



Australian Government

Department of Education, Employment and Workplace Relations

MSACMT621A Develop a Just in Time (JIT) system

Revision Number: 1

MSACMT621A Develop a Just in Time (JIT) system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills needed to plan and implement a Just in Time (JIT) production system in manufacturing. It covers both the initial JIT implementation and also the ongoing improvement and implementation of the improved system.
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Application of the Unit

<p>Application of the unit</p>	<p>In a typical scenario, an organisation decides to adopt JIT and so needs to plan and develop their JIT system. This unit covers the skills needed to both plan the implementation of JIT and also consult with employees, suppliers and customers regarding the change. This may require identification of training and other employee support as well as identifying possible logistical support.</p> <p>It includes <i>kanban</i> based JIT systems but uses JIT principles so that it is applicable to process manufacturing and other sectors and systems that are not suitable for a kanban type JIT implementation.</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 an effective JIT system for the enterprise. This unit also requires aspects of self management and learning to ensure feedback and new learning is integrated into the JIT design.</p> <p>This unit could be assessed concurrently with:</p> <ul style="list-style-type: none"> • <i>MSACMS601A Analyse and map a value chain, and/or</i> • <i>MSACMT650A Determine and improve process capability.</i> <p>This unit is related to:</p> <ul style="list-style-type: none"> • <i>MSACMT221A Apply Just in Time(JIT) procedures, and</i> • <i>MSACMT421A Facilitate a Just in Time (JIT) system</i> <p>which cover the lowest and intermediate skill levels in CM respectively.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	<i>MSACMC410A</i>	<i>Lead change in a manufacturing environment</i>
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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. Design the JIT system/system improvements	1.1. Identify <i>value chain</i> members 1.2. Consult with internal and external value chain members 1.3. Identify current storage/inventory in value chain 1.4. Determine flow authorisation indicators 1.5. Determine minimum and maximum production rate capability 1.6. Determine production lead time for products subject to JIT 1.7. Determine number of <i>cards/bins</i> and number of units per card/bin 1.8. Draft workable procedures to implement JIT
2. Implement the JIT system/improvements	2.1. Consult with key internal stakeholders to develop solutions to JIT issues 2.2. Ensure all stakeholders have required JIT related skills and related issues have been resolved 2.3. Liaise with key external members of the value chain to develop solutions to JIT issues 2.4. Develop implementation plan for JIT 2.5. Determine <i>key measures</i> of JIT
3. Monitor the JIT system	3.1. Monitor key measures of JIT 3.2. Regularly liaise with key stakeholders seeking areas for improvement 3.3. Identify areas in need of improvement

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- reading
- recording
- communicating
- planning
- analysing
- problem solving
- negotiating

Required knowledge

- needs of value chain members
- principles of JIT
- reasons for delays/storages/inventories in the value chain and methods of reducing/eliminating them
- methods of identifying skill gaps and methods of filling skill gaps
- key business objectives associated with implementing JIT
- principles of the manufacturing process relevant to the section/team
- production data generated by the process and its application to JIT

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.</p>	
Overview of assessment requirements	The person will be able to plan the initial introduction of JIT to an organisation or a process, or plan improvements to an existing JIT system.
What are the specific resource requirements for this unit?	Access to an organisation using JIT.
What critical aspects of evidence are required to demonstrate competency in this unit?	Evidence of the design, implementation and monitoring of a JIT system and the effective operation of the JIT system are required.
In what context should assessment occur?	Assessment needs to occur in an organisation using JIT or by use of a suitable project or case study.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	<p>This unit could be assessed concurrently with:</p> <ul style="list-style-type: none"> • <i>MSACMS601A Analyse and map a value chain, and/or</i> • <i>MSACMT650A Determine and improve process capability.</i> <p>This unit is related to:</p> <ul style="list-style-type: none"> • <i>MSACMT221A Apply Just in Time(JIT) procedures, and</i> • <i>MSACMT421A Facilitate a Just in Time (JIT) system</i> <p>which cover the lowest and intermediate skill levels in CM respectively.</p>
What method of assessment should apply?	<p>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.</p> <p>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 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</p>

EVIDENCE GUIDE	
	<p>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>
What evidence is required for demonstration of consistent performance?	<p>Where evidence is gathered from the initial introduction of JIT to an organisation or a process, then this single project may generate sufficient evidence. Where evidence is gathered from continuous improvements to an existing JIT system, then it will be required from a range of improvements to 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.

Just In Time (JIT)

Just In Time (JIT) is a production scheduling concept that calls for any item needed at a production operation, whether raw material, finished item, or anything in between, to be produced and available precisely when needed, neither a moment earlier nor a moment later.

Kanban

Kanban - a card or sheet used to authorise production or movement of an item; when fully implemented, kanban (the plural is the same as the singular) operates according to the following rules:

- all production and movement of parts and material take place only as required by a downstream operation, i.e. all manufacturing and procurement are ultimately driven by the requirements of final assembly or the equivalent
- the specific tool which authorises production or movement is called a kanban. The word literally means card or sign, but it can legitimately refer to a container or other authorizing device. Kanban have various formats and content as appropriate for their usage (eg a kanban for a vendor is different than a kanban for an internal machining operation).

Kanban is typically applied to batch type operation and the production is measured in units produced. In continuous manufacturing organisations, production is measured in terms of production rate (eg kg/h, tonne/day) and rate is increased/decreased according to the flow authorisation which may be a kanban (eg ticket, order from a supplier) or may be a *SCADA* signal from a remote facility (eg customer tank) saying that resupply is required or similar.

SCADA

System Control and Data Acquisition (SCADA) is a general term applied to a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then

RANGE STATEMENT	
	make control decisions and/or give required information personnel for action.
Value chain	Competitive manufacturing organisations encompass the entire production system, beginning with the customer, and includes the product sales outlet, the final assembler, product design, raw material mining and processing and all tiers of the value chain (sometimes called the supply chain). Any truly 'competitive' system is highly dependent on the demands of its customers and the reliability of its suppliers. No implementation of competitive manufacturing can reach its full potential without including the entire 'enterprise' in its planning.
Flow authorisation indicator	Flow authorisation indicator may be kanban bin, ticket or similar, or may be some other indicator of demand pull.
Pull system	Pull system - a manufacturing planning system which makes to demand, rather than for stock or to a forecast.
Cards/bins	The indicators used for production authorisation and may be physical cards or bins or some other suitable indicator.
Procedures	Procedures include all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, verbal, computer based or in some other form. For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.
Key measures	Key measures may include inventory levels, lead time, IFOTIS delivery, productivity/production rate, other measures of pull through the value chain, quality. IFOTIS refers to delivery of product In Full, On Time and In Specification.

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