Inceptra™

Hands on, Measurable Training Programs

CATIA V5 Composites Part Design and Manufacturing

Course Code	EDU-CAT-en-CPD-F, EDU-CAT-en-CPM-F
Brand & Release	CATIA V5R21, V5R23 (V5-6R2013)
Duration	5 days
Level	Fundamentals
Prerequisites	CATIA V5 Fundamentals and Surface Design Fundamentals.

Objectives:

In this course, students will learn how to produce design and manufacturing information for composite parts utilizing CATIA V5's CPD and CPM workbenches. A hands-on course consisting of instruction and exercises.

Class Structure:

Composite Part Design topics:

- Introduction
  - Composites
  - Composite Design Workbench
  - Composite Grid Design Workbench
  - Composite Terminology
- Preliminary Design
- Manual Ply Creation
- Zone Design
- Ply Management
- Mirroring
- Creating IML's & Solids
- Analyzing
- Drop Off and Slicing
- Composite Grid Design
  - Grid Panel Definition
  - Grid Definition
  - Virtual Stacking Management
  - Plies Generation
  - Grid Ramp Support Definition
  - Remove Useless Ramp Supports
  - Swap Edge
  - Reroute Ply Contour
  - Define Local Drop Off
  - Create Standard Contour
  - Define No Drop Off Area
  - Synchronize Stacking
  - Limit Plies from Panel Limits

Composite Part Manufacturing topics:

- Manufacturing Process
  - Creating a Manufacturing Document
  - Synchronizing
  - Skin Swapping
  - Defining the Edge of Part
  - Material Excess
  - Producibility
  - Flattening
  - Flatten Optimization
  - Geometry Transfer
  - Producibility Inspection
  - Fiber Direction
- Unfold Entity
- Splicing and Splice Zones
- Darting
- Exporting
  - Exporting Ply Data as IGES or DXF
  - XML Export
- Drafting Standards
  - Creating a Ply Book
- Automated Deposition Design (ADD)
  - Adding Material to Plies
  - Stagger Origin Points
  - Grid Angle Cut