Rhino 5.0 NURBS Modeling

In this comprehensive 3-day class you'll learn to create and edit accurate free-form 3-D NURBS models. This fast-moving class covers most of Rhino's functionality, including the most advanced surfacing commands.

- First, every module begins with a command section that provides with detailed explanation of the commands and tools in Rhino 5.0.
- Next, the command section is followed by tutorials that are created using these commands. This approach allows the student to use the text initially as a learning tool and then later use it as a reference material.
- Lastly, the students will work on specific company projects that show the preferred method of application of Rhino 5.0 at their company.

Course Syllabus

I. IDENTIFYING INFORMATION
Course: Rhino NURBS Modeling
Prerequisite: Basic computer skills (preferable CAD)
Time Frame: 24 contact hours
Instructor: Lee Kittredge
Mobile: (248) 844-9090
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II. REFERENCE MATERIALS

1. Rhinoceros Level 1 Training Manual by Robert McNeel & Associates

III. COURSE GOALS AND OBJECTIVES

1. Create and edit accurate free-form 3-D NURBS models
2. Create Lines, Circles, Arcs, and Curves
3. Create 3D models from 2D objects
4. Use copy, move, array, rotate, trim, split, scale, and join commands
5. Use Boolean operations
6. Render using shade, render, spotlights, and materials
7. Export and Import models

IV. METHODOLOGY

This course provides the solid fundamentals of the CAD tool to prepare the student for more specific and advanced functions. Each module will introduce new material that will prepare the student for the projects to be completed.

Each detailed subject will be presented in a lecture format outlining the theory and standardized accepted methodology. A PDF file of the lecture material will be provided for the student's personal use as reference material. Lecture note outlines will be distributed to the students for each lecture to help the student capture personal notes.

Using the theory and industry examples the student will conduct several projects that outline each key principal on in-class projects. These projects will increase in complexity as the students further develop their skills in applying these tools and techniques.

V. COURSE OUTLINE AND ASSIGNMENTS

Module 1: Introduction
User interface Discussion
Graphics Area Discussion
Command Line Discussion
Toolbars Discussion
View Manipulation Discussion
Exercises 1 and 2 Assignment

Module 2: Objects in two dimensions
Drawing curves Discussion
Layers Discussion
Object selection Discussion
Modeling Aids Discussion
Exercises 3-9 Assignment

Module 3: Precision Modeling
Coordinates Discussion
Object Snaps Discussion
Complex curves Discussion
Exercises 10-31 Assignment

Module 4: Editing Objects
Fillet, Blend and Chamfer Discussion
Move and Copy Discussion
Transformations Discussion
Trim and Split Discussion
Extend Discussion
Nudge Discussion
Exercises 32-51 Assignment

Module 5: 3-D Modeling and Editing
Creating Deformable Shapes Discussion
Modeling with Solids Discussion
Creating and Editing Surfaces Discussion
Exercises 52-66 Assignment

Module 6: Additional Operations
Rendering Discussion
Printing, Annotations Discussion
Customizing the work environment Discussion
Exercises 67-75 Assignment