APPLIED DIMENSIONAL METROLOGY

COURSE DESCRIPTION

Applied Dimensional Metrology will provide an introduction to dimensional measurement principles, processes and equipment that connects contemporary application of GD&T standards to measurement results of acceptable uncertainty. The course covers measurement practices including traceability, specifications, calibration and application of primary 1D, 2D and 3D measurement tools. Emphasis is placed on Gage R&R of dimensional measurement and how it relates to measurement uncertainty. The course will present an (1) overview of measurement uncertainty concepts with emphasis on calculations and (2) the transfer of GD&T principles using multiple measurement systems to sample measurement point clouds. The course will incorporate multiple group exercises to emphasize measurement concepts.

COURSE OBJECTIVES

Upon completion of this course, the attendee will:

1. Understand the significance of varying tolerances and its impact on measurement tool selection.

2. Be able to define measurement uncertainty and causes of measurement error.

3. Understand length traceability and it s importance with respect to dimensional measurement

4. Understand the application of different measurement sensors and techniques.

5. Be able to interpret measurement system specifications

6. Develop a broader understanding of metrology software used on different measurement systems