Catalog Course Description:
An intensive study of computer graphics. Graphics hardware, OpenGL API, raster scan conversion, OpenGL API, geometric transformations, 3D viewing, visible surface determination, illumination, shading, texture mapping, curves and surfaces, and animation. Substantial programming assignments.

Course Objectives:
(1) Knowledge of OpenGL API; (2) knowledge of geometric objects and transformations: 3D primitives, coordinate systems, 2D/3D transformations; (3) knowledge of 3D viewing: projections, perspective, hidden surface removal; (4) knowledge of shading: light sources, flat, Gouraud, and Phong shading; (5) knowledge of renderer implementation: line/circle drawing, clipping, filling; (6) knowledge of curves and surfaces: Hermite curves, Bezier curves, cubic B-splines.

Required Text:

Supplementary Text:

Prerequisites:
CSc 30100 and CSc 32200.

Grading:
Midterm exam: 25%; Final exam: 25%; homework programming assignments: 50%