



## Rhino Level-1 Jewellery Design Outline & Objectives

**Rhino**ceros®



authorised training centre

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## **Rhino Level 1 - Jewellery Design Certified and Official Training Class**

### **Course Outline**

This course is intended for those who currently work professionally or who wish to work professionally in fine jewellery design, but who are relatively new to Rhino NURBS modelling software in a jewellery design context. This includes both absolute beginners to CAD design as well as those already familiar with the basics of 3D computer-based design using other software.

The course contains most of the same concepts as the official McNeel Level 1 Rhino certification. However, the emphasis in this course has been reoriented towards working with jewellery design for 3D printing, so the exercises and emphasis on choice of tools and problem-solving strategies have been adjusted accordingly.

Although the class follows a clearly defined structure there will be scope for trainees to discuss individual work projects of their own.

### **Structure**

This comprehensive class starts with an introduction to the Rhino interface before moving on to the fundamentals of 2D curve construction and their use in creating cross sections for solid modelling. We then introduce the key tools of solid creation in Rhino one by one in the context of common jewellery forms—solitaire rings, eternity rings, bezel settings, claw settings, rubover settings, rex settings, pearl settings, and pinched shanks. Throughout these exercises, we will discuss important tolerance considerations for 3D printing models to use in precious metals casting. We will also discuss creating STL files for rapid prototyping (such as 3D printing). Various presentation and rendering processes will also be considered.

### **Prerequisites**

Trainees should already possess some bench jewellery skills as well as some confidence with using PCs. Some jewellery making knowledge essential for trainees to get the most out of this training.

No actual prior experience with CAD software is required.

## Curriculum

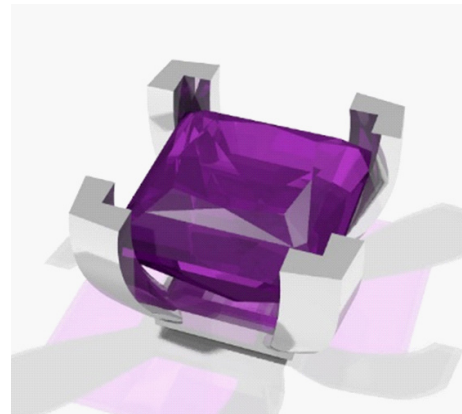
### Section 1

- 1 Introductions / Explanation of CAD and CAM
- 2 The Rhino Interface
- 3 Building objects with curves,  
including:  
Explode, Join, Rebuild, Split, Trim,  
Fillet and Offset
- 4 Organizing models with Layers
- 5 Precision modelling with Snaps and Osnaps
- 6 Basic transformation commands.  
including:  
Move, Rotate, Scale, and Mirror



### Section 2

- 1 Basic Ring Construction
  - Band Rings
  - Solitaire Rings
  - Eternity Bands
- 2 Basics of Solid modelling, including
  - Booleans
  - Key methods for building solids based on curves. (the "Key Rhino Commands")
3. Creating Gemstones
- 4 Using precision values and measurements in modelling
5. Preparing a file for Rapid Prototyping
6. Basic Tolerances for Rapid Prototyping
7. The Loft Command



### Section 3

1. Building your own claw settings
  - a. Rex Setting
  - b. Prong Setting
  - c. Square Setting
2. Building more complex rings
3. Building a Crossover Ring
4. Introduction to Surface Modelling, including closing open surfaces
5. Universal Deformation Tools (UDT) and their application
6. Basic Hollowing our methods
7. Building a Bombe Ring
8. Pave Stones and Bead Settings on a surface
9. Building a Rex Setting with Rhino History

