1. Title	Install water pumps		
2. Code	EMCUIN220A		
3. Range	Work at general industrial plants, power plants, ship repair, plumbing workplaces pumping involved.		
4. Level	2		
5. Credits	3		
6. Competency			<u>Performance Requirements</u>
	6.1	Knowledge of and requirements for installation of water pumps	♦ Understand the installation requirements for various types of water pumps when reading assembly drawings: • requirements for pump foundations • requirements for couplings • requirements for the pump inlet and outlet system
	6.2	Methods and procedures for installation of water pumps	♦ Capable to use alignment and levelling instruments to take measurements of a water pump and its motor foundation, including: • Methods of alignment and levelling and calculation of adjustments; • Methods of centring and calculation of adjustments ♦ Capable to use various types of levelling and alignment instruments, such as level gauges and steel wire, to take measurements on-site, including: • Horizontal level of foundation surface • Vertical level of foundation bolts ♦ Capable to draw the layout of gaskets according to the dimensions of the foundation ♦ Capable to adjust the radial direction and face deviation of couplings ♦ Capable to fasten foundation bolts to specified torque systematically ♦ Capable to inspect the large moving parts of water pumps after fastening • Measure and adjust the impeller swing of vertical water pumps • Measure and adjust the axial jitter
	6.3	Professionalism in water pump installation	♦ Install water pumps according to drawings and works specifications ♦ Control the progress of installation to meet works specifications and quality standards ♦ Understand the legal requirements on work safety, the code of practice and the supplier's guidelines when performing tasks of water pump installation ♦ Capable to use installation tools and equipment effectively

7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to install water pumps efficiently; (ii) Capable to complete work tests, including proper execution of leveling and alignment procedures and installation procedures, recording data and adjusting of equipment to required standards; and (iii) Capable to compile reports on installation of water pumps and state clearly their operation.
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of mechanics and installation skills.