COURSE CONTENT

Siemens

UG-NX

1. **Overview**

- Intended Audience
- Course Objectives
- Prerequisites
- How to Use This Course
- Class Standards
- Part File Naming
- Seed Parts
- Colors
- Definitions of Terms

2. **Getting Started**

- Starting NX
- Gateway Application
- Cue/Status Line
- Windows File Dialogs
- Activity — Creating a New Part
- Opening Multiple Parts
- Activity — Opening an Existing Part
- Activity—Save Part As (Copying a Part)
- Activity—Closing Parts
- Exiting NX
- Summary

3. **The NX User Interface**

- Toolbars
- Customizing Toolbars

6.   Positional Form Features

- Creating Form Features
- Hole
- Boss
- Positioning Terminology
- Positioning Methods
- Activity—Positioning Holes and Bosses
- Slot
- Pocket
- Pad
- Additional Positioning Methods
- Parameter Entry Options
- Activity — Creating Pockets and Slots
- Groove
- Activity — Positioning a Groove
- Editing the Size and Location of Form Features
- Edit Positioning
- Error Messages
- Editing Features with the Part Navigator
- Activity—Editing Positional Form Features
- Additional Positioning Techniques
- Summary

7.   Expressions

- Overview
- Creating and Editing Expressions
- Activity — Getting Familiar with Expressions
- Summary

8.   Shell

- Shell Feature Overview
- Creating a Shell Feature
- Activity — Creating a Shell Feature
- Activity — Creating a Shell and Removing Multiple Faces
- Activity — Creating a Shell with an Alternate Thickness
- Summary

9.   Edge Operations

- Overview
- Edge Blend
- Activity — Creating Edge Blends
- Chamfer
- Activity — Creating Chamfers
- Summary

10.   Model Construction Query

- Visually Inspect the Part
- Layers
- Layer Categories
- Moving Objects Between Layers
- Part Navigator
- Information
- Distance
- Mass Properties
- Activity — Model Construction Query
- Summary

11.   Introduction to Assemblies

- Definitions and Descriptions
- Introduction to Load Options

- Load Method
- Load States
- Load Failure
- Activity — Setting Load Options
- The Assembly Navigator
- Node Display
- Activity—Working with the Assembly Navigator
- Selecting Components in the Assembly Navigator
- Selecting Components in the Graphics Window
- Designing in Context
- Assembly Navigator Pop-Up Menu Options
- Activity—working with the Assembly Navigator (continued)
- Saving the Work Part
- Summary

12.   Adding Components & Mating Conditions

- General Assembly Concepts.
- Assemblies Application
- Assemblies Pull-down Menu
- Assemblies Toolbar
- Adding Components to an Assembly
- Activity—Creating an Assembly
- Mating Conditions
- Mate Constraint
- Align Constraint
- Angle Constraint
- Parallel Constraint
- Perpendicular Constraint
- Center Constraint
- Distance Constraint
- Tangent Constraint
- The Mating Conditions Dialog
- Tree Listing
- Repositioning Components

- Activity—Mating the Nut Cracker Components
- Summary

13.   Datum Features

- Datum Feature Overview
- Datum Planes
- Creating Relative Datum Planes
- Common Datum Plane Types
- Activity—Creating Relative Datum Planes
- Selecting and Using Datum Planes
- Activity—Cylindrical Faces and Datum Planes
- Activity — Creating a Feature on a Relative Datum Plane
- Activity—Creating a Hole Corner to Corner
- Datum Axis
- Datum Axis Types
- Editing Datum Axes
- Activity—Constraining Locations using Datums
- Datum CSYS
- Summary

14.   Sketching

- Sketching Overview
- Sketches and the Part Navigator
- Sketch Visibility
- Creating a New Sketch
- The Active Sketch
- Sketch Creation Steps
- Activity — Sketch Creation
- Sketch Curves
- Activity — Using the Sketch Profile Tool
- Creating Fillets
- Trimming and Extending Curves

- Activity — Creating Fillets
- Activity—Using Quick Trimand Quick Extend
- Sketch Points
- Dimensional Constraints
- Activity—Adding Dimensional Constraints
- Editing Dimensions
- Activity — Editing Sketch Dimensions
- Geometric Constraints
- Show/Remove Constraints
- Constraint Conditions
- Activity — Adding Constraints
- Activity — Constraining a Profile
- Activity — Sketching and Constraining a Gasket
- Convert To/From Reference
- Activity—Constraint Conditions

15. Swept Features and Boolean Operations

- Types of Swept Features
- Extrude
- Activity — Starting the Draglink
- Boolean Operations
- Start and End Limit Options
- Extrude with Offset
- Extrude with Draft
- Activity—Extruding with Offsets
- Selection Intent
- Activity — Extruding Using Selection Intent
- Sweep Along Guide
- Activity—Sweeping Along an Open Guide String
- Activity — Sweeping Along a Closed Guide String
- Revolve
- Activity—Creating Revolved Features
- Activity — Adding a Revolved Feature to the Draglink
- Activity — Extruding to a Face

- Summary

16. Editing the Model

- Accessing the Options to Edit Features
- Part Navigator
- Deleting Features
- Update Failures
- Activity — Edit and Delete Features
- Activity — Using the Update Tool
- Activity—Reordering Features with the Part Navigator
- Delaying Model Updates
- Move Feature
- Reattaching a Feature
- Activity—Re-attaching and Moving Features
- Summary

17. Instance Arrays

- Instance Feature
- Rectangular Instance Array
- Circular Instance Array
- Activity — Rectangular Instance Array
- Activity — Circular Instance Array
- Activity (Optional) — Associativity of the Rotation Axis
- Summary

18. The Master Model

- The Assembly Modeler
- Master Model Example
- Activity—Exploring a Master Model Assembly
- Activity — Creating a Non-Master Part

- Summary

19.   Introduction to Drafting

- Working with Drawings
- Creating New Drawing Sheets
- Opening a Drawing
- Editing a Drawing
- Deleting a Drawing
- Activity — Creating New Drawing Sheets
- Activity—Opening and Editing Drawing Sheets
- Drawing Monochrome Display
- View Preferences
- Hidden Lines
- Smooth Edges
- Virtual Intersections
- Adding a Base View
- View Creation Options Bar
- Adding Projected Views
- Editing Existing Views
- Removing Views From a Drawing
- Activity—Adding Views to a Drawing
- Utility Symbols
- Creating a Linear Centerline
- Activity—Creating a Linear Centerline
- Manually Creating a Cylindrical Centerline
- Activity—Creating a Cylindrical Centerline
- Dimensions
- Annotation Preferences
- Dimension Preferences and Placement
- Appended Text
- Tolerances
- Text Orientation and Text Arrow Placement
- Editing an Existing Dimension
- Activity — Creating Dimensions

- Text Creation
- Creating Notes
- Activity — Creating Notes and Labels
- The Annotation Editor
- Editing Notes
- Activity — Creating More Notes
- Master Model Drawing Guidelines
- Summary

20. Expression Operators

- Overview
- Operators
- Precedence and Associativity
- Legacy Unit Conversion
- Built-in Functions

21. Point Constructor Options

- Overview
- Methods to Specify a Point
- WCS and Absolute Coordinates
- Offset

22. Customer Defaults

- Overview
- Customer Defaults
- Customer Defaults Levels
- Setting Customer Defaults
- USER, GROUP, and SITE directories
- Managing Your Changes
- Updating to a New Release of NX