

CSCI-4962: Three-Dimensional Computer Graphics
Class 11: October 3, 2002
Bezier Splines and Hermite Splines

Today's Class

Today we will focus on Bezier splines and Hermite splines. Bezier splines are not only mathematically elegant, but also important since many polynomial splines can be converted to equivalent Bezier spline forms.

1. Bezier splines and their properties
2. Recursive subdivision to render Bezier splines
3. OpenGL evaluators to generate Bezier splines, and example code (`bezier_curve.cpp` and `curves.c`)
4. Hermite splines, and conversion of Hermite splines to Bezier splines

Reading

Chapter 10.5–10.6, 10.9, and 10.12 of the Angel textbook.
Chapter 12 of the OpenGL red book.

Activity

Try the interactive spline applets at <http://www.ddt.pwp.blueyonder.co.uk/evgeny/Intro/Intro.htm>.

Next Class

B-spline curves.