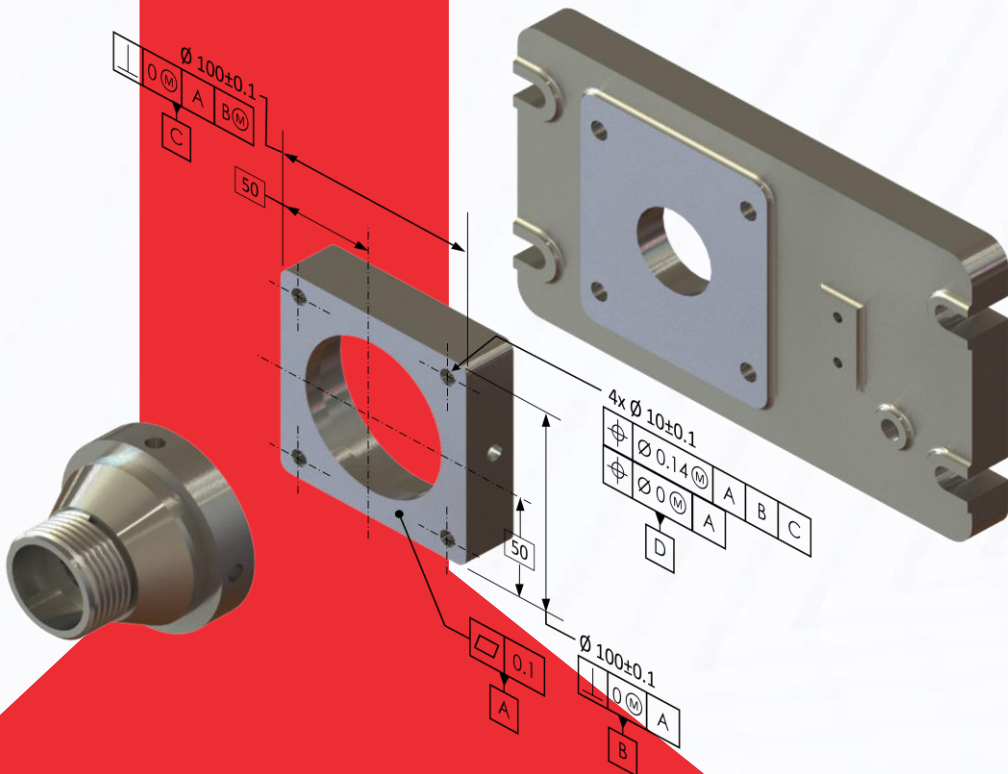




Transferring Technology...

GD&T Advanced COURSE



Contact us:

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COURSE DESCRIPTION : GD&T Advanced

COURSE DURATION : 14 hrs.

SYLLABUS

Module 1: Introduction to Geometric Dimensioning and Tolerancing

- Definition of Tolerance
- Accuracy vs Precision
- Types of Dimensioning
- Types of Tolerances
- Types of Tolerancing
- Tolerancing Rules (Millimeter units)
- Introduction to ASME Y 14.5 (2009) tolerancing standard
- What is GD&T and What is Not GD&T?
- GD&T Standards
- Why use GD&T?
- Comparison of conventional and GD&T approach to tolerancing

Module 2: Introduction to GD&T Concepts

- Feature of Size
- Non-Feature of size
- Bounded features
- General Tolerancing rules
- Feature Control Frame Representation
- Material Modifiers
- Regardless Feature of Size (RFS)
- Maximum Material Condition (MMC)
- Least Material Condition (LMC)
- RFS, MMC, LMC for Internal Feature of Size (IFOS)
- RFS, MMC, LMC for External Feature of Size (EFOS)
-

Module 3: General Tolerancing & Related Principles

- GD&T standard rules, Rule-#1 and Rule-#2
- Regardless of Material Boundary (RMB)
- Maximum Material Boundary (MMB)
- Least Material Boundary (LMB)
- Worst Case Boundary
- Inner boundary of Internal Feature of Size (IFOS)
- Outer boundary for Internal Feature of Size (IFOS)

- Inner boundary of External Feature of Size (EFOS)
- Outer boundary for External Feature of Size (EFOS)
- Virtual Condition for IFOS at MMC
- Virtual Condition for IFOS at LMC
- Virtual Condition for EFOS at MMC
- Virtual Condition for EFOS at LMC
- Resultant Condition for IFOS at MMC
- Resultant Condition for IFOS at LMC
- Resultant Condition for EFOS at MMC
- Resultant Condition for EFOS at LMC

Module 4: Datum Reference Frames

- Datum Definition
- Datum, Datum Features and Simulators
- Datum Feature Representation
- Methods for applying Datum Feature Symbols
- Multiple datum features
- Datum Targets Representation and interpretation
- Datum application on a component
- Effect of changing datum precedence

Module 5: Tolerance of Form

- Straightness: Description, GD&T Tolerance Zone
- Straightness-Derived Median Line: Description, GD&T Tolerance Zone
- Straightness: Relation to Other GD&T Symbols
- Straightness: Usage & Examples
- Flatness: Description, GD&T Tolerance Zone
- Flatness: Derived Median Line: Relation to Other GD&T Symbols
- Flatness: Relation to Other GD&T Symbols
- Flatness: Usage & Examples
- Circularity: Description, GD&T Tolerance Zone
- Circularity: Relation to Other GD&T Symbols
- Circularity: Usage & Examples
- Cylindricity: Description, GD&T Tolerance Zone
- Cylindricity: Relation to Other GD&T Symbols
- Cylindricity: Usage & Examples

Module 6: Tolerance of Orientation

- Parallelism: Description, GD&T Tolerance Zone
- Parallelism: Relation to Other GD&T Symbols
- Parallelism: Usage & Examples

- Angularity: Description, GD&T Tolerance Zone
- Angularity: Relation to Other GD&T Symbols
- Angularity: Usage & Examples
- Perpendicularity (Surface): Description, GD&T Tolerance Zone
- Perpendicularity (Axis): Description, GD&T Tolerance Zone
- Perpendicularity: Relation to Other GD&T Symbols
- Perpendicularity: Usage & Examples

Module 7: Tolerance of Location

- Position: Description, GD&T Tolerance Zone
- Position at MMC: Description, GD&T Tolerance Zone
- Position: Relation to Other GD&T Symbols
- Position: Usage & Examples
- Concentricity: Description, GD&T Tolerance Zone
- Concentricity: Relation to Other GD&T Symbols
- Concentricity: Usage & Examples
- Symmetry: Description, GD&T Tolerance Zone
- Symmetry: Relation to Other GD&T Symbols
- Symmetry: Usage & Examples

Module 8: Tolerance of Profile

- Profile of a Line: Description, GD&T Tolerance Zone
- Profile of a Line: Relation to Other GD&T Symbols
- Profile of a Line: Usage & Examples
- Profile of a Surface: Description, GD&T Tolerance Zone
- Profile of a Surface: Relation to Other GD&T Symbols
- Profile of a Surface: Usage & Examples

Module 9: Tolerances of Runout

- Runout: Description, GD&T Tolerance Zone
- Runout: Relation to Other GD&T Symbols
- Runout: Usage & Examples
- Total Runout: Description, GD&T Tolerance Zone
- Total Runout: Relation to Other GD&T Symbols
- Total Runout: Usage & Examples

Module 10: Symbology

- Translation
- Projected Tolerance Zone
- Free State
- Tangent Plane
- Unequally Disposed Profile
- Independency
- Statistical Tolerance

- Continuous Feature
- Diameter, Spherical Diameter
- Radius, Spherical radius, Controlled Radius
- Square
- Reference
- Arc Length
- Dimension Origin
- Between
- All Around
- All Over

Module 11: Advanced Topics

- Composite Feature Control Frame.
- Composite Position Feature Control Frame
- Multiple Single Segment Feature Control Frame
- Pattern Locating Tolerance Zone Framework (PLTZF)
- Feature Relating Tolerance Zone Framework (FRTZF)
- Maximum Material Boundary Concept
- Examples

Module 12: Formulas for Positional Tolerancing

- Minimum diameter of free hole
- Fixed Fastener
- Floating Fastener
- Modified Fixed Fastener Formula

Certificate:

On successful completion of the course and evaluation, the Certificate will be issued by aCADemix.

OTHER COURSES

SolidWorks 3D CAD

- SolidWorks-Basics
- SolidWorks-Advanced
- SolidWorks- Mold Design
- SolidWorks- Routing
- SolidWorks-Composer
- SolidWorks-MBD

SolidWorks Simulation

- SW Simulation Advanced
- SW Simulation-Fatigue FEA
- SW Simulation-Drop Test FEA
- SW Simulation-Dynamic FEA
- SolidWorks Motion
- SolidWorks Plastics

Design For Quality (DFQ)

- GD&T-Introduction
- Tolerance Stack-Up Analysis
- DFMEA

SolidWorks Automation

- SolidWorks API - Basics
- SolidWorks API - Advanced

SolidWorks PDM

- SolidWorks PDM- User
- SolidWorks PDM - Admin

SolidWorks PDM Automation

- SolidWorks PDM- Automation

Abaqus CAE

- Abaqus CAE - Linear Static Analysis