



UNIVERSITI KUALA LUMPUR
MALAYSIAN SPANISH INSTITUTE

(The contents and other related details in this form is used for publication purpose only. Training module will be given to participants upon registration)

Course Title: DIMENSIONAL METROLOGY		Course Code :	MET 103
<u>Course Background/Summary:</u> In the manufacturing industry, the main concern of metrology is by measuring length quantities in many ways in which it manifests itself in a part or product. It is concerned with finding the length of lines, areas of surfaces and volumes of solids from certain simple data of lines and angles. This includes those measurements that are required to use tools and instruments for designing, building, operating and maintaining material objects. This is the reason for the term of Dimensional Metrology. Therefore, the main intention of this course is to provide the trainees with basic scientific knowledge and practical skills of measurement using physical measurement equipments to quantify the physical size from any given work pieces.			
<u>Course Objectives:</u> <ul style="list-style-type: none">• Describe the concept of dimensional metrology.• Identify major types of measurement methods and measuring instruments used for dimensional metrology.• Perform measurements of various parameters through the use of dimensional metrological instruments.			
<u>Target Audience:</u> <ul style="list-style-type: none">• Technicians, Supervisors, Quality Practitioners, Quality Inspectors, Metrologists, Technologists, Engineers, Instructors, Trainers and Lecturers.			
Course Duration:		Min: 3 days, Max: 5 days	
Course Contents		:	
No	TOPICS		
1	Definition and Applications of Metrology		
2	Measurement Underlies Human Activities		
3	The Importance of Metrology in Manufacturing Industry		
4	Standard System of Measurement		
5	Introduction to Geometric Dimensioning and Tolerancing (GD&T)		

UniKL MSI can also customize existing short courses and develop new courses to meet your personal training needs and requirements. The course duration serves as a guideline for your reference.

Please forward enquiries to Centre for Advancement & Continuing Education (ACE), University Kuala Lumpur (Malaysian Spanish Institute), Kulim Hi-Tech Park, 09000 Kulim, Kedah or via fax to:04-4032539 or email to syazrah@unikl.edu.my or call 04-4035199 / 200 (ext:112 / 185)



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6	Classification of Measurement Methods
7	Classification of Measuring Instruments
8	Introduction to Dimensional Metrology
9	Making Good Measurements
No	TOPICS (Lab Works / Practical Exercises)
1	Exercise 1: The Concept of Metrology
2	Exercise 2: Measurement Units and Standard System
3	Exercise 3: Accuracy vs. Precision
4	Group Practical Exercise 1: Metrological Activities at Workplace
5	Exercise 4: The Standard Symbols of GD&T System
6	Lab Work 1: Vernier Caliper Reading
7	Lab Work 2: Micrometer Reading
8	Lab Work 3: Bevel Protractor Reading
9	Lab Work 4: Linear Measurement with Vernier Caliper
10	Lab Work 5: Linear Measurement with Micrometer
11	Lab Work 6: Linear Measurement with Height Gauges
12	Lab Work 7: Angular Measurement with Universal Bevel Protractor
13	Lab Work 8: Angular Measurement through Sine Bar Method
14	Group Practical Exercise 2: Industry-specific Gauging Devices
15	Exercise 5: Selection of Measuring Instruments
COURSE STRUCTURE:	
Practical :	60%
Theory :	40%

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