Course Name : *NX CAD Basics*
Course Duration : **40 Hrs.**

Course Overview

- o **Intended audience**
  - This course is suited for design engineers, manufacturing engineers, application programmers, NC programmers, CAD/CAM managers, and system managers who need to manage and use NX.
- o **Prerequisites**
  - *Education***:** Diploma or UG 1st year completed in anyone of following Streams.
    - Mechanical, Automobile, Production, Manufacturing, Civil, Aeronautical, Industrial, Mechatronics, Marine, Metallurgy Engineering and Equivalent Branches.
  - *Software:* **None**
- o **Course objectives:** After successfully completing this course, you should be able to
  - **Parametric Modeling:** Learn to create, edit, and adjust parametric solid models using Synchronous Modeling.
  - **Assembly and Drafting:** Construct and modify basic assembly structures, navigate the drafting user interface, create and maintain drawing sheets and views.
  - **Introduction to Motion Simulation:** Understand and analyze basic motion simulations of mechanical designs.
- o **Course Contents**
  - Navigating the NX User interface
  - Understanding 2D Sketch Environment – Create & Modify Sketch curves
  - Dimensional & Geometric Constraints
  - **Modelling**
    - Create Basic Parts with Sketches, Part Navigator
    - Curve Rule, Selection Scope, Type Filter
    - Organize – Feature group & Display Parts Model, Create Datum planes
    - Create different models using Sketches
    - Add Finishing Details- Blending and chamfering edges, Holes
    - Boolean Operations, Edit Object Display, Assign Feature Color
    - Simple Changes & Part Integration – Timestamp reorder, Edit section, Clip section
    - Basic Parts Edit Using Synchronous – Move, Copy, Replace
    - Pull Face, Resize Blend & Resize Chamfer
  - **Assembly**
    - Working with Assemblies – Bottom Up Vs Top Down Assembly
    - Bottom Up Assembly Building - Adding and positioning parts in an assembly
    - Using Assembly Navigator, Create & Replace Reference set

- Analyze Existing Assemblies, Displayed part Vs Work part
- Exploded View of an Assembly, Add Exploded View in Part Navigator
- Constraint Navigator, Assembly Sequencing, Export to Movie

- **Drafting**
  - Create a basic part drawing – Drawing sheets, Views
  - Dimensions and Annotations

- **Basics of Motion Simulation**
  - Create & Edit Motion Body (Links),Joint
  - Add Drive Motion, Gear Couplers, 3D Contact
  - Motion - Dynamic Analysis