

Specification of Competency Standards
for the Manufacturing Technology.
Unit of Competency.

Functional Area - Supply Chain Management

Title	Formulate material requirements planning (MRP) plan based on delivery dates required by each material supplier to ensure timely delivery of materials and semi-finished products for production
Code	106505L5
Range	This unit of competency is applicable to the process design and development departments / engineering departments, and supply chain management departments of enterprises in the manufacturing technology industry. Practitioners should be capable to use MRP-related electronic systems to formulate material requirements planning (MRP) based on the required delivery dates for various material suppliers
Level	5
Credit	3
Competency	Performance Requirements - Understand relevant knowledge of formulating material requirements planning (MRP) - Understand method of reading bill of materials (BOM) - Understand BOM-related electronic systems and their applications - Understand analytical methods of material requirements planning (MRP), apply information such as production schedule, existing inventory, delivery time, sales order quantity and due date, purchase order quantity and due date, batching strategy, and safety stock, etc. - Understand MRP-related electronic systems and their applications - Understand inventory costs such as raw material costs, ordering costs, storage costs, and stockout costs, etc. - Understand just-in-time (JIT) inventory management, such as the concept of zero inventory, as well as environment and concepts of JIT, etc. - Understand methods and systems for collecting and analysing the material shipment and manufacturing data from various suppliers in supply chain, and how to integrate them with enterprise's MRP system - Formulate material requirements planning - Able to break down the finished product into materials that need to be purchased according to BOM, and calculate the required quantity of materials - Able to assess the required delivery time for each material supply - Able to use various appropriate tools to estimate the appropriate order quantity, such as economic order quantity and re-ordering point - Able to develop MRPs that meet the delivery schedules - Able to improve material supply arrangements and formulate appropriate order quantities continuously, to approach zero inventory and improve business performance - Able to examine possibility for communication and connection between MRP, customer and supplier systems, to improve and synchronise material planning (VMI) - Able to collect and analyse real time shipping and production data of each supplier in the material supply chain, and coordinate with suppliers on the supply time - Able to apply MRP-related electronic systems, perform regular maintenance and review - Professional handling of formulating material requirements planning

	• Able to ensure the provided material requirements information is accurate • Able to prevent any abuse of power or fraud through formulation of material requirements planning
Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Able to integrate different information and delivery requirements from suppliers and customers to develop material requirements planning (MRP), to reduce production time waiting for goods and discarded semi-finished products ◦ Able to formulate material requirements planning (MRP) to improve production efficiency within the enterprise
Remark	This is the updated version of UoC 106505L4