



<b>Name of Extension/Public Service</b> (The name of the service being offered)	Instrumentation and Control for Industrial Applications
<b>Objective</b> (Description of the service being provided; History of service provision)	By the end of this course, participants are expected to have acquired knowledge on the basic principles of instrumentation and control. They must have also learned to appreciate and be aware of the value of instrumentation and control in industrial operations. Participants will learn of the proper techniques and guidelines in the proper selection, maintenance and troubleshooting of measurement and control instruments and their components, as well as how to evaluate and update existing controls and measurement systems in their plants.
<b>Duration/Date</b>	Three days
<b>Target Beneficiaries</b>	Process engineers, instrumentation engineers, quality control/assurance engineers, technical consultants trainers/teachers, maintenance engineers ( <i>Minimum Background: B.S. degree in Engineering or equivalent work experience</i> )
<b>Cost of Participation</b>	PhP 13,000
<b>Office in Charge</b>	National Engineering Center through Dr. Rizalinda de Leon (Executive Director) and/or Dr. Mili-Ann Tamayo (Deputy Executive Director)
<b>Office Profile</b> <b>Degree granting or non-degree granting</b> <b>Purpose of creation</b> <b>Location in the hierarchy</b> (Background of the office providing the service i.e. Number of personnel and Key personnel providing the service)	
<b>Awards/recognition received by the office</b>	



<p>(The awards given by or received by the office offering the service, if any)</p>	
<p><b>Official website and Social media accounts</b> (The link to the official website of the service)</p>	<p><b>Website:</b> <a href="http://www.upnec.com/">http://www.upnec.com/</a> <b>Facebook:</b> <a href="https://www.facebook.com/upnationalenggcenter">https://www.facebook.com/upnationalenggcenter</a></p>
<p><b>External links for documentation</b> (The external links featuring the service [for the electronic copy, e.g. features in newspapers etc.] )</p>	
<p><b>Contact details</b> (The contact details of the head of the unit offering the service: fax, telephone, email, snail mail, map)</p>	<p><b>Address:</b> U.P. National Engineering Center Juinio Hall, corner Agoncillo St. and Osmena Avenue University of the Philippines Diliman Quezon City 1101, Philippines</p> <p><b>Administrative Division:</b> UP Trunkline: 981-8500 loc 3003, 3002 E-mail: <a href="mailto:nec@up.edu.ph">nec@up.edu.ph</a></p> <p><b>Professional Engineering Training Division:</b> UP Trunkline: 981-8500 loc. 3005 , 3004 and 3048 E-mail: <a href="mailto:nec.training@up.edu.ph">nec.training@up.edu.ph</a>, <a href="mailto:nec.training@upd.edu.ph">nec.training@upd.edu.ph</a> Voice: (632) 929-1710 , (632) 927-1581</p> <p><b>Engineering Information Services Division:</b> UP Trunkline: 981-8500 loc. 3006 , 3008 Fax: (632) 632-929-1710</p> <p><b>Project Development and Management Division:</b> UP Trunkline: 981-8500 loc. 3014 Fax: (632) 632-929-1710</p>



<b>Other Remarks</b>	<b>Topics:</b> <ol style="list-style-type: none"><li>1. Fundamentals of instrumentation and control</li><li>2. Principles and methods of industrial process measurements and control</li><li>3. Types of final control elements</li><li>4. Principles of control valve sizing</li><li>5. Criteria for control valve sizing</li><li>6. Criteria for control valve selection</li><li>7. Control valve maintenance</li><li>8. Automatic control Technology</li><li>9. Elementary to complex control schemes</li><li>10. Limits of automatic control</li><li>11. Basic control modes</li><li>12. Basic control schemes</li><li>13. Maintenance and safety in instrumentation and control systems</li><li>14. Troubleshooting principles and case studies of actual plant</li></ol>
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