

Geometric Dimensioning and Tolerancing (GD&T) Workshop

Oklahoma State University, Stillwater, OK

Abstract

Geometric dimensioning and tolerancing (GD&T) is a systematic method for defining and communicating engineering tolerances. GD&T can improve quality and reduce cost through enhanced producibility. In the current industry, GD&T is considered as one of the most critical and important skillsets for design, manufacturing, and quality control engineers. Modern GD&T inspection practice in industry has moved away from simple pass/fail gauging to usage of measurement equipment that produces numerical results. Therefore, it has become more important to know how to define numerical values to measure parts and report per the ASME standards. The concepts and theories on GD&T will be discussed, then how to examine parts for verification and how to create an inspection report according to ASME Y14.45-2021 will be practiced.

Contents

This one-day workshop will cover comprehensive GD&T techniques and their applications to real-world problems based on ASME Y14.5M-2018 and ASME Y14.45-2021 that are commonly used standards in the United States.

Intended audience

Any design/manufacturing/inspection engineers, engineering managers, engineering students, teachers or faculty members who are willing to learn GD&T technique and its applications.

Materials provided: Lecture notes and workshop handouts will be provided.

Venue: Hamm Institute for American Energy, OKC, OK

Schedule: September 27, 2023

Instructors

Dr. Chulho Yang is a professor and MET program coordinator. He received a Ph.D. degree in Mechanical Engineering from Purdue University at West Lafayette, IN, USA as well as M.S. and B.S. degrees from Hanyang University in Korea. He also has a professional engineer (PE) license registered in Oklahoma.

Before joining OSU in 2008, he acquired 11 years of industrial experience with ArvinMeritor technical center, IBM Korea, and KIA Motors R&D Center. Much of his work focused on vehicle structure design/optimization, vehicle NVH test and development, CAD/CAM/CAE, and engineering consulting on design methodologies. Designing new vehicle structures, he registered many patents and utility model patents in the USA, Europe, Japan, and Korea. He also received an "Innovation and Achievement Award" from ArvinMeritor, Inc., a "Best Paper Award" from the International Symposium on Advanced Material and Mechanical Application, and an "Outstanding



Presenter Award" from the International Symposium on Green Manufacturing and Applications. He also served as a keynote speaker or a session chair for multiple international conferences.

He has performed research and published in the areas of mechanical system analysis and design, noise and vibration, experimental sensitivity analysis, structural dynamics and health monitoring, design optimization, biomechanics, and protective device/structure.

Dr. Yang currently teaches or has teaching interest in Engineering Graphics, Geometric Dimensioning and Tolerancing (GD&T), Intermediate and Advanced Computer-Aided Design, Advanced Mechanical Design, Vibration and Acoustics, Dynamics, Experimental Structural Dynamics, and Automotive engineering.