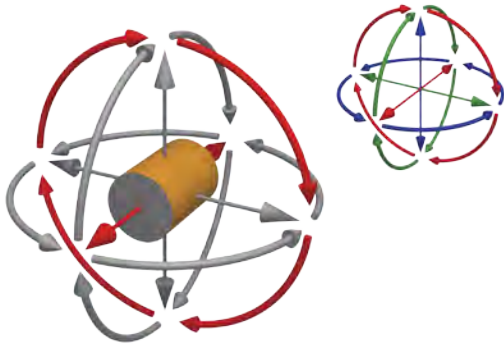


# GD&T FUNDAMENTALS

eLearning courses designed to increase productivity and profits



## Learning made Simple, Visual, and Interactive

GD&T Fundamentals is an advanced-level course that aims to provide learners who have a thorough understanding of how to read and interpret engineering drawings with an introduction to the fundamentals of geometric dimensioning and tolerancing (GD&T). The concepts covered in this course are based on the ASME Y14.5: 2009 standard.

Credit Hours **6**

## Learning Objectives

- Recognize the key GD&T terminology and comprehend the applied meaning of each.
- Identify the engineering drawing symbols most closely associated with GD&T.
- Distinguish between and understand the implications of Rule #1 and #2 of GD&T.
- Understand the effect of material modifiers.
- Differentiate between datums, datum features, and the parts of datum systems.
- Calculate bonus tolerance and shift tolerance.

## Table of Contents

### I. GD&T Terminology

- Types of Surfaces
- Axis, Planes, and Lines of a Feature
- Types of Features
- Dimensions of a Feature
- Mating Envelopes

### II. Engineering Drawing Symbols

- Geometric Characteristic Symbols
- General Dimension Modifying Symbols
- Feature Modifying Symbols
- Feature Control Frame

### III. GD&T Rules

- Rule #1
- Rule #2
- Boundary Conditions for Features of Size
- Effect of MMC or LMC on Boundaries

### IV. Datum System

- Datums
- Datum Features
- Boundary Conditions for Datum Features
- Datum Feature Simulator
- Degrees of Freedom
- Datum Reference Frame
- Datum Target

