



**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:</b> <b>FEEDBACK CONTROL SYSTEM</b>		<b>Course Code</b> :	<b>EEA 171</b>
<b><u>Course Background/Summary :</u></b>			
<p>This short course is devised for engineers to refresh their knowledge in control theory. Basic theories and definition are introduced before aspects in modeling can be understood. Analysis and design of control systems based on time and frequency response will assist control engineers in deciding on control platform. Before embarking into particular controller the stability of the system should be determined to ensure the control objective is achieved. For a complex system, we are bound to multi-input and multi-output system and this will also be introduced in the course. With the advent of computer technology either in the software or hardware, today's engineering analysis will not be without CAD, as a control engineer MATLAB package is the answer and it a must for complex analysis and system.</p>			
<b><u>Course Objectives:</u></b>			
<ul style="list-style-type: none"> <li>• Program PLC for process control algorithm such as speed, position, level and temperature</li> <li>• Write PLC program for PID control algorithm.</li> <li>• Interface PLC to sensors and actuators.</li> </ul>			
<b><u>Target Audience:</u></b>			
<ul style="list-style-type: none"> <li>• Electricians, Researchers, Academicians</li> <li>• Technicians, Engineers &amp; Instructors</li> </ul>			
<b>Course duration</b> :		<b>Min:3 days, Max:5 days</b>	
<b>Course Contents</b> :			
No	TOPICS		
1	Introduction: Definition, Open loop and Closed loop, Servo control and Process Control		
2	Modeling: Laplace transform, Transfer function, Pole and zero, Mechanical system, Electrical system, Electro-mechanical system, System identification		
3	MATLAB: Basic commands, Plot, Symbolic analysis, Simulink		
4	Time response: First order system, Second order system, Transient response, Steady state response, Design using root locus, Stability		

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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5	Frequency response: Bode plot, Nyquist plot, Gain margin and Phase margin Determination of transfer function
<b>COURSE STRUCTURE:</b>	
Practical :	65 %
Theory :	35 %

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