



Australian Government

Department of Education, Employment and Workplace Relations

MSACMT623A Develop a levelled pull system of manufacturing

Revision Number: 1

MSACMT623A Develop a levelled pull system of manufacturing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the knowledge and skills required to develop and level a demand pull system of manufacturing.
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Application of the Unit

Application of the unit	<p>This unit covers the production planning skills needed in a manufacturing enterprise to develop and level a demand pull system which meets the business needs of the enterprise. This may apply to the initial development of a pull system, or the continuous improvement of an existing system.</p> <p>This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are required to determine effective manufacturing sequences and flow systems. This unit also requires aspects of self management and learning to ensure feedback and new learning is integrated into system designs.</p> <p>Depending on the enterprise the following units may also be relevant:</p> <ul style="list-style-type: none"> • <i>MSACMT622A Design a process layout</i> • <i>MSACMS601A Analyse and map a value chain</i> • <i>MSACMT280A Undertake root cause analysis</i> • <i>MSACMT621A Develop a Just in Time (JIT) system</i>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Analyse production systems	1.1. Acquire an 'as is' value map of the process for all major <i>products</i> 1.2. Separate repeated products from specials 1.3. Consult with production, maintenance, supervisory and management workforce on current production system and processes 1.4. Identify process steps causing problems 1.5. Analyse <i>inventories</i> within process and determine causes of high inventories 1.6. Determine costs of problems and inventories 1.7. Develop improved flow sequence and future value map
2. Establish sequence	2.1. Identify equipment and processes which can be sequenced by co-location 2.2. Identify equipment which is not suitable for co-location 2.3. Identify <i>pacemaker</i> process 2.4. Establish/review location of equipment for desired sequencing
3. Initiate or develop flow system	3.1. Determine rate and variability of demand for product 3.2. Compare capability of flow sequence to demand rate and variability 3.3. Set flow rate to level demand at pacemaker and handle variability 3.4. Identify trigger for pacemaker process 3.5. Establish kanban system for other process parts
4. Balance the work	4.1. Determine target time per product 4.2. Standardise work processes and operations and establish procedures to monitor variation 4.3. Adjust product/batch production to <i>balance</i> work 4.4. Arrange for implementation of system 4.5. Monitor operation of system and take appropriate action

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analysis
- problem solving
- planning and organising
- communication
- documenting of process steps
- calculations

Required knowledge

- processing requirements of products
- capabilities of equipment
- Capabilities and skills of the workforce
- production planning

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide describes the underpinning knowledge and skills that must be demonstrated to prove competence. It is essential for assessment and must be read in conjunction with the performance criteria, the range statement and the assessment guidelines of the relevant training package

Overview of assessment requirements	Assessment should confirm the ability to develop or further develop a balanced, levelled pull system of manufacturing.
What are the specific resource requirements for this unit?	Access to an organisation using/intending to use a balanced pull system of manufacturing.
What critical aspects of evidence is required to demonstrate competency in this unit?	Evidence of undertaking the development or redevelopment of a pull system development should be available.
In what context should assessment occur?	Assessment will need to occur in an organisation using a balanced pull system of manufacturing. Assessment should occur over a time period appropriate to determine the successful operation of the developed pull system. Assessment can be by a combination of project, portfolio and direct observation of the developed system.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	Depending on the enterprise the following units may also be relevant and could be assessed with this unit: <ul style="list-style-type: none"> • <i>MSACMT622A Design a process layout</i> • <i>MSACMS601A Analyse and map a value chain</i> • <i>MSACMT280A Undertake root cause analysis</i> • <i>MSACMT621A Develop a Just in Time (JIT) system</i>
What method of assessment should apply?	Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment. Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from

EVIDENCE GUIDE

	<p>supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.</p>
<p>What evidence is required for demonstration of consistent performance?</p>	<p>Generally one significant pull development project or a number of continuous improvements should generate sufficient evidence.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Product	Product includes individual products and product groups/ families.
Inventories	<p>Inventories within process may include:</p> <ul style="list-style-type: none"> • cycle stock which reflects the replenishment quantity and frequency • buffer stock to meet demand variability and forecast errors • safety stock required to guard against quality and delivery failures upstream
Pacemaker	<p>Pacemaker processes is that process which sets the pace for the flow of manufacturing work through the enterprise. Pacemaker processes may include but are not limited to:</p> <ul style="list-style-type: none"> • process steps which are significantly longer than other production stages • critical technical or quality steps in the production process
Balance work	<p>Balance work means balancing:</p> <ul style="list-style-type: none"> • time of production • effort required by workforce and equipment • work organisation • job design • quality considerations • waste and other cost considerations <p>between stations/equipment/processes to achieve levelled pull within allowable time per product.</p> <p>Balance work consideration also means:</p> <ul style="list-style-type: none"> • undertaking adequate consultation with stakeholders • meeting OHS and environmental requirements • any other regulatory and legislative requirements

Unit Sector(s)

Unit Sector	CM Tools
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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