

CSCI-4961/6961: 3D Computer Graphics  
Class 14: October 16, 2006  
**B-Splines and NURBS**

## **Announcements**

- Project 2 is due by 11:59:59pm today.
- HW 3 is due by 3:00pm on Wednesday, October 18.
- Midterm Exam is in class on Thursday, October 19. No makeup exam will be given if you miss the midterm.

## **Today's Class**

Today we will first study B-Splines, which are approximating splines, and then look at NURBS.

1. B-spline curves and their properties
2. Non-uniform B-splines
3. Rational splines
4. NURBS (Non-Uniform Rational B-Splines): These are the most general form of splines we will discuss. They provide an exact representation for conics and are invariant to perspective transformations.

## **Reading**

Chapters 8.12 and 8.15–8.18 of Hearn and Baker.  
Chapter 12 of the OpenGL red book.

## **Next Class**

**Midterm Exam.**