3D Modeling for Mechanical Design Using Inventor

Why 3D Modeling for Mechanical Certifications ?

Autodesk® Inventor® 3D CAD Training will easy-to-use set of tools for 3D mechanical design, documentation, and product simulation. Digital Prototyping with Inventor helps you design and validate your products before they are built to deliver better products, reduce development costs, and get to market faster.

This course is designed for students to learn the basics of mechanical 3D computer-aided design using Autodesk Inventor.

Training Solutions:

√ Offline Classroom Instructor-Led Training in our labs or onsite Locations.

√ Virtual Instructor-Led Training Via Virtual Video Conferencing Tools.

Why Learners Prefer CLS as their Training Services provider ?

■ Premuim Training Services Accredited from Global Technology Vendors.

■ Best Rated Experts & Certified Trainers in Egypt.

■ Official Training Hours, Practice Labs, Hands-on Learning.

■ CLS Training Classrooms are designed with High Edge PCs and Training Facilities.

■ Return on Training Investment is Guaranteed to boost performance.

AUTODESK® INVENTOR®

3D Modeling for Mechanical Design Course Outline :

Getting Started
- Course overview
- Get the software

Create a new project file
- Create a new project file
- Modify Application Options and Document Settings
- Review the changes to options and settings
- Review and edit a part

Create the base frame for the bottle filling station
- Review the design criteria
- Create the base frame skeleton
- Create the base frame
- Apply end treatments to the frame
- Add the supports to the frame
- Run a frame analysis

Model the reusable bottle and cap
- Create the sketch for the bottle
- Create user parameters and finish the sketch
- Revolve the sketch then shell the model
- Model the top section of the bottle
- Model the body of the bottle cap
- Add grips to the outside of the bottle cap

Model the bottle holder carousel parts
- Model the bottom plate of the carousel
- Model the plate support for the carousel
- Model the top plate for the carousel

Model the cam shaft
- Model the cam shaft
- Add a keyway and groove to the cam shaft

Assemble the gearbox
- Create the gearbox assembly file
- Place a gear in the assembly
- Align the gears
- Create a keyway groove in the gear
- Place the cam shaft in the assembly
- Complete the gear assembly

Assemble the gearbox, motors, and upper frame to the base frame
- Assemble the bearing ring and gearbox
- Create a contact set
- Assemble the bottle carousel
- Modify the base plate and frame
- Constrain the gearbox assembly to the frame
- Create features to attach the gearbox and motor to the frame
- Assemble the motors onto the frame

Document the bottle filling station
- Document the bottle filling station
- Create a drawing of the lower frame

Overview:

- Get prepared to solve real-world challenges by developing advanced skillsets in 3D modeling and the parametric CAD workflow. Build skills in assembly modeling, creating designs with mechanical motion, developing detailed technical drawing for production, and creating animations for presentations using Inventor.

Training:

- Understand the parametric CAD workflow.
- Identify interface aspects of Inventor.
- Create frame assemblies.
- Create designs with mechanical motion.
- Manipulate appearances and physical materials.
- Create a detailed drawing.
- Create and output an animation.

Audience Profile :

Who should enroll
- The candidate will have demonstrated advanced modeling skills in Revit and will be knowledgeable in relevant workflows, processes, and project objectives. The candidate will have performed routine tasks involved in their job role with limited assistance from peers, product documentation, and support services.

Prerequisites:

- Demonstrate. general knowledge of electrical systems, their settings, and how they operate.
- Demonstrate advanced modeling skills, including creating and modifying systems, spaces, cable tray, and conduit.
- Perform basic family editing, including editing connectors, light sources, annotations, symbology,