

# Apply Geometric Dimensioning & Tolerancing at Intermediate Level



Course Code : AJ4307

Course Duration (Days)	Training Hours	Practical Content (%)	Theoretical Content (%)
04	26	30	70

## COURSE OBJECTIVES

Most companies involved in design and manufacturing have adopted a standardized way known as GD&T to communicate design intent clearly to manufacturing and quality assurance. This enables them to reduce costs associated with design errors, interpretation errors by manufacturing and inconsistency in inspection verification.

The Geometric Dimensioning & Tolerancing Course at Intermediate Level course provides basic and intermediate level knowledge and competencies required to understand drawings prepared using GD&T as well as select and apply geometric controls to drawings per ASME Y14.5 standard:

- Appreciate the benefits of GD&T and the limitations of plus and minus dimensioning;
- Understand the general rules of GD&T;
- Understand the practices for expressing tolerances for mating parts using limits and fits;
- Understand the symbols for specifying geometric characteristics and other-dimensional requirements on engineering drawings;
- Interpret the effect of modifiers on geometric tolerance values and calculate applicable tolerances,
- Understand virtual condition boundary and resultant condition boundary;
- Identify features as datum features and establish datums and datum reference frames.
- Apply GD&T to control the form, orientation, location, profile, and runout of features;
- Apply inspection techniques for GD&T control.

## TARGET AUDIENCE

This course is designed for employees who need formal GD&T training to build foundational knowledge and skills to perform their jobs effectively. Relevant occupations who require GD&T training include: –

1. Design engineer	9. Checker
2. Production or manufacturing engineer	10. Engineering consultant
3. Process engineer	11. Inspector
4. Quality engineer	12. Contract engineer
5. Tool or gage engineer	13. Project engineer
6. Engineering manager	14. Technical specialist
7. User or programmer of CAD, CAM, CAE or other software	15. Procurement engineer
8. Drafter	16. Engineering students
	17. Educators

## COURSE CONTENT

- GD&T Introduction
- General Rules
- Tolerancing Methods
- Definitions & Concepts
- Material Condition Modifiers
- Virtual Condition & Feature Control Frames
- Datums: Theory-to-Reality
- Position Tolerancing
- Form Controls
- Orientation Controls
- Profile Controls
- Runout Controls
- Concentricity/Symmetry Controls
- Geometric Design Process

### DELIVERY:

All training materials are obtained under license from Applied Geometrics, Inc. (AGI) a leading US based GD&T training and consulting company. The learning units are sequenced in an order that builds up the underpinning knowledge and ability to apply and assimilate this knowledge progressively. Course delivery is through short presentations and demonstrations using GD&T models, small group exercises and formative assessments.

### COMPETENCY ASSESSMENT

- Written Assessment - This assessment will constitute 50% of the final grade.
- Problem / Scenario based Assessment – This assessment will constitute 50% of the final grade.

### CERTIFICATION :

Upon completion and passing of all required assessments, participants will receive a formal recognition through the award of a Statement of Attainment (SOA) from the Singapore Workforce Development Agency (WDA).

**MINIMUM QUALIFICATION:**

Post-Secondary (Non-Tertiary): General & Vocational

**FOR APPLICATION - DOCUMENT SUBMISSION:**

Applicant will need to complete enrolment form before the course to assess their entry requirement. If the applicant do not meet the entry requirement, they will be asked to submit their work experience/resume to determine their suitability. An interview may be done to assess their suitability too.

**Criteria for WSQ Funding and Certification\***

To be eligible, participants:

- must be Singaporeans or Permanent Residents of Singapore
- may be employer-sponsored, self-sponsored or unemployed
- achieve 75% attendance
- pass all required assessments
- eligibility acceptance subject to final approval by WDA before course commencement.

\*Participants who do not fulfill the above criteria are not eligible for WSQ funding & certification, and are required to pay the course fee in full.

**Fee payable table (subject to WDA's approval and Terms & Conditions Applies)**

- Sponsorship/Fees\* (SG/SPR) ETSS MCES WTS
- Company Sponsored
- Self Sponsored

**Dates And Prices**

Please check with course administrator

**Absentee Payroll Grant**

Absentee Payroll Grants will be applicable via the SkillsConnect system.

**Participants Required Per Event**

Five (5)

**Times Of Training**

08:30 to 16:30 hrs

**Venue**

No 3, Buroh Street, Singapore 627566

**Cancellation and Refund Policy**

All request for cancellations, postponements and /or transfers must be received in writing.

The following cancellation charges will apply if the written notice is received before the course

- Over 10 working days : 0% of course fees
- 6-10 working days : 50% of course fees
- 0-5 working days: 100% of course fees

Administrator fees of SGD\$100.00per candidate will be charged for the redunf of course feed paid. All bank charges will be borne by the candidates/ companies.

No refund will be made for non-attendance on the course. Non-attendance includes, failure to cancel your booking; cancelling your booking after the close of normal office hours on the last working day before the course; failure to attend the course, and; informing us of cancellation following the start of the course.

**TRAINER :**

Mr. Pillai is an ASME certified Senior Geometric Dimensioning & Tolerancing Professional (GDTP S09-8010) with more than 25 years of experience in the field of mechanical engineering. He has conducted GD&T trainings in Singapore, Malaysia and India. He has a MSc in Management and a Bachelor's degree in Mechanical Engineering. He spent twenty years of his engineering career various management roles associated with new product development projects, mechanical design & development, manufacturing engineering and quality assurance.