

<b>TSC Category</b>	Process Engineering Management					
<b>TSC</b>	Process Control					
<b>TSC Description</b>	Apply process control to monitor and optimise process plant performance and quality of production output					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
			ECM-PEG-3001-1.1	ECM-PEG-4001-1.1	ECM-PEG-5001-1.1	
			Implement process control to reduce process variation for process plant stability and product quality improvement	Analyse process control loops, system settings and correlation of process variables to improve process plant performance and quality of production output	Evaluate the performance of process control systems to optimise performance of process plants	
<b>Knowledge</b>			<ul style="list-style-type: none"> <li>Types of production data sources and control requirements</li> <li>Process plant variable classifications</li> <li>Types of process control systems and process control algorithms</li> <li>Process control concepts</li> <li>Process control charts</li> <li>Process control performance metrics</li> <li>Process capability indices</li> </ul>	<ul style="list-style-type: none"> <li>Types of production data sources and control requirements</li> <li>Types of process control systems and process control algorithms</li> <li>Process control concepts and design principles</li> <li>Process control charts</li> <li>Process control performance metrics</li> <li>Process capability indices</li> <li>Control systems with multiple loops</li> <li>Controller tuning parameters</li> <li>Data flow between equipment manufacturing automation and process control automation systems</li> <li>Dynamic behaviours and responses of chemical processes</li> </ul>	<ul style="list-style-type: none"> <li>Stability analysis of process control systems</li> <li>Frequency response analysis of process control systems</li> <li>Analysis and design of advanced process control systems</li> <li>Control systems with multiple loops</li> <li>Alternative loop configurations</li> <li>Interaction and decoupling of control loops</li> </ul>	

<p><b>Abilities</b></p>			<ul style="list-style-type: none"> <li>• Perform basic set up of process control systems according to Standard Operating Procedures (SOPs)</li> <li>• Maintain process control for plant stability and product quality improvement</li> <li>• Perform tuning for the process control algorithm and/or models to meet production requirements</li> <li>• Monitor and report the performance of process control systems to achieve production objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Perform analysis and determine control requirements for chemical processes</li> <li>• Set up process control and tune the process control algorithms and/or models to meet production requirements</li> <li>• Analyse and correlate multiple process variables to suggest improvements on process control systems</li> </ul>	<ul style="list-style-type: none"> <li>• Perform stability analysis and frequency response analysis of process control systems to evaluate the performance of process controls</li> <li>• Synthesise alternative control configurations for multiple-input, multiple-output processes</li> <li>• Generate alternative control loop configurations</li> <li>• Perform interaction and decoupling of control loops to optimise process control</li> </ul>	
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