

CSCD18 Calendar, Fall 2009 (3rd Edition Textbook)

Date	Topic	Text Readings	Assignments
Part 1: Basic Graphics Primitives			
Sept 14	Introduction: raster display, line drawing	3.1–3.3,8.1	
Sept 15	No tutorial this week		
Sept 16	2D polygons, circle, ellipse	2.5	
Sept 21	2D Transforms (rigid, conformal, affine)	6.1	
Sept 22	Tutorial: C++, OpenGL and Hierarchical models		A1 out
Sept 23	Coordinate-Free Geometry and Homogeneous Coordinates	2.4, 6.3	
Sept 28	3D Surfaces: planes, tangents, normals, bilinear patch	2.5-2.7	
Sept 29	Tutorial: 3D meshes, cylinders, surfaces of revolution		
Sept 30	3D Surfaces (quadrics/superquad.) & 3D transformations	6.2	
Part 2: Viewing and Basic Rendering in 3D			
Oct 5	Camera models and viewer coordinates	7.2–7.3	
Oct 6	Tutorial: Life of a polygon - object, world, camera, etc.	7.1–7.2, 8.1.3	
Oct 7	Perspective & orthographic projections, pseudo-depth	7.3–7.4	A1a in
Oct 12	No Class (Thanksgiving)		
Oct 13	Visibility: HSR, z-buffer, BSP Trees	8.2,12.4	
Oct 14	Visibility: HSR, z-buffer, BSP Trees	8.2,12.4	A2 out
Oct 16			A1b in
Oct 19	Lighting/Reflection: diffuse, ambient, specular, Phong	10.1–10.2	
Oct 20	Tutorial: Life of polygon - clipping, visibility, backfaces		
Oct 21	Lighting/Reflection: Interpolative shading	10.1–10.2, 2.6–2.7	
Part 3: Advance Rendering			
Oct 26	Lighting/Reflection: Texture Mapping	9.2, 11.1-11.3	
Oct 27	Tutorial: Background and OpenGL for A2		
Oct 28	Introduction to Ray Tracing: object intersections and local shading	4.1–4.6	A2a in
Nov 2	Introduction to Ray Tracing: object intersections, deformed objects, local shading, texture mapping	4.7–4.8, 13.1	
Nov 3	Tutorial:		
Nov 4	Ray Tracing: refractions, transmission and shadows	13.2, 13.3	A3 out
Nov 6			A2b in
Nov 9	Radiometry	20	
Nov 10	Tutorial:		
Nov 11	Ray tracing with full BRDFs and Monte Carlo sampling	14.1–14.4, 25.1–25.2	
Nov 16	Advanced rendering	25.1–25.2	
Nov 17	Tutorial:		
Nov 18	Smooth Curves: polynomial interpolation, Bezier curves	15.1–15.5	A3a in
Part 4: Interpolation			
Nov 23	Bezier curves, and surface patches	15.6.1	
Nov 24	Tutorial:		
Nov 25	Cardinal (Catmull-Rom) splines	15.4–15.5	A4 out
Nov 27			A3b in
Part 5: Animation			
Nov 30	Key-framing, parametric curves, motion capture	17.1–17.2, 17.4	
Dec 1	Tutorial: Review for exam		
Dec 2	Data-driven and Physically-based animation	17.4–17.5	
Dec 3	Assignment 4 Demo Day		A4 in