

Lecture #1: Tuesday, 7 January 2003  
Topics: Course Outline  
Lecturer: Leonidas Guibas

## Course Outline

### January

Tue 7 Homogeneous Coordinates; The Projective Plane  
Thu 9 Affine and Projective Transformations  
Tue 14 Quaternions  
Homework 1 out  
Thu 16 Shape Modeling: Parametric and Implicit  
Tue 21 Classification of Parametric Cubics  
Thu 23 Polar Forms  
Tue 28 Continuity Constraints; Splines  
Homework 1 due; Homework 2 out  
Thu 30 B-splines

### February

Tue 4 Rational Curves  
Thu 6 Tensor-Product and Total-Degree Surfaces I  
Tue 11 Tensor-Product and Total-Degree Surfaces II  
Homework 2 due; Homework 3 out  
Thu 13 Subdivision Surfaces I  
Tue 18 Subdivision Surfaces II  
Homework 3 due; Project (Homework 4) out  
Thu 20 In class midterm

Tue 25 Triangle Meshes and Their Representation

Thu 27 Mesh Simplification

### **March**

Tue 4 Mesh Compression

Thu 6 Scattered Data Interpolation

Tue 11 Solid Models; BSPs and Their Uses  
Project due

Thu 13 Class Summary