

1. Title	Detect underground power cables
2. Code	EMELIT210A
3. Range	Detect underground power cables at general worksites according to underground power cable layout plans, and record the results and formulate guidelines for road excavation.
4. Level	2
5. Credit	6
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Know about the basic principles and methods of detecting underground cables</p> <ul style="list-style-type: none"> <li>◆ Know about the nature and uses of various kinds of power cables buried underground</li> <li>◆ Know about the basic principles of detecting underground cables including electromagnetic fundamentals, interference of other underground facilities, passive mode detection, active mode detection, etc.</li> <li>◆ Understand the details of drawings of underground facilities</li> <li>◆ Understand the basic principles of detecting underground cables, including: passive mode detection, active mode detection, etc.</li> <li>◆ Know about the methods and code of practice for topographic survey and field marking</li> <li>◆ Master the methods of collecting effective survey data including that of: <ul style="list-style-type: none"> <li>• underground cable alignment position</li> <li>• underground cable movement direction</li> <li>• underground cables depth measurement</li> </ul> </li> <li>◆ Master the method of drawing sketches and actual layout plans of underground cables</li> </ul> <p>6.2 Implement underground cable detection</p> <ul style="list-style-type: none"> <li>◆ Implement underground cable detection according to the details of the underground power cable layout plan <ul style="list-style-type: none"> <li>• site boundary perimeter scan technique</li> <li>• site boundary Z-scan technique</li> <li>• confirmation of underground cable alignment position</li> <li>• confirmation of underground cable movement direction</li> <li>• underground cable depth measurement</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>◆ Record the detection results and formulate guidelines for road excavation, including the quantity, alignment position, movement direction and depth of underground cables; safety precautions, etc.</li> <li>◆ Follow the regulations and relevant codes of practice to ensure that underground cable installations are correctly located, and properly protected against damage</li> </ul>
7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> <li>(i) Capable to implement underground cable detection according to the layout plans of underground power cables; and</li> <li>(ii) Capable to record underground cable detection results and formulate guidelines for road excavation.</li> </ul>
8. Remarks	