SOLIDWORKS
SYLLABUS – 2026

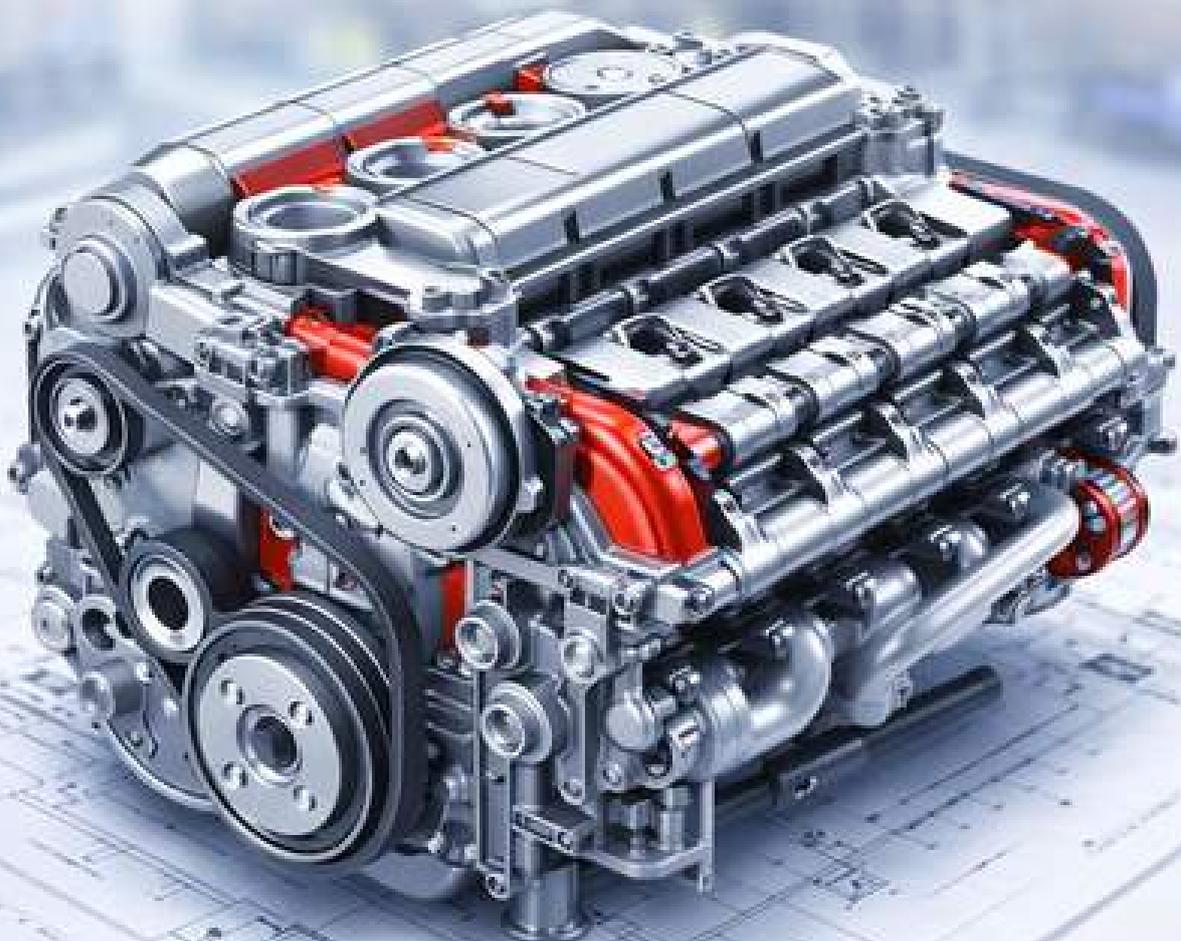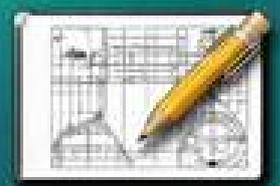# SOLIDWORKS

LEVEL – 1 (ESSENTIAL)

2D

3D

Assembly

Drafting

LEVEL-1(Essential)

2D

SESSION	Topic	Commands	Hrs
1	2D	Solid works intoduction Units Apply Scene Plane introduction Line Center Line Mid Line Circle Rectangle : • Corner Rectangle • Center Rectangle Arc : • Center point Arc • Tangent Arc • 3 Point Arc Trim-Power Trim Trim to Closet	45 Min

