SOLIDWORKS Weldments Professional (CSWP-WD) Certification Prep Course

Target Audience

This course is designed for SOLIDWORKS users who want to become Certified SOLIDWORKS Professional in Weldments CSWP-WD. It is suitable for users who have basic knowledge of SOLIDWORKS and want to develop advanced weldment design skills and achieve the CSWP-WD Weldments certification.

Course Outcomes

- Understand weldment design workflows and structural member creation
- Apply weldment profiles, corner treatments, and advanced weldment features
- Create and modify weldment structures using professional techniques
- Manage cut lists, bounding boxes, and weldment properties
- Generate weldment drawings with annotations and BOM
- Prepare for and successfully pass the CSWP-WD Certification exam

Course Objectives

- Develop structured knowledge of weldment tools and workflows
- Build proficiency in creating and editing weldment structures
- Enable learners to work with advanced weldment features and configurations
- Introduce cut list management and weldment documentation techniques
- Reinforce learning through exercises aligned with certification requirements
- Prepare participants comprehensively for the CSWP-WD certification exam

Course Outline

The course comprises **40-hours** of theory and labs and is divided into **17** different chapters. Each chapter will be followed by hands-on lab exercises to reinforce learning and gauge understanding of the topics covered.

Table of Contents

- Saving Documents
- Opening Existing Documents

Chapter 2. Sketching and 3D Sketching for Weldments

- Drawing a Line
- Drawing a Rectangle
- Drawing a Circle
- Drawing an Arc
- Drawing a Slot
- Drawing an Ellipse
- Trim
- Offset
- Convert Entities
- Sketch Relations
- Smart Dimension
- Fully Defined Sketch
- 3D Sketch Creation

Chapter 3. Weldments Basics

- Structural Members
- Weldment Profiles
- Weldment Profile Library
- Weldment Groups
- Alignment of Profiles
- Weldment Segments
- Weldments
- Weldment Feature
- Weldment Configuration Options
- The Default Profiles
- Weldment Profiles from SOLIDWORKS Content
- What is a Structural Member Profile
- Inserting Structural Member
- Weldment Profiles Folder Structure
- Groups
- Groups vs Structural Members
- Profile Position Settings

Chapter 4. Weldment Features

- Trim/Extend Command
- Corner Treatments
- End Butt
- End Miter
- Placing Gaps at Corners
- Weldment Corner Modification

- Corner Treatment Options
- Individual Corner Treatments
- Trim/Extend Options
- Sketch Considerations
- Trim Order

Chapter 5. Weldment Advanced Features

- End Caps
- Gussets
- Weld Beads
- Plates
- Structural Frame Modification
- Adding Plates and Holes
- Gusset Profile and Thickness
- Locating the Gusset
- End Cap Parameters

Chapter 6. Editing Weldment Parts

- Modify Structural Members
- Edit Weldment Profile
- Modify Weldment Segments
- Feature Suppression
- Weldment Part Modification
- Using Symmetry
- Advantages of a Multibody Part
- Sharing a Model
- Limitations of a Multibody Part

Chapter 7. Cut List and Properties

- Cut List Folder Management
- Cut List Properties
- Cut List Creation
- Bounding Box
- Mass Properties
- Managing the Cut List
- Cut List Item Names
- Accessing Properties
- Cut-List Properties Dialog
- Structural Member Properties
- Adding Cut List Properties
- Bounding Boxes in Weldments
- Editing a Bounding Box
- Options for Generating Cut List Items
- Manually Managing Cut List Items

- Creating Sub-weldments
- Using Selection Filters

Chapter 8. Weldment Drawings

- Cut List Creation in Drawing
- Balloons
- Bill of Materials
- Weldment Drawing Views
- Dimensions and Annotations
- Weldment Drawings
- Drawing Views of Individual Bodies
- Select Drawing View Bodies
- Using Display States
- Isolate
- Using Relative View
- Cut List Tables
- Representing Welds
- Weld Symbols
- Other Weld Annotations
- Fillet Beads
- Groove Beads
- Weld Bead Feature
- Weld Tables

Chapter 9. Working with Weldments and Profiles

- Custom Structural Member Profiles
- Modifying a Profile
- Transferred Information from Profiles
- Defining Material
- Creating Custom Profiles
- Standard or Configured Profiles
- Inserting Existing Parts
- Locate Part and Move/Copy Body
- When to Use an Assembly

Chapter 10. Configurations and Detailing Weldments

- Weldment Configurations
- Adding Configurations
- Post-Assembly Machining Features
- Feature Scope

Chapter 11. Working with Bent Structural Members

- Working with Bent Structural Members
- Using Reference Planes

- Space Handle
- Subset of Sketch Entities and Relations
- Creating a 3D Sketch Plane
- Active Planes
- Visibility controls
- Merge Arc Segment Bodies

Chapter 12. Structure System

- Structure System
- Primary vs Secondary Members
- Primary Member Types
- Secondary Members
- Corner Management

Chapter 13. Working with Structure System and Cut Lists

- Managing the Cut List
- Bounding Boxes in Structure System
- Linking Cut List Properties to File Properties
- Gussets and End Caps

Chapter 14. Connection Elements and Advanced Weldments

- Connections
- Define Connection Element
- Feature Propagation
- Dimension Group
- Insert Connection Element
- Cut Scope
- Patterning Connection Elements
- Beam Splice

Chapter 15. Profile and Structure Creation

- Weldment profile creation
- Placing the Weldment profile in the Weldment profile library
- Basic Weldment Part creation
- Advanced Weldment Part creation
- 3D Sketch Creation

Chapter 16. Modification and Corner Treatment

- Weldment corner modification
- Placing gaps at corners and segment intersections
- Trim/Extend Command
- End Caps
- Gussets
- Weldment Part modification

Chapter 17. Cut List and Evaluation

- Cut List Folder management in the Weldment Part
- Cut List creation in the Weldment Drawing
- Mass properties calculation