

COLLEGE OF CHEMISTRY COURSE GUIDE (../INDEX.HTML)

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CS 184 - FOUNDATIONS OF COMPUTER GRAPHICS (4 UNITS)

(Taken from the UC Berkeley Course Guide (<http://guide.berkeley.edu>))

COURSE OVERVIEW

SUMMARY

Techniques of modeling objects for the purpose of computer rendering: boundary representations, constructive solids geometry, hierarchical scene descriptions. Mathematical techniques for curve and surface representation. Basic elements of a computer graphics rendering pipeline; architecture of modern graphics display devices. Geometrical transformations such as rotation, scaling, translation, and their matrix representations. Homogeneous coordinates, projective and perspective transformations. Algorithms for clipping, hidden surface removal, rasterization, and anti-aliasing. Scan-line based and ray-based rendering algorithms. Lighting models for reflection, refraction, transparency.

PREREQUISITES

CS 61B ([cs61b.html](#)) or 61BL, programming skills in C, C++, or Java; linear algebra and calculus

Spring only

WORKLOAD

TIME COMMITMENT

3 hours of lecture and 1 hour of discussion per week.

UC Berkeley Course Guide (<http://guide.berkeley.edu>)

COLLEGE OF CHEMISTRY PEER SERVICES

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