SESSION	Topic	Commands	Hrs
2	2D	Fully Defined Concept Shortcuts Relation Slot : • Slot Straight • Center Point Slot • 3 Point Arc Slot • Center Pointt Arc Slot Linear Pattern Circular Pattern Mirror Fillet Chamber Offset	45 Min

SESSION	Topic	Commands	Hrs
3	2D	Rectangle : • 3 Point Corner Rectangle • 3 Point Center Rectangle • Parallelogram Circle : • perimeter circle Polygon Spline Style Spline Ellipse Parabola Conic Text Point Move Copy Rotate Scale Strength Stretch Entities Quick Snap Point Center Point Mid Point Quadrant Intersection Neareset Tangent H/V Point Grid Snap	45 Min

SESSION	Topic	Commands	Hrs
4	2D	Trim Corner Trim Away Inside Trim AwayOutside Instant 2D Repair Sketch Revision	45 Min

3D

SESSION	Topic	Commands	Hrs
5	3D	3D - Drawing Concept Planes : 1.Natural Plane 2. Reference Plane • Parallel Plane • Inclined Plane • Mid Plane • Diagonal Plane 3.Surface Method Extrude Boss Extrude Cut Fillet Chamber Rib Zoom to Fit Zoom to Area Previous View Section View View Orientation Display Style Hide All Types Appearance Apply Scence View Settings Isometric Trimetric Dimetric	45 Min

SESSION	Topic	Commands	Hrs
6	3D	Linear Pattern Circular Pattern Mirror Curve Driven Pattern Revolve Revolve Cut Axis Point Coordinates Draft Shell	45 Min

SESSION	Topic	Commands	Hrs
7	3D	Helix & Spiral Swept Boss 1.Sketch Profile 2.Circular Profile Swept Cut 1.Sketch Profile 2.Circular Profile Loft Loft Cut Boundary Boundary Cut Sketch Driven Pattern Fill Pattern Fillet Types : 1.Constant Size 2.Variable Size 3.Face Fillet 4.Fully Rounded Fillet	45 Min

SESSION	Topic	Commands	Hrs
8	3D	HoleWizard Advance Hole Thread Intersect Wrap 1.Emboss 2.Deboss 3.Scribe CosmeticThread Split Line 1.Silhouette 2.Projection 3.Intersection ProjectCurve Compositive Curve Curve Through the X,Y,Z Point CurveThroughtheReference Point	45 Min

SESSION	Topic	Commands	Hrs
9	3D	Revision CSWA Question Paper Discussion	45 Min

ASSEMBLY

SESSION	Topic	Commands	Hrs
10	Assembly	Stsndard : Insert Component Copy Components Move Rotate Components Copy With Mates Standard Mates : 1.Coincident 2.Parallel 3.Perpendicular 4.Tangent 5.Concentric 6.Lock 7.Distance 8.Angle Mate Alignment	45 Min

SESSION	Topic	Commands	Hrs
11	Assembly	Exploded View Explode Line Sketch Animate Explode Animate Collapse Collapse Design Library Advance Mate : 1.Profile Center 2.Symmetric 3.Width 4.Path Mate 5.Linear Coupler 6.Limit Distance 7.Limit Angle	45 Min

SESSION	Topic	Commands	Hrs
12	Assembly	Linear Component Pattern Circular Component Pattern Pattern Driven Component Pattern Curve Driven Component Pattern Sketch Driven Component Pattern Chain Component Pattern Mirror Components Bill of Materials Smart Fasteners	45 Min

SESSION	Topic	Commands	Hrs
13	Assembly	Mechanical Mates : 1. Cam 2. Slot 3. Hinge 4. Gear 5. Rack and Pinion 6. Screw 7. Universal Joint	45 Min

SESSION	Topic	Commands	Hrs
14	Assembly	Assembly Revision CSWA Assembly Question Practice Motor Spring Gear Contact Gravity Motion Study Properties Bill Of Materials	45 Min

DRAFTING

SESSION	Topic	Commands	Hrs
15	Drafting	**Standard Sheet Size** **Scale Ratio** **Standard 3 View** **Model View** **Project View** **Auxiliary View** **Section View** **Removed Section** **Detail View** **Brokenout Section** **Break View** **Crop View** **Alternate Position View** **Palleted Method** **Edit Sheet Format** **Image Insert** **Pdf Generates**	45 Min

SESSION	Topic	Commands	Hrs
16	Drafting	**Annotation** **Smart Dimension** **Auto Dimension** **Trim Expert** **Model Items** **Tables** **General Tables** **Bill of Materials** **Center Mark** **Center Line** **Area Hatch & fill Note(A)** **Balloon** **Autoballoon** **Magnetic Line** **Explode View** **Customized View Setup**	45 Min

