
NX CAM Training – Basic and Advanced



SAPIENCE



Objective: After the completion of NX CAM - Basic & Advanced Training; the candidates will be able to develop the manufacturing models and assemblies, work piece setups, efficient manufacturing 2 ½ and 3 axis, Multi axis (4,5 & mill turn) tool paths, and shop documentation

Duration: 10 days

Training Contents:

1. General User Interface (CAD)

- Roles
- Sketching
- Extrude/Revolve
- Blends/Chamfers
- Holes
- Primitives
- Work piece Blank Geometry
- Assembly Constraints
- Synchronous Modeling



2. General User Interface (CAM)

- Master Model Concept
- Work piece Setup
- Work piece Blank Options
- Machine Coordinate System
- Tool and Holder Creation
- Tool Library

3. Planar Milling

- Floor & Wall
- Floor & Wall with IPW
- Face Milling with boundaries & Manual
- Planar Milling
- Planar Profile
- Clean up corners
- Planer text



4. Cavity Milling

- Cavity Mill
- Rest Mill
- Z level profile
- Z level corner
- Fixed contour
- Contour area
- Contour steep& non steep
- Flow cut
- Solid profile 3D
- Contour text

5. Drilling

- Drilling(Spot drilling, Peck drilling, Break chip drilling)
- Countersinking
- Counter boring
- Tapping
- Hole milling
- Thread Milling



6. Turning

- Work piece Setup
- Machine Coordinate System
- Tool and Holder Creation
- Facing
- Rough OD
- Finish OD
- Drilling
- Rough ID
- Finish ID
- OD Groove
- OD Thread
- ID Thread
- In Process Work piece
- Tool path verification



7. Multi axis Strategies

- Variable contour
- Variable streamline
- Contour profile
- Fixed contour
- Z - Level 5 axis
- Mill turn programming

8. Mill Turn operations

9. Tool library creation

10. Tool Path Editing

11. Gouge and Collision Checking

12. Tool Path Verification

13. Shop Documentation



14. Post Building Techniques

- NX Post - postprocessor
- Building a postprocessor with the post builder.
- Post Builder for lathe applications (2-axis and 3 axis)
- Post building for 3axis, 4axis and 5 axis mills (machining Centers)
- Create mill-turn postprocessors
- Custom commands
- User-defined events and user-defined cycles (UDEs)
- A Guide to best practices of building a postprocessor

15. Machine Simulation

I. Basic Machine Tool Simulation Customization

- Create a kinematics model
- Create kinematic chain for table ,Slide & tool as spindle
- Kinematic chain to finding tool
- Add X slide, Y slide, & Z slide
- Add axis limits & angle limits
- Define part, fixtures, & blank mounting
- Define part mount Junction.



II. Create a machine tool in the library

- Add Kinematic model & post processor in machine tool library

III. Use and Test new Machine tool with G code driven simulation