

About Your Instructor

Walt Villiers

President, Moraine Valley Engineering Corp.
Palos Park, Illinois

Walt Villiers holds a bachelor's and a master's degree in engineering from the Illinois Institute of Technology. He has over 40 years of industry experience, including numerous years in the foundry industry.

Villiers also has been a full-time and part-time trainer for the past 15 years, teaching heat treating, geometric tolerancing and dimensioning, and blueprint reading. He is a registered professional engineer in the state of Illinois.

Why Attend?

Today, an increasing number of foundrymen and patternmakers are looking at drawings that use the drawing language "Geometric Dimensioning and Tolerancing." This language, if misunderstood, can lead to serious consequences, including unhappy casting buyers.

Geometric Dimensioning & Tolerancing is based on ANSI Standard Y14.5. An understanding of this standard is highly recommended for casting sales representatives, estimators, patternmakers and foundrymen.

The objectives of Geometric Dimensioning & Tolerancing are to ensure that design intentions are translated efficiently into economical metal castings; to reduce the guesswork and misunderstandings of drawings that use Geometric Dimensioning and Tolerancing; to understand the design dimension and tolerance requirements in terms of actual part function; and to help you make better use of functional gaging.

This course will provide a practical and uncomplicated approach to understanding the subject and its industry applications.

Who Should Attend:

Casting sales engineers, cost estimators, casting buyers, pattern layout personnel, patternmakers, foundry supervisors and quality control personnel.



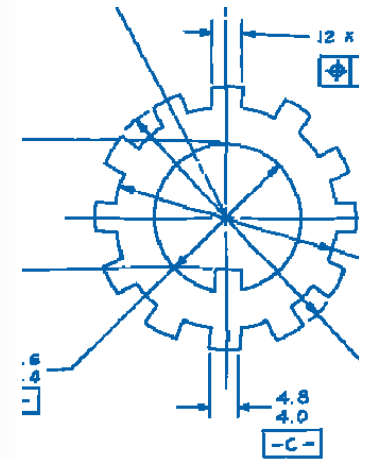
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Learn more about the
language found on
your customers' drawings!



GEOMETRIC DIMENSIONING & TOLERANCING

August 4-5, 2009
AFS Headquarters
Schaumburg, IL



The First Name In
Foundry Education!

GEOMETRIC DIMENSIONING & TOLERANCING

August 4-5, 2009 ▶ AFS Headquarters ▶ Schaumburg, IL

For more information, visit us on the web at: www.castmetals.com

MATHEMATICS REVIEW

Addition and Subtraction
Multiplication and Division
Squares and Roots

GENERAL TOLERANCING

Definitions

Dimensions
Tolerance

Types of Tolerancing

Bilateral
Unilateral

Maximum Material Condition

Clearance
Allowance
Interference

SYMBOLS AND TERMS

Explanation of Symbols

Characteristic Symbols
Material Condition Symbols
Special Symbols
Datum Symbols
Basic Symbols

DATUMS

Datum Planes

Primary
Secondary
Tertiary

Datum Targets

Datum Points

Partial Datum Surfaces

Datum Target Areas

Axis Datums

MATERIAL CONDITION SYMBOLS

MMC (Maximum Material Condition)

RFS (Regardless of Feature Size)

Surface Control

Axis Control

LMC (Least Material Condition)

GEOMETRIC CHARACTERISTICS

Form

Straightness
Flatness
Cylindricity

Profile

Of a Line
Of a Surface

Orientation

Parallelism
Perpendicularity
Angularity

Runout

Circular
Total

Combinations

POSITIONS

Conventional vs. Positional
Tolerancing

Floating Fasteners

Fixed Fasteners

Locating Multiple Features

Positional Tolerance @ MMC

Zero Tolerance Position

Positional Tolerance for

Symmetrical Features

Virtual Condition

Projected Tolerance Zones

STUDY OF DRAWINGS AND FINAL REVIEW

Feel free to bring drawings of your work.

Lunch will be from 11:30 a.m. to 12:15 p.m. each day, and there will be a 15-minute break in the morning and afternoon each day.

Course Hours The first day of the course is from 8:30 a.m. to 3:15 p.m. and the last day is from 8:30 a.m. to 2:15 p.m.

Registration Fee and Discounts The registration fee is \$675 for AFS members and \$775 for non-members. Fee covers all course materials, luncheons and coffee breaks. (Payable in U.S. dollars or equivalent.)

Tax Deduction of Expenses An income tax deduction is allowed for expenses of education (including registration fee, travel, meals and lodging) undertaken to maintain and improve professional skills. (See U.S. Treas. Regulation 1.162.5.)

Cancellations and Substitutions Substitute students will be accepted anytime. However, cancellations of confirmed registrants with full refund of course fees cannot be accepted unless received one week prior to course date. After that time, a \$25 penalty will be assessed. *In the unlikely event a course is cancelled for any reason, CMI liability is limited to the return of the registration fee.*

Continuing Education CMI will award 1.1 CEU to each participant who successfully completes this program. The CEU (Continuing Education Unit) is a nationally recognized unit of measure for continuing education and training programs that meet certain criteria. CMI students will receive CEU certification upon successful completion of the course. Certificates of completion will be issued to each student awarded CEU. A permanent record of each individual's completion will remain on file, with copies issued to each participant upon request.

Housing Registrants should make their hotel reservations directly with the Quality Inn, 600 N. Martingale Rd, Schaumburg, IL 60173, Phone: 847/517-7737. The Quality Inn has offered us a discounted rate of \$71.99 per night for our attendees. To receive this rate, please mention your affiliation with the Cast Metals Institute (CMI) at the time you make your reservations. **Reserve rooms early. The last day our room block will be held is two weeks before the course.**

Transportation to Hotel and AFS All-Star Cab (847/621-1700) allows groups up to 4 with no extra charge. Flat rate pricing- all tolls, taxes and fees included. Accepts all major credit cards. Ask for the American Foundry Society corporate rate.

CAST METALS INSTITUTE, INC.

1695 N. Penny Lane, Schaumburg, IL 60173-4555

All fees payable in U.S. dollars or equivalent.

Remit payment to: 35169 Eagle Way, Chicago, IL 60678-1351

Check Enclosed

For Credit Cards:

To register toll free, call 800/537-4237 or 847/824-0181. FAX: 847/824-2174

The following information is required in order to charge

American Express MasterCard VISA

Account Number _____

Exp. Date _____

Authorized Signature _____

Qty.	Reg #	Title	Price
	04-10	Geometric Dimensioning & Tolerancing—Member	\$675
	04-10	Geometric Dimensioning & Tolerancing—Non-member	\$775
Total			

COURSE NO. 8-371 ▶ August 4-5, 2009
Geometric Dimensioning & Tolerancing (04-10)
Member: \$675 ▶ Non-member: \$775
AFS Headquarters ▶ Schaumburg, Illinois

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