

**Specification of Competency Standards**  
**for the Manufacturing Technology Industry**  
**Unit of Competency**

Functional Area - Product Design and Development

Title	Metal die casting and foundry part design for production, assembly, dismantling and surface decoration
Code	106475L4
Range	This unit of competency is applicable to the design and development departments of metal products manufacturing industry. Practitioners should be capable to be familiar with die casting and foundry part design and all kinds of manufacturing process, so as to coordinate with production, assembly, dismantling and surface decoration
Level	4
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Understand metal die casting and foundry part design and all kinds of manufacturing process</p> <ul style="list-style-type: none"> <li>• Understand all kinds of raw materials and characteristics of metal die casting and foundry part</li> <li>• Understand the design techniques of metal die casting and foundry part, such as selection of the mould parting surface, the setup of the gate, selection of jack position, the contraction of the foundry part, the dimensional accuracy assurance of foundry part</li> <li>• Understand the assembly methods of die casting and foundry part</li> <li>• Recognise all kinds of surface treatment methods and technologies, such as plasma magnetron sputtering, deep reactive-ion etching and spraying coating</li> </ul> <p>2. Metal die casting and foundry part design for production, assembly, dismantling and surface decoration</p> <ul style="list-style-type: none"> <li>• According to the requirements of product functions, customer and cost, design a minimum and the most simple process to complete the entire processing and assembly of the metal die casting and foundry part</li> <li>• According to the structure of metal die casting and foundry part and surface treatment, design appropriate production methods, tools and fixtures, so as to improve the production efficiency</li> <li>• According to the priority of design, appropriate production methods, tools and fixtures, so as to improve the production efficiency</li> <li>• Recommend suitable surface treatment methods, so as to meet the required effects</li> <li>• Produce completed drawings and list out product specifications and BOM to other departments to process</li> </ul> <p>3. Professional handling of metal die casting and foundry part design for production, assembly, dismantling and surface decoration</p> <ul style="list-style-type: none"> <li>• Detailedly consider elements such as safety, risk, productivity, quality, environmental protection and cost, carry out metal die casting and foundry part design for production, assembly, dismantling and surface decoration and meet all aspects of requirements</li> </ul>
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> <li>• Capable to produce completed metal die casting and foundry part drawings and list out product specifications and BOM to other departments to process</li> <li>• Capable to design appropriate production methods, tools and fixtures, so as to improve the production efficiency</li> </ul>
Remark	