



EL506

Advanced Geometric Dimensioning & Tolerancing (GD&T) Online Course Y14.5

Module 1: Introduction

- Dimension types and applications
- Definitions
- GDT Professional Certification Exam
- The role of dimensions

Module 2: Floating Fastener Condition

- Position MMC
- Tooling / Production
- Inspection
 - CMM (coordinate measuring machine)
 - Functional gage
 - Manual inspection

Module 3: Zero Tolerancing

- Position zero tolerance
- Tooling / production
- Inspection

Module 4: Fixed Fastener Condition

- Position MMC
 - Pitch cylinder rule
 - To MMC (maximum material condition) or not to MMC
- Tooling / production
- Inspection
 - CMM
 - Functional gage
 - Open setup

Module 5: Fixed Fastener Condition

- Non-functional datum feature
- Functional secondary size datum feature
 - RFS
 - MMC
- Shift
- Tertiary size datum feature

Module 6: Composite & Two Single Segments

- Introduction
- Composite positional tolerancing
- Two single segment feature control
 - Frames

Module 7: Paper Gaging

- Part description
- Location data
- Paper gage
- Calculating the tolerance
- Additional information
- Limitations

Module 8: Non-Cylindrical Tolerance Zones

- Position zones
 - Conical
 - Bidirectional
 - Elongated
- Composite profile zones

Module 9: Dimensional Management

- Current quality efforts
- Dimensional management rational
- Dimensional management phases
 - Set objectives
 - Develop dimensioning strategy
 - Apply dimensions
 - Analyze dimensions
 - Verify dimensions
- Resolving problems
- The dimensional analyst
- The educational dilemma

Module 10: Dimensional Analysis Part 1

- Variation
- Analysis methods
- Computer modeling
- Analysis stages

Module 10: Dimensional Analysis Part 2

- Identify the problem
- Choose the answer
- Identify the path
- Perform the math