



**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: MATLAB/Simulink for HARDWARE IN LOOP APPLICATION</b>		<b>Course Code : EEA 162</b>
<b>Course Background/Summary :</b> Matlab/Simulink has been widely used in Engineering research environment due to the ability of the software for complex computation in several engineering fields. This course will introduce participants on how make use of MATLAB/Simulink for hardware in loop (HIL) application. In hardware in Loop the controller lies in Matlab/Simulink while the control process is a real time hardware. Communication protocol will be used and PIC microcontroller will be the interface. The study system will be speed, position, and level.		
<b>Course Objectives:</b> <ul style="list-style-type: none"><li>• Construct interface circuit using PIC microcontroller.</li><li>• Write C code for communication to transfer input, output data signals from MATLAB/ Simulink to interface and vice versa.</li><li>• Control the speed, position, level and temperature using HIL technique.</li></ul>		
<b>Target Audience:</b> <ul style="list-style-type: none"><li>• Electricians, Research assistant, research officer, Researcher, Academicians</li><li>• Technicians, Hobbyist</li><li>• Engineers &amp; Instructors</li></ul>		
<b>Course duration :</b>	<b>Min:3 days, Max:5 days</b>	
<b>Course Contents :</b>		
<b>No</b>	<b>TOPICS</b>	
1	Basin knowledge about MATLAB/Simulink and HIL	
2	Theory of Control System	
3	Construct interface using PIC microcontroller for HIL application.	
4	Control speed, position, level system with aid of system identification and SISO tool.	
<b>COURSE STRUCTURE:</b>		
Practical :	65 %	
Theory :	35 %	

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)