3DLIFE

2024

Contenido de la certificación CSWP - Mechanical Design

Segment 1: (70 Minutes – 75 points to pass/105 points maximum)

- *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: (50 Minutes – 77 points to pass/104 points maximum)

- *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: (80 Minutes - 77 points to pass/109 points maximum)

- *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*

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Standard SOLIDWORKS tools that may be covered in the exam include:

- *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*