



**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)

<b>Course Title: NON DESTRUCTIVE TEST</b>	<b>Course Code</b> : <b>MEC 112</b>
<b><u>Course Background/Summary :</u></b> <b><i>NON DESTRUCTIVE TEST for CRACK and FLAW DETECTION</i></b> The participants will learn on how to inspect industrial /engineering materials for surface and subsurface defects without damaging or affecting the integrity of the materials under test. They will learn on how to perform Ultrasonic Testing with Straight Beam (compression wave) or Angle Beam (shear wave), Magnetic Particle Testing, and Dye Penetrant Testing. The UT inspection of weld and the heat-affected zone will be using a proven and effective method to locate cracks, inclusions, lack of fusion and lack of complete penetration. Its advantages include a rapid assessment of defect length, depth and location. Magnetic particle testing will find surface and slight subsurface indications in ferromagnetic materials. Liquid penetrant testing is used for finding surface defects only. Penetrant testing is a physical and chemical test used for detecting defects visible to the naked eye surface.	
<b><u>Course Objectives:</u></b> At the end of this training, the participants will be able to/have: <ul style="list-style-type: none"><li>• Demonstrate surface crack detection using MPI and dye penetrant test.</li><li>• Demonstrate flaw or discontinuities in materials using Eddy current and Ultra sonic methods</li><li>• Identify types of defects signals in test pieces</li><li>• Demonstrate the calibration methods using UT and Eddy Current</li></ul>	
<b><u>Target Audience:</u></b> <ul style="list-style-type: none"><li>• Welding Engineers</li><li>• Welding Supervisors</li><li>• Welding Instructors</li><li>• Teaching staffs (including vocational &amp; technical teachers)</li></ul>	

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](mailto:syazrah@unikl.edu.my) or call 04-4035199 / 200 (ext:112 / 185)



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<b>Course Duration: Min:3 days, Max:5 days</b>	
<b>Course Contents :</b>	
<b>No</b>	<b>TOPICS</b>
1	Introduction to NDT
2	Die Penetrant test <ul style="list-style-type: none"><li>• Solvent removable penetrant</li><li>• Water washable penetrant</li><li>• Fluorescent penetrant</li></ul>
3	Magnetic penetrant test <ul style="list-style-type: none"><li>• Dry Powder Method</li><li>• Wet visible</li><li>• Wet Fluorescent</li></ul>
4	Eddy Current test <ul style="list-style-type: none"><li>• Equipments</li><li>• Calibration method</li><li>• Material conductivity inspection</li></ul>
5	Ultra Sonic Test <ul style="list-style-type: none"><li>• Equipments</li><li>• Calibration Method</li><li>• Thickness Measurements</li><li>• Scan Inspection</li><li>• Flaws signal detection</li></ul>
<b>COURSE STRUCTURE:</b>	
Theory :	60%
Practical :	40%

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