

**Specification of Competency Standards**  
**for the Printing and Publishing Industry**  
**Unit of Competency**

1. Title	Master printing technology application
2. Code	PPRPR401A
3. Level	4
4. Credit	12
5. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>5.1 Master lithographic printing fountain solution properties and basic design of dampening system</p> <ul style="list-style-type: none"> <li>◆ Master acidity value, conductivity value, alcohol level and temperature control of fountain solution for lithographic printing</li> <li>◆ Understand properties and use of mainstream dampening additives</li> <li>◆ Master comparison of major design of dampening system for lithographic printing, such as conventional design, ink-water mix design and alcohol dampening</li> <li>◆ Understand properties of mainstream dampening systems</li> </ul> <p>5.2 Master basic design and operation techniques for ink roller system</p> <ul style="list-style-type: none"> <li>◆ Master ink level of ink roller system for lithographic printing and temperature control</li> <li>◆ Understand ink level of ink roller system, ink line and pressure checking for lithographic printing</li> <li>◆ Compare design for ink level of major ink roller systems of the four methods of (lithographic, intaglio, relief and screen) printing, including conventional design, ink roller and integrated design</li> <li>◆ Understand materials for making ink roller and their properties</li> </ul>

	<p>5.3 Understand major operation techniques for impression system</p>	<ul style="list-style-type: none"> <li>◆ Understand main procedures of impression by printing machine</li> <li>◆ Master techniques for adjusting impression pressure of printing machine</li> <li>◆ Understand influence of adding or reducing plate packing on print effect</li> <li>◆ Have a clear idea of influence of adding or reducing rubber blanket packing on print effect</li> <li>◆ Understand effect of printing plate and rubber blanket quality on impression pressure</li> </ul>
	<p>5.4 Master major design of in-line varnishing system</p>	<ul style="list-style-type: none"> <li>◆ Understand varnishing process performed by in-line varnishing system of printing machine</li> <li>◆ Identify quality and types of print varnish and postpress varnish</li> <li>◆ List types of in-line varnishing systems</li> <li>◆ Know clearly components of varnish</li> </ul>
	<p>5.5 Master major operation techniques for drying system</p>	<ul style="list-style-type: none"> <li>◆ Understand drying process performed by in-line drying system of printing machine</li> <li>◆ Master quality of printed matter after drying</li> <li>◆ Understand influence of drying system and in-line varnishing system</li> <li>◆ Understand major drying systems</li> <li>◆ Understand properties of major drying agents</li> </ul>

	<p>5.6 Master influence of press room temperature and humidity on printed matter</p>	<ul style="list-style-type: none"> <li>◆ Understand influence of temperature, ink and ink drying</li> <li>◆ Set humidity and temperature most suitable for printing</li> <li>◆ Master relationship of temperature and humidity with quality of printed matter</li> <li>◆ Work out temperature and humidity adjustment method</li> </ul>
	<p>5.7 Understand lithographic printing problems and solutions</p>	<ul style="list-style-type: none"> <li>◆ Understand ink-related problems and solutions</li> <li>◆ Resolve humidity and temperature-related problems</li> <li>◆ Understand fountain solution-related problems and solutions</li> <li>◆ Understand printing machine-related problems and solutions</li> <li>◆ Solve printing plate-related problems</li> <li>◆ Master printing paper-related problems and solutions</li> </ul>
	<p>5.8 Operate lithographic printing press for production</p>	<ul style="list-style-type: none"> <li>◆ Operate lithographic printing press for production based on the properties of ink roller, dampening, paper feeding and delivery, impression and in-line varnishing systems and taking into account influences of press room environment on printing materials in addition to controlling the quality of process colour, pantone and varnished printed matter to meet set standards</li> </ul>

6. Range	Operate lithographic printing press according to properties of its various systems to produce process colour, pantone and varnished printed matter that meet set standards and perform related tasks in lithographic printing department.
7. Assessment Criteria	The integrated outcome requirements of this unit of competency are:  (i) Able to operate lithographic printing press for production according to properties of its various systems and consider the influences of press room environment on printing materials to maintain quality production, and able to control the quality of process colour, pantone and varnished printed matter to meet set standards.
8. Remarks	The credit value of this unit of competency is based on the assumption that the learner has knowledge of lithographic printing operation.