SESSION	Topic	Commands	Hrs
17	Drafting	GD & T Introduction Symbols Applications Datum Feature Control Frames Types of Control Frame Datum Target Hole Callout	45 Min

SKYJET ACADEMY

ISO CERTIFIED

Certified SOLIDWORKS Associate

CSWA

Certificate of Achievement

SOLIDWORKS CSWA

EXAM

TOP RATED 5.0 ★★★★★

CSWA EXAM SYLLABUS

SESSION	Topic	Commands	Hrs
18	CSWA	- Sketch entities - lines, rectangles, circles, arcs, ellipses, centerlines - Sketch tools - offset, convert, trim - Sketch relations - Boss and cut features - extrudes, revolves, sweeps, lofts - Fillets and chamfers - Linear, circular, and fill patterns - Dimensions - Feature conditions – start and end - Mass properties - Materials - Inserting components - Standard mates - coincident, parallel, perpendicular, tangent, concentric, distance, angle - Reference geometry – planes, axis, mate references - Drawing views - Annotations	1 hr 30 Min

SOLIDWORKS

LEVEL – 2 (PROFESSIONAL)

WELDMENTS SHEET METAL MOULDING SURFACE

LEVEL-2 (Professional)

WELDMENTS

SESSION	Topic	Commands	Hrs
19	Weldments	**Weldments Introduction** **Applications** **3D Sketch** **Structural Member** 1.Square Tube 2.Rectangular Tube 3.Angle Iron 4.C Channel 5.Pipe 6.SB Beam **Trim and Extend** 1.End Trim 2.End Miter 3.End Butt 1 4.End Butt 2 **Customized Edit Profile** **Locate Profile** **End Cap** 1.Outward 2. Inward 3.Internal **Gusset** **Weld Bead** 1.Weld Geometry 2.Weld Path	1 hr 30 Min

SHEETMETAL

SESSION	Topic	Commands	Hrs
20	Sheetmetal	Sheetmetal Introduction Applications Base Flange Tab Edge Flange Hem Jog Sketched Bend Cross Break Vent Simple Hole Extrude Cut Flattern Fold Unfold Cut List	45 Min

SESSION	Topic	Commands	Hrs
21	Sheetmetal	Miter Flange Swept Flange Corners 1.Closed Corner 2.Welded Corner 3.Break / Trim Corner 4.Corner Relief Sheetmetal Gusset Tab & Slot Normal Cut Forming Tool No Bends Rip Insert Bend Lofted Bend Convert to Sheetmetal	45 Min

MOULDING

SESSION	Topic	Commands	Hrs
22	Moulding	**Moulding Introduction** **Applications** **Split :** 1.Silhouette 2.Projection 3.Intersection **Draft Analysis** **Scale** **Draft** **Parting Line Creation :** 1.Split Faces 2.Split Line (Plane creation) 3.Edge Method (Irregular Method) 4.Side Core **Shut-Off Surface** **Parting Surface :** 1.Normal to Surface 2.Perpendicular to pull **Tooling Split**	45 Min

SESSION	Topic	Commands	Hrs
23	Moulding	Side Core Mould Revision	45 Min

SURFACE

SESSION	Topic	Commands	Hrs
24	Surface	Surface Introduction Applications Planar Surface Offset Surface Ruled Surface 1.Tangent to surface 2.Normal to surface 3.Tapered to Vector 4.Perpendicular to Vector 5.Sweep Filled Surface Knit Surface Extrude Surface Revolved Surface Swept Surface Loft Surface Boundary Surafce Free Form Fillet Chamber	45 Min

SESSION	Topic	Commands	Hrs
25	Surface	Delete Face Replace Face Extend Surface 1.Distance 2.Up to Point 3.Up to Surface Trim Surface 1.Standard 2. Mutual Untrim Surface Thicken Thickened Cut Cut With Surface	45 Min

SOLIDWORKS

LEVEL - 3 (EXPERT)

SIMULATION

LEVEL-3 (Expert Analysis)

SIMULATION

SESSION	Topic	Commands	Hrs
26	Analysis	**Introduction Analysis** **Simulation Applications** **Stress** **Strain** **Displacement** **Stress-Strain Curve** **Failure Analysis** **Types of Load :** **1.Uniformly Distributed Load** **2.Edge Load** **3.Split Face Load** **4.Point Load** **Fixing Condition** **Mesh Types** **1.Element Size** **2.Types Of Mesh** **Result & Discussion** **Compare Result** **Plot Tools** **Report Generation** **Results**	1 hour 30 min

SESSION	Topic	Commands	Hrs
27	Analysis	**Static Analysis Types :** • **Force** • **Torque** • **Prescribed displacement** • **Gravity** • **Distributed mass** • **Remote Load** • **Pressure** • **Centrifugal** • **Bearing load** • **Temperature**	**1 hour 30 min**

SESSION	Topic	Commands	Hrs
28	Analysis	**Analysis Types** • **Thermal Analysis** **1.Conduction** **2.Convection** **3.Radiation** • **Frequency Analysis** • **Buckling Analysis** • **Fatigue Analysis** • **Non-Linear Analysis** • **Drop Test Analysis**	**1 hour 30 min**

SESSION	Topic	Commands	Hrs

29	Flow Simulation	**Flow Analysis Introduction**
		Application
		Mach Number
		Pressure
		Velocity
		Types of Flow
		    1.Internal Flow Analysis
		    2.External Flow Analysis
		
		Internal Flow :
		• **Create Lids**
		• **Wizard**
		• **Computational Domain**
		• **Boundary Condition**
		• **Goals**
		• **Run this study**
		• **Results**
		    Flow Trajectors
		
		External Flow :
		• **Wizard**
		• **Computational Domain**
		• **Boundary Condition**
		• **Goals**
		• **Run this study**
		• **Results**
		    Flow Trajectors
		Report Generation
		Revision
		Project
			1 hour 30 min

SOLIDWORKS

LEVEL - 4 (Production)

EXPERT+

LEVEL-4 (Production)

EXPERT PLUS

SESSION	Topic	Commands	Hrs
30	Production	**Production Introduction** **Applications** **Design Concepts** **Design Study** **Material Optimization** 1.Variable View 2.Table View 3.Result View **Analysis Optimization** 1.Variable View 2.Table View 3.Result View **Cost Cutting Analysis** **Configuration** **Equation** **Design Table**	1 hour 30 min

SESSION	Topic	Commands	Hrs
31	Production	**Customized Weldment Profiles** **File Properties Automation** **Industry Draftimg Template** **Customized Hardware Setting** **Rendering** **Photoview 360** **Decals**	1 hour 30 min

SESSION	Topic	Commands	Hrs
32	Production	**Assembly Checking Tools** **Interference Detection** **Measure** **Markup** **Mass Properties** **Section Properties** **Sensor** **Performance Evaluation** **Cost Estimation Analysis**	1 hour 30 min

SOLIDWORKS

Certified
SOLIDWORKS Professional

CSWP

Certificate of Achievement

SOLIDWORKS CSWP

EXAM

TOP RATED 5.0 ★★★★★

CSWP EXAM SYLLABUS

SESSION	Topic	Commands	Hrs
32	CSWP	- Sketch entities - lines, rectangles, circles, arcs, ellipses, centerlines - Sketch tools - offset, convert, trim - Sketch relations - Boss and cut features - extrudes, revolves, sweeps, lofts - Fillets and chamfers - Draft - Shell - Hole Wizard - Linear, circular, and fill patterns - Linked dimensions - Equations - Mirror - Dimensions - Feature conditions – start and end - Multi-body parts - Rib - Feature scope - Mass properties - Move/Delete face - Materials - Restraints - Inserting components - new and existing - Standard mates and advanced mates - Reference geometry – planes, axis, mate references - In-context features - Interference detection - Suppression states - Move/Rotate component - Assembly features - Collision detection in an assembly - External references - Design tables - Dimensions and model items	1 hour 30 min

SESSION	Topic	Commands	Hrs
33	CSWP	**Segment 1:** • **Creating a part from a drawing** • **Using linked dimensions and equations to aid in modeling** • **Using equations to relate dimensions** • **Updating parameters and dimension sizes** • **Mass property analysis** • **Modifying geometry on initial part to create a more complex part** • **Modifying parameters on the part at different stages while maintaining all other dimensions and design intent** **Segment 2:** • **Creating configurations from other configurations** • **Changing configurations** • **Creation of configurations using a Design Table** • **Mass properties** • **Changing and/or rearranging features of an existing SOLIDWORKS part** **Segment 3:** • **Creating an assembly** • **Adding parts to an assembly** • **Doing collision detection when moving a part in an assembly** • **Interference detection** • **Basic and advanced mates** • **Inserting subassemblies** • **Replacing a part with another part in an assembly** • **Creating a coordinate system** • **Using a coordinate system to perform mass properties analysis**	1 hour 30 min