

Specification of Competency Standards
for the Testing, Inspection and Certification Industry
Unit of Competency

Functional Area - Testing Operations

Title	Perform environmental testing (physical)
Code	105815L4
Range	This unit of competency (UoC) covers the abilities to carry out physical measurements on sound level and air particulate matters and physical tests on water and/or solid waste samples independently at the selected testing site, and conclude test results of physical parameters of the environment in compliance with regulatory limits.
Level	4
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of physical parameters for environmental testing</p> <ul style="list-style-type: none"> • Employ the principles of sound theory, addition and subtraction of sound levels and basic types of sound field microphones. • Apply the methods and principles of sound measurements, e.g. low frequency and residual sound; area sensitivity rating; base noise level; most affected noise sensitive receiver; units of sound measurements; A weighted, C weighted, equivalent continuous, instantaneous and maximum sound pressure level. • Describe the effects of weather and conditions that are favourable to sound propagation. • Identify different types of particulate matters in air. • Describe the methods for air sampling and measurement of air particulate matters. • Describe the methods and principles of physical tests of water and and/or solid waste, e.g. suspended solids, moisture. • Describe the requirements of measuring environmental noise and air particulate matters and physical tests of water and/or solid waste in test methods/standards, regulatory limits and guidance. • List the precautions and safety measures for on-site environmental testing. • Describe the operation and calibration requirements of equipment for measuring physical parameters of the environment. <p>2. Perform physical measurements for environmental testing</p> <ul style="list-style-type: none"> • Select the testing site and operating conditions that are statistically representative the noise, air and water pollution and solid waste. • Apply appropriate test methods/standards and test plans for physical measurements of the environment. • Apply appropriate testing equipment for physical measurements. • Apply appropriate conditions to the sound measuring equipment, e.g.: <ul style="list-style-type: none"> ○ distances from reflecting surface, ○ location of microphone, ○ measurement time interval. • Apply appropriate conditions to the air sampler and testing equipment for measuring air particulate matters. • Apply appropriate conditions to testing equipment for measuring physical parameters of water and/or solid waste. • Carry out physical measurements of the environment independently according to the test methods/standards. • Carry out appropriate equipment calibration checks to confirm the requirements are met. • Record and document test data, measurement mode and conditions accurately to conclude the compliance of environmental test results. <p>3. Exhibit professionalism</p>

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	<ul style="list-style-type: none">• Ensure all measurements are carried out in compliance with good industry practices.• Ensure integrity and confidentiality of measurement data by observing the relevant code of conduct.• Ensure safe work practices and use appropriate personal protective equipment at the measuring site.
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none">• carry out physical measurements of the environment independently by applying appropriate conditions to the testing equipment according to the requirements of relevant test methods/standards,• record and document accurate test data by verifying equipment calibration status,• conclude the compliance of noise level, amount of air particulate matters and physical parameters of water and/or solid waste in the testing site against the relevant standards and/or regulatory limits.
Remark	