

TECHNIA

PART OF ADDNODE GROUP

Geometrical Dimensioning & Tolerancing Fundamentals training course

As a leading knowledge company, TECHNIA offers world class engineering and PLM training, delivering new learning strategies in addition to consultancy and classic training in 3DEXPERIENCE®, CATIA, SOLIDWORKS, GD&T and SIMULIA.

Our trainers are qualified engineers who use these tools daily within our own engineering business. As a result, our training courses have been developed to suit delegates based on our own experiences.

TECHNIA's Training Services enable you to take full advantage of leading your Dassault Systèmes and TECHNIA solutions to efficiently reach your business goals.

The logo for Dassault Systèmes, featuring a stylized 'DS' monogram followed by the text 'DASSAULT SYSTEMES' in a sans-serif font.

**TRAINING EXPERIENCE
PARTNER**

Geometrical Dimensioning & Tolerancing Fundamentals training course

DURATION

2 days

PARTICIPANT'S PROFILE

This course is suited to all individuals involved in design and manufacturing processes, from design engineers through to manufacturing engineers, technicians and inspectors of all abilities.

PREREQUISITES

Whilst no prior knowledge is required, some familiarity with part drawings and general manufacturing processes would be beneficial.

OBJECTIVES

The course provides a comprehensive introduction into how to apply and interpret Geometrical Dimensioning and Tolerancing. We offer courses aligned to:

- ASME Y14.5 - 2018 Dimensioning and Tolerancing
- BS 8888:2020 Technical Product Documentation and Specification

ON COMPLETION OF THE COURSE, ENGINEERS WILL:

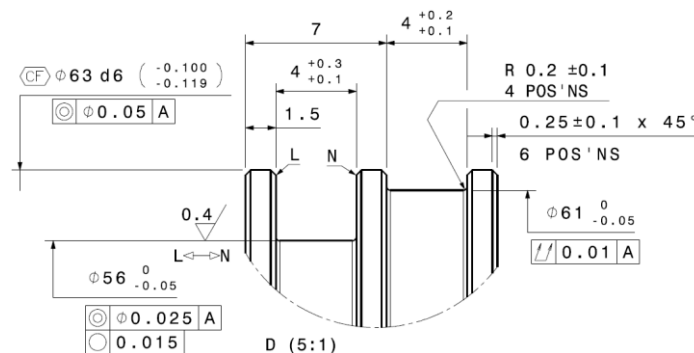
- Understand the 'Cost / Lead-time / Product Function' benefits of employing the language of GD&T.
- Be able to correctly and appropriately apply GD&T to engineering component drawings / specifications.
- Be able to interpret GD&T on engineering component drawings / specifications.
- Understand how to apply suitable tolerances to the features of mating parts, to ensure assembly fit and component function.
- Understand the concept of maximum allowable variation in finished part geometry, as compared to the theoretically ideal.
- Have gained an appreciation of the inspection methods required to check part geometry.

COURSE OUTLINE

- Comprehensive Introduction to Geometrical Tolerancing
 - Comparison of GD&T to conventional \pm Tolerancing
 - Benefits of GD&T
 - A brief history of GD&T
- Symbols used in GD&T
 - Feature control /Tolerance frames
 - Datum feature identifiers
 - Geometrical characteristics
 - Modifying symbols
- The Envelope requirement
- Form Control
 - Straightness, Flatness, Circularity & Cylindricity

- Datum Features
Datum feature identification, Datum feature simulation, Datum reference frames, Datum system hierarchy, Common datum & Datum targets
- Orientation Control
Angularity, Perpendicularity & Parallelism
- Basic dimensions
- Location Control
Position, Concentricity & Symmetry
- Runout
Circular Runout & Total Runout
- Profile Control
Profile of a Line & Profile of a Surface
Modifying Symbols: All Around, All Over & Between
- Flexible Tolerancing
Maximum Material Requirement / Condition & Least Material Requirement / Condition

Course material is supplemented by training exercises enabling candidates to understand and apply geometric principles. candidates are encouraged to bring along their own sample drawings and peer review at the end of the second day.



“The course not only reduced the number of drawing errors and manufacturers questions, but also improved the quality of our products” [INTEGRAL POWERTRAIN](#)

TECHNIA TRAINING FACILITIES

Courses are available both online or in our training facility at Technia. If you have a large number of delegates that require training, we can also offer ‘company specific’ courses online, at Technia or at your own site. Our training centre is at TECHNIA UK HQ, Milton Keynes which is centrally located in the heart of Buckinghamshire. [View on Map.](#)