Course Outline

January

Mon  7  No Class
Wed  9  Homogeneous Coordinates; The Projective Plane; Oriented Projective Geometry
Mon 14  Affine/Projective Transformations and their Matrix Representations
                               Homework 1 out
Wed 16  Quaternions
Mon 21  MLK Day Holiday
Wed 23  Shape Modeling: Parametric and Implicit; Classification of Parametric Cubics
Mon 28  Polar Forms
                               Homework 1 due; Homework 2 out
Wed 30  Continuity Constraints; Splines

February

Mon  4  B-splines
Wed  6  Rational Curves
Mon 11  Tensor-Product and Total-Degree Surfaces
                               Homework 2 due; Homework 3 out
Wed 13  Subdivision Curves and Surfaces

Mon 18  President’s Day Holiday

Wed 20  Triangle Meshes and their Representation; the Quad-Edge Data Structure
        Homework 3 due; Project (Homework 4) out

Mon 25  Solid Models; BSPs and their Uses

Wed 27  In class midterm

March

Mon  3  Intro to Geometry Processing; Surface Reconstruction

Wed  5  Mesh Smoothing

Mon 10  Mesh Simplification

Wed 12  Mesh Parametrization
        Project due