Publication date : 08/22/2024

Course : CATIA v5/v6, 3D part design and assembly

Practical course - 4d - 28h00 - Ref. TID
Price : 1940 CHF E.T.

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CATIA is capable of creating parametric and non-parametric 3D models. You will explore the CATIA software interface. You'll learn to master the notions of products, parts and sketches, to design solid parts and manage them in the context of assembly and collaborative work.

Teaching objectives

At the end of the training, the participant will be able to:

- Discover CATIA's collaborative design and assembly functions
- Modeling in 3D
- Creating a catalog
- Create parts, assemblies and associated drawings

Intended audience

Managers, architects, engineers, technicians, draughtsmen, drawing designers in design offices involved in creating and modifying drawings.

Prerequisites

Good knowledge of a graphical operating system. Experience required.

Course schedule

1 Introduction to CATIA v5/v6

- Basic principles and introduction to the CATIA v5/v6 interface.
- Product concepts, part concepts and sketch concepts.
- Design and visualization concepts.
- PLM approach.

Hands-on work

Demonstration of CATIA v5/v6 functionalities.

PARTICIPANTS

Managers, architects, engineers, technicians, draughtsmen, drawing designers in design offices involved in creating and modifying drawings.

PREREQUISITES

Good knowledge of a graphical operating system. Experience required.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

2 Part design

- Using the sketch.
- Notion of body (solid and surface).
- Sketcher.
- Geometry creation.
- Constraint and sketch analysis.
- Updating constraints.

Hands-on work

Sketch a switch plate.

3 3D modeling and functions

- Part Design.
- Basic solids from a sketch.
- Basic features (extrusion, cutting, scanning, smoothing, etc.).
- Additional engineering functions (chamfers, holes, pockets, undercuts, splines, etc.).
- Dressing functions. Associative drawing, dimensioning, annotations.
- Primitives and Boolean operations.
- Dressing and transforming solids.
- Part Design and Sketcher options menu.

Hands-on work

Model a steam connecting rod.

4 Product organization

- Product concept.
- Notion of component.
- Assembly Design.
- Positioning and handling components in an assembly.
- Assembly analysis.
- Component editing.
- General information on mechanical stress.
- Detection of collisions between components.

Hands-on work

Creation of a two-part assembly with CATIA v5/v6.

5 Advanced solid-state design (assembly context)

- Visualization of an assembly structure.
- Inserting components.
- Reorganization of the construction tree.
- Assembly design.
- Component handling.
- Create a catalog and standard parts.

Hands-on work

Drawing and design of a crankshaft.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

6 Layout

- Create different types of views.
- Dimensioning and plan dressing.
- Modify layout.
- Multi-pattern design and assembly.
- Manage assembly exploded states.
- Automatic creation of bills of material.
- Set up bill of materials bubbles.
- Create symbols and annotations.

Hands-on work
Automatic part layout.

Dates and locations

REMOTE CLASS
2026 : 10 Mar., 16 June, 29 Sep., 1 Dec.