Advanced GD&T

Course Description

Even with an understanding of the fundamentals of GD&T, many professionals still lack the confidence to expertly and deliberately apply geometric tolerancing to clearly define their product designs. Like with any language, this deeper understanding is built off the fundamentals.

The Advanced course helps students apply GD&T to achieve the mating and functional requirements of their parts. This course reinforces fundamentals and provides applications-based exercises where students apply what they have learned. Application practice exercises and calculations are performed individually and in teams. The use of functional dimensioning and tolerancing schemes and its effect on assemblies is emphasized throughout the course. Students will expand their understanding of the implications of their specifications on function, manufacturing, inspection, and quality. Students will gain experience and confidence selecting the product definition strategy for an assembly by working more advanced application examples with their peers under the guidance of an expert in a classroom setting.

Learning Objectives

- Deepen your understanding of geometric controls by analyzing inspection data to verify features conform to drawing specifications
- Apply the geometric language to real parts
- Specify datum reference frames properly to represent the part's functional requirements, including the use and interpretation of datum shift where appropriate
- Apply geometric controls and symbols properly to suit the mating and functional requirements
- Practical and useful symbols, modifiers, and notations not typically presented in basic courses
- Thoroughly and completely define geometric requirements on a variety of engineering drawings

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Who Should Attend:

This course is designed for anyone in engineering, manufacturing, and quality assurance who need to define engineering requirements with drawings, or properly interpret and act upon the information found in engineering drawings.

Course Outline

- Basic GD&T Review
- Advanced Datum Reference Frame Concepts
- Profile Control Concepts
- Position Control Concepts
- Boundaries

Prerequisites: At least one Basic GD&T course is required as a prerequisite. It's essential that individuals understand the underlying principles that the Basic course is focused on teaching. In addition, students should have at least 1 year of on-the-job experience applying and / or interpreting GD&T.

Course Format: 16 hours: 2 in-person sessions or 4 online sessions