

**Specification of Competency Standards**  
**for the Jewellery Industry**  
**Unit of Competency**

Functional Area - Testing and Certification

Title	Identify common gemstones and their quality
Code	109011L4
Range	This unit of competency is applicable to practitioners who work in gemmological laboratories and those with related duties in the jewellery industry. Practitioners should be capable of conducting analysis, assessment and integration of data. They should also be able to distinguish gemstones, know their identification methods and use relevant identification equipment properly to obtain data and information for application in the related work in the jewellery industry.
Level	4
Credit	9
Competency	<p>Performance Requirements</p> <p>1. Know about the categories and properties of gemstones</p> <ul style="list-style-type: none"> <li>• Know about the categories of gemstones and their properties, such as: <ul style="list-style-type: none"> <li>○ The nature of gemstone materials</li> <li>○ Structures and properties of gemstones</li> <li>○ Colours in gemstone materials (colouring elements)</li> <li>○ Advanced physical and optical testing of gemstones</li> <li>○ Inorganic gemstone materials, such as: <ul style="list-style-type: none"> <li>▪ Precious/Semi-precious gemstones <ul style="list-style-type: none"> <li>▪ Diamonds</li> <li>▪ Coloured gemstones <ul style="list-style-type: none"> <li>▪ Rubby/Sapphire;</li> <li>▪ Emerald; and</li> <li>▪ Tourmaline, etc.</li> </ul> </li> </ul> </li> </ul> </li> <li>○ Organic gemstone materials, such as: <ul style="list-style-type: none"> <li>▪ Coral</li> <li>▪ Amber</li> <li>▪ Pearls (natural pearls, cultured pearls)</li> <li>▪ Jet</li> </ul> </li> <li>○ Artificial gemstone materials, such as: <ul style="list-style-type: none"> <li>▪ Synthetic moissanite</li> <li>▪ Synthetic diamonds</li> </ul> </li> </ul> </li> </ul> <p>2. Identify gemstones preliminarily</p> <ul style="list-style-type: none"> <li>• Master the functions of basic gemstone testing equipment</li> <li>• Use relevant gemstone testing equipment properly to obtain data and information, such as: <ul style="list-style-type: none"> <li>○ Magnifying glass</li> <li>○ Spectroscope</li> <li>○ Dichroscope</li> <li>○ Infrared spectrometer</li> <li>○ Refractometer</li> <li>○ Gemstone microscope</li> <li>○ Polariscope</li> </ul> </li> </ul> <p>3. Professionalism</p> <ul style="list-style-type: none"> <li>• Learn to use up-to-date gemstone identification/testing equipment constantly</li> </ul>
Assessment Criteria	The integrated outcome requirements of this unit of competency are:

**Specification of Competency Standards**  
**for the Jewellery Industry**  
**Unit of Competency**

Functional Area - Testing and Certification

	<ul style="list-style-type: none"><li>• Able to distinguish the gemstones commonly used in jewellery manufacturing and understand their basic identification methods; and</li><li>• Use identification equipment and tools properly to obtain data and information.</li></ul>
Remark	<p>This unit of competency is written with reference to the following materials. Readers can study the relevant information according to their needs:-</p> <ul style="list-style-type: none"><li>• Guobiao standards GB/T16553-2017 (Gems Testing);</li><li>• The English-Chinese and Chinese-English Dictionary of Gems and Jewelry published by China University of Geosciences Press Co. Ltd.; and</li><li>• Courses of The Gemmological Association of Great Britain (Gem-A), courses of The Gemological Institute of America (GIA), courses of The Swiss Gemmological Institute, courses of the International Gemological Institute, etc.</li></ul>