

Specification of Competency Standards
for the Jewellery Industry
Unit of Competency

Functional Area - Testing and Certification

Title	Identify and analyze jade (including Fei Cui)
Code	109017L5
Range	This unit of competency is applicable to gemmologists working in gemmological laboratories in the jewellery industry. Practitioners should be capable of conducting analysis, judgment and assessment. They should have a wide range of knowledge of all kinds of jade (including Fei Cui) and be able to analyze them as well as to use identification equipment to obtain detailed and accurate data and information, so as to perform jade (including Fei Cui) identification work on jade (including Fei Cui) effectively and independently after careful analysis.
Level	5
Credit	6
Competency	<p>Performance Requirements</p> <p>1. Analyze the categories and characteristics of jade (including Fei Cui)</p> <ul style="list-style-type: none"> • Analyze the categories and characteristics of jade (including Fei Cui), including: <ul style="list-style-type: none"> ○ Know about the categories, quality, etc. of jade (including Fei Cui) ○ Know about the classification of Fei Cui <ul style="list-style-type: none"> ▪ Fei Cui, Jadeite jade ▪ Fei Cui, Omphacite ▪ Fei Cui, Kosmochlor ○ Distinguish between natural jade (including Fei Cui) and chemically treated jade (including Fei Cui) (Types B, C and B + C) ○ The difference between the primary colours and secondary colours of jade (including Fei Cui) ○ Jadeite and nephrite ○ Jade-like minerals ○ Know about the categories of raw materials and their colours, types and quality ○ Origins of jade (including Fei Cui) and their characteristics ○ Artificial treatment methods of jade and its characteristics after treatment ○ Know about jade grading standards, such as: <ul style="list-style-type: none"> ▪ Colour ▪ Transparency ▪ Texture ▪ Clarity ▪ Cut <p>2. Identify all kinds of jade (including Fei Cui)</p> <ul style="list-style-type: none"> • Operate the precision jade (including Fei Cui) identification equipment to perform jade (including Fei Cui) identification duties effectively • With reference to relevant standard test methods and procedures to distinguish jade (including Fei Cui) and its imitations <ul style="list-style-type: none"> ○ Receive the sample ○ Master the basic data of the sample, including: <ul style="list-style-type: none"> ▪ Shape and cut ▪ Dimensions (mm) and weight (g) ▪ Transparency and colour ▪ Surface and internal characteristics (microscope) and visual analysis ○ Use relevant testing and identification methods to distinguish whether the sample is natural Fei Cui or treated Fei Cui (imitations), including: <ul style="list-style-type: none"> ▪ Refractive index

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	<ul style="list-style-type: none"> ▪ Specific gravity (relative density) ▪ Colour and fluorescence intensity ○ Use relevant identification methods to distinguish whether the sample is natural Fei Cui or treated Fei Cui, including: <ul style="list-style-type: none"> ▪ Colours observed under CCF ▪ Visible light absorption spectrum ▪ Infrared spectrum of the test sample ○ Determine the classification of Fei Cui, including: <ul style="list-style-type: none"> ▪ Fei Cui without dyeing, chemical treatment and resin impregnation (Type A) ▪ Fei Cui with chemical treatment and resin impregnation (Type B) ▪ Fei Cui with dyeing (Type C) ▪ Fei Cui with chemical treatment, resin impregnation and dyeing (Type B+C) ○ Use infrared spectrum fingerprinting to test natural Fei Cui, record and check the infrared fingerprint spectra of test samples to further distinguish natural Fei Cui and treated Fei Cui ○ Determine the existing calibration/certified mark of the jade (including Fei Cui) identification equipment ○ Install, maintain, repair and optimize the testing instruments/equipment, and check their calibration status to meet testing requirements <p>3. Professionalism</p> <ul style="list-style-type: none"> • Comply with the code of conduct of the gemmological laboratories to ensure the integrity and confidentiality of the test data and information • Keep up to date with and constantly learn the latest knowledge of jade (including Fei Cui) and the use of relevant identification equipment
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> • Able to have an in-depth understanding/analysis of all kinds of jade (including Fei Cui), such as natural jade (including Fei Cui) (Type A), treated jade (including Fei Cui) (Type B, C and B+C) and imitations; and • Operate precision identification equipment to obtain detailed and accurate data and information, so as to effectively perform jade (including Fei Cui) identification duties to assess and identify jade (including Fei Cui) after careful analysis.
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"> • Guobiao standards GB/T16553-2017 (Gems Testing); and • Hong Kong Standard Testing Methods for Fei Cui 2016 by the Gemmological Association of Hong Kong