Math 149 **W02 A.**

Announcements

Instructor Prof. K. Baker, MS 5360, 825-1947, email `baker`, Office hours Monday 2:30-3:30 (except January 7), Wednesday 2:00-3:00, Thursday 2:30-3:30, often informally after class, and by appointment.

Note The first week of classes only has a special schedule: The TA discussion section will be Monday. Thursday we'll have a demo in the UCLA Visualization Portal. Wednesday and Friday will be normal lectures. (I'll be away Monday and Tuesday at the national mathematics meetings.)

TA T. Le, MS 3915E, office hrs _____.

Web page `http://www.math.ucla.edu/~baker/149`

Emphasis The mathematics useful for graphics; not package programs. This is a genuine mathematics course, with some proofs.

Text F. S. Hill, Jr., Computer Graphics Using Open GL (not required)

The text will be used very lightly, to give some perspective on what we're doing; the course itself goes more deeply into the mathematics than the text does. A copy of some version of the text will be on reserve in the Science and Engineering (SEL) library.

Prerequisites Math 115A with at least a B–, and a modest knowledge of programming in some language on our system. Enrollment also depends on space available.

Format Standard lecture-homework-exam, plus small computer projects. To miss lectures may be a handicap, as the content of the lectures is often not in the text.

Labs We'll use the Boelter Hall Lab, BH 2817. There will be several small projects. Grading is pass/fail, but good work will be noted so if you need a recommendation in the future I can mention it. For special problems concerned with this course, see me. For questions about the use of the lab in general, see a Lab Assistant or me.

Exams

Background Quiz (see reverse): In TA section **Thursday, January 17**.

Midterm: **Friday, February 15**, in class.
Final exam: **Monday, March 18, 11:30-2:30**.

Grading: 4% quiz, 11% homework, 25% Midterm, 15% labs, 45% Final

In the future Feel free to ask for a job recommendation if you get at least a "B" and for grad school recommendations if you get at least "A–".

Homework Usually due Fridays. You may consult with the TA, me, and others, but of course the final version should be your own. Representative problems will be graded. Some problems develop concepts going beyond the lectures. It is necessary to gain as much as possible from assigned homework problems, as few extra problems are available. If you need advance explanations or suggestions, see me or the TA. Late homework will not be graded but does count partially; write "late" on the paper and pass it in with the next assignment.

In this class, the reader will be the TA, which should be helpful.

Topics for review quiz

- finding angles between lines, planes, line and plane
- lines expressed with equations in two dimensions
- lines expressed parametrically in two and three dimensions
- line through one point with given direction vector
- line through two points (2 or 3 dimensions)
- how to read normal of plane from equation for plane
- plane through point, with given normal
- plane through line and given point
- plane through two lines that cross
- plane through three points
- projection of vector both on a line with given direction and on a plane perpendicular to that line (vector answers)

Some of these topics will be reviewed in section the first week; you may also find them in your Math 32A, 33A, and 115A texts, and in sections 7.2 through 7.7 of the Hill text on reserve in the SEL Library. There will also be a review handout on vectors.