering techniques.

## Textbooks

Required: F. S. Hill, *Computer Graphics Using OpenGL*, Prentice Hall, 2000.

## Evaluation

There are a total of 1,000 points over the semester.

Class attendance/participation	100 pts
Assignments (variable credit)	320 pts
Presentation	120 pts
Project	150 pts
Quizzes (three)	110 pts
Midterm	80 pts
Final	120 pts
<b>Total</b>	<b>1,000 pts</b>

Letter grades will come from the following scale.

A	900 or more	D	600 to 699
B	800 to 899	F	less than 600
C	700 to 799		

I reserve the right to make adjustments in the entire grading scheme or in particular cases.

The A grade is meant for outstanding performance; a B is more typical and represents solid preparation for future computer science courses, while a C represents marginally adequate preparation. I assign grades independent of any overall goal, but the average letter grade will likely be near 3.0. Bottom line: B isn't bad.

Note that I do not normally "curve" grades at the conclusion of the course; instead, I monitor your progress and perform any "curves" on tests. When I "curve" scores, I add a fixed amount to all scores; as a result, a high test score may well exceed 100%. I anticipate, but will not insist, that the average test score will be around 75%. Normally, scores in the non-test categories will be higher; the average class grade will likely be a B even though the average test grade is a C.

## Class attendance/participation

Several points are designated for "class participation." I will assign half of these points near the semester's middle, and the other half near the semester's end. I *may* use some points for in-class exercises, but most of the points will be based on attendance and participation.

I do monitor your class attendance. If your attendance is excellent (missing one or fewer classes each half-semester), you will receive at least 60% of these attendance/participation points. If you feel your absence should be excused, please warn me about the absence a day in advance. Whether I excuse your absence is my call.

The remaining 40% of these points are for participation, including both questions during class and responses to questions during class. I may give more than full credit in unusual circumstances. Take this as an invitation: I value your active participation in class, and I expect you to show evidence of being fully tuned in during class sessions.

## Assignments

You can expect assignments basically every week, due on Fridays. The nature of the assignments and their point values will vary.

The assignments will be due at the beginning of class on the scheduled day. For each 24-hour period thereafter, I will deduct up to 10% of the points possible. Note that this means that if you show up a few minutes after class starts with your assignment, you can incur the full 24-hour late penalty. I will be happy to accept assignment solutions prior to their due date.

## Presentation

Not too long after Spring Break, you will give a presentation on a specific topic of your interest. As the time draws near, I'll work with you in selecting a topic and researching it. The student presentations will be spread out over several weeks.

The presentation itself will be 25 minutes long. It should be relatively informal — think about how professors present material. The material presented in these presentations will constitute part of the class; i.e., it will show up on tests and perhaps assignments. (Test questions concerning your presentation should be easy points for you!)

## Project

In the last piece of the course, you will work on a major free-form project implementing some graphics-related concept of your interest. By “implementation,” I mean that you will have some concrete product at the end — probably a software product, but it could also involve a hardware product or even a written product. Again, I will release more details as the time draws near, but you should start considering topics now.

Your evaluation for this project will be based on the end product; on your ability to meet the designated mile markers, all of which will be evaluated through individual interviews; and on a brief demonstration in one of the final class sessions.

## Quizzes and tests

The schedule at the end gives the anticipated test dates. Quizzes will typically be 25 minutes in length, and the midterm probably 50 minutes, but that’s not a guarantee.

If you miss a test, you must receive advance permission from me to receive more than a 0. (Dire medical emergencies usually constitute an exception.) If you are excused from the test, I will choose whether to make the points up based on your lowest score on other tests or to administer a make-up test. Let me know well in advance — 24 hours for exams and quizzes, and two weeks for the final. I would like to remind you that, when e-mail is impossible, telephones exist also. *Do not skip a test without my prior approval!*

Note that I may require you to document your reason for absence. Travel arrangements and work schedules are not adequate reasons to miss a test.

## Cheating and groupwork

You must properly attribute any work or ideas you use in assignments for this course which are quoted or derived from others. Plagiarism includes not only copying the ideas and the written and spoken words of others, but also copying or otherwise appropriating their computer files as well. Interfering with the work of others is also a serious academic offense. I will abide by the catalog’s Academic Hon-

esty policy in referring cases to the college’s Committee on Academic Integrity.

Note that discussing or viewing others’ solutions to assignments (prior to yourself handing them in) is out of bounds. Also, discussing or showing your own solution to others is wrong. A strong correlation between your solution and a classmate’s solution constitutes evidence of cheating.

Some assignments may encourage you to work with another student. Unless the assignment says otherwise, this means that you and the student should submit a single solution to the assignment with both names on it.

## Office hours

If you aren’t stopping by your professors’ offices regularly to talk — whenever you can find an excuse —, you’re missing out on an important element of your college education. Don’t waste your time at Hendrix by staying away from your professors.

Feel free to stop by my office any time you want to talk about something related to the class. I do have some office hours listed above, but don’t take these seriously: These are simply times that I try to be in my office; they are *not* intended to limit you. I’m equally available at all times that my office door is open. I’m also happy to arrange appointments.

To help you, here are some useful starters in no particular order that you can use to break in.

- “We discussed *X* in class today, and I’m not sure I entirely understood. Could you explain it again?” Such a question is usually more appropriate during class; but if your classmates clearly understood, or if you discover later that you didn’t understand it as well as you thought you did at the time, then you might ask outside class.
- “We’ve been discussing *X*, and I thought maybe *Y* might be an alternative solution. Any thoughts?” I really like questions like this.
- “You posted a review question that I couldn’t figure out on my own. Could you explain how you arrived at your solution?”
- “I’m trying to learn about *X* for my presentation/project. Can you provide some ideas about where I can learn more?”
- “I want to do *X* for my assignment/project, but I’m not sure about the best way to do that in Java. Do you have any suggestions?”

- “I’ve having a problem with the assignment/project. Could you help me out?” Note: I will expect you to explain any problems in detail from memory, because I expect you to have worked on the problem yourself long enough to be able to explain it to me. I will avoid looking at your program (and particularly printouts of the program and error message), and I may very well ask you to perform some additional test. While it’s easier for me to just look at the program and tell you how to fix it, you wouldn’t learn as much from that.
- “Do you have any advice for how I can do better in this class?”

Of course, if you’re not in the building, you can telephone my office. And if I’m not in my office, you can send e-mail. But please don’t e-mail me unless I’m not around: It’s a lot less efficient.

## Tentative schedule

The schedule below outlines the major grading points in this class, excluding assignments. While I don’t anticipate them, the schedule is subject to changes.

Thu 3 Feb	<b>Quiz 1</b> — 30 pts
Thu 17 Feb	<b>Quiz 2</b> — 30 pts
Mon 7 Mar	Presentation: Topic deadline
Thu 10 Mar	<b>Midterm</b> — 80 pts
Thu 24 Mar	Presentations begin
Fri 1 Apr	Project: Topic checkpoint
Thu 14 Apr	<b>Quiz 3</b> — 50 pts
Fri 15 Apr	Project: Midterm checkpoint
Tue 26 Apr	Project: Demos begin
2:00p, 6 May	<b>Final</b> — 120 points