Introduction to CAD

Career Exploration

This certification introduces participants to the principles and tools of 3D Computer-Aided Design (CAD) using Onshape. The program emphasizes cloud-based design, collaboration, and the integration of modeling, simulation, and output generation for physical and digital manufacturing. Through a sequence of structured units and labs, students progress from basic sketching to modeling, assembly, annotation, and output for both technical documentation and 3D printing.

Industry Recognized Certification Topics

- History and Applications of CAD
- 2D Sketching Tools and Best Practices
- Creating Primary and Additional 3D Features
- Multi-Part Assemblies and Mate Connectors
- Output Drawings with Annotations and GD&T
- Exporting Models for 3D Printing
- Project-Based Design and Documentation

Industry Recognized Certification Competencies

- Explain the Role of CAD in Industry
- Create Accurate 2D Sketches
- Develop 3D Models
- Design and Assemble Components
- Generate 2D Technical Drawings
- Prepare for 3D Printing
- Apply Design for Manufacturing Principles

Units - 7 / Labs - 7