

Course	Topic #	Topic Title
■ Course 1: Introduction to Onshape & 3D Design		1 What is Onshape? Cloud-based CAD Overview
		2 Setting Up Your Onshape Account
		3 Navigating the Onshape Interface
		4 Understanding Documents, Tabs & Versions
		5 Basic Sketching Tools
		6 Applying Geometric & Dimensional Constraints
		7 Creating 2D Sketches
		8 Introduction to Parts & Assemblies
		9 Saving & Organizing Your Work
		10 Best Practices for New Users

■ Course 2: Sketching Essentials		1 Creating and Editing Sketches
		2 Using Constraints Effectively
		3 Dimensioning Techniques
		4 Working with Reference Geometry
		5 Patterns (Linear & Circular)
		6 Splines & Complex Curves
		7 Importing/Exporting Sketches
		8 Using Construction Geometry
		9 Sketch Planes & Offsets
		10 Common Sketching Mistakes & Fixes

■ Course 3: Part Modeling Fundamentals		1 Extrude, Revolve, Sweep & Loft Basics
		2 Understanding Solid vs. Surface Models
		3 Applying Fillets and Chamfers
		4 Creating Shells & Ribs
		5 Patterns in 3D (Linear, Circular)
		6 Mirroring Features
		7 Editing Feature History
		8 Using Configurations in Parts
		9 Real-World Example: Modeling a Bracket
		10 Exporting Parts for 3D Printing

■ Course 4: Advanced Part Modeling		1 Advanced Sweep & Loft
		2 Multi-body Parts
		3 Variables & Parameters
		4 Derived Parts
		5 Split & Combine Tools
		6 Using Custom Features
		7 Managing Complex Geometry
		8 Importing External Geometry (STEP, IGES)
		9 Troubleshooting Geometry Errors
		10 Real-World Example: Modeling a Gear

■ Course 5: Assemblies & Mates		1 Introduction to Assemblies
		2 Inserting and Organizing Parts
		3 Understanding Mates & Mate Connectors
		4 Applying Rigid, Revolute, Slider Mates
		5 Creating Subassemblies
		6 Motion & Animation in Assemblies
		7 Exploded Views
		8 Configurations in Assemblies
		9 Assembly BOM (Bill of Materials)
		10 Real-World Example: Building a Simple Mechanism

■ Course 6: Drawing & Documentation		1 Creating 2D Drawings from 3D Models
		2 Adding Views (Top, Side, Isometric)
		3 Dimensions & Annotations
		4 Section & Detail Views
		5 Inserting BOM Tables
		6 Revision & Version Control
		7 Exporting Drawings (PDF, DWG, DXF)
		8 Using Templates & Title Blocks
		9 Collaboration on Drawings
		10 Real-World Example: Producing Shop Drawings

■ Course 7: Collaboration & Data Management		1 Sharing & Permissions in Onshape
		2 Using Versions & Branching
		3 Commenting & Markups
		4 Inserting & Linking Documents
		5 Managing Teams & Projects
		6 Importing Legacy CAD Files
		7 Using Onshape App Store Add-ins
		8 Integrating with Other Platforms (e.g., Google Drive)
		9 Backup & Recovery
		10 Best Practices for Collaboration

■ Course 8: Simulation & Analysis		1 Introduction to Simulation in Onshape
		2 Static Stress Analysis Basics
		3 Applying Loads & Constraints
		4 Meshing the Model
		5 Interpreting Results (Stress, Strain, Displacement)
		6 Optimizing Designs Based on Simulation
		7 Thermal Analysis Overview
		8 Using Third-Party Apps (SimulationXpress)
		9 Motion Simulation
		10 Real-World Example: Testing a Bracket

■ Course 9: 3D Printing & Manufacturing Prep		1 Exporting STL Files for 3D Printing
		2 Checking Models for Printability
		3 Adjusting Tolerances for FDM/Resin Printers
		4 Adding Supports & Orientations
		5 Understanding CNC & CAM Basics
		6 Preparing Files for Laser Cutting
		7 Using Feature Scripts for Custom Prep
		8 Working with Vendor Add-ins
		9 Quality Control Checks
		10 Real-World Example: Designing a 3D Printable Case

■ Course 10: Advanced Projects & Certification Prep		1 Overview of Onshape Certification Exams
		2 Tips for Efficient Modeling
		3 Large Assembly Management
		4 Using Variables & Custom Features Together
		5 Advanced Surface Modeling Techniques
		6 Multi-user Real-Time Collaboration Projects
		7 Creating a Complete Product from Concept to Assembly
		8 Exporting & Sharing Final Projects
		9 Review of Common Exam Questions
		10 Capstone Project Presentation