



CATIA V5 TRAINING – SURFACE DESIGN EXPERT

Who should attend:

Engineer and designer

Duration:

3 days

Methodology:

Practical hands-on by using CATIA software

Prerequisite:

CATIA SURFACE
DESIGN EXPERT

Introduction

This course will teach you how to create curves and surfaces using the GSD workbench. You will learn how to analyse the wireframe and surface quality and rectify defects, if any. You will learn to work in a multimodel environment with published surfaces. It will then capitalize on this knowledge and teach you advanced surface creation tools, quality checking and correction techniques, and surface creation in a multi-model environment. This course covers only those Generative Shape Design tools that are specific to the HD2 license.

Objective:

- Understand and use the tools in the Generative Shape Design workbench
- Create reference geometry, wireframe geometry and surfaces
- Create a clean topology from a set of surfaces and smooth sharp edges
- Create advanced and parameterized swept surfaces
- Perform advanced surface analysis and gap correction
- Improve the designed geometry's quality and stability
- Create Solids from surfaces



Course outline

Introduction to Surface Design

- Introduction to Surface Design
- Generative Shape Design Overview
- Surface Design Workbench Terminology
- Surface Design Workbench General Process

Creating Advanced Wireframe Features

- Creating an Extremum
- Creating a Connect Curve
- Curve Connect Checker
- Smoothing Curves

Creating Wireframe Geometry

- Why create 3D Wireframe Geometry?
- Creating Points, Lines, Planes and Curves in 3D
- Shape Design Common Tools
- Managing Geometrical sets

Creating Advances Swept Surfaces

- Inputs for Sweep
- Creating an Adaptive Swept Surface

Creating Surfaces

- Creating Basic surfaces, swept surface
- Surface Offset from a Reference
- Surface from boundaries
- Multi-Section Surface

Creating Advanced Blending Surfaces

- Types of Blend
- Creating Fillets using Hold Curve and Spine
- Creating Fillets using Law
- Creating a Blend Surface

Performing Operations on the Geometry

- Joining Elements
- Splitting / Trimming
- Creating Fillets
- Transforming, Extrapolating and Disassembling Elements
- Creating a Solid from Surfaces

Surface Analysis

- Curvature Analysis
- Improving Surface Quality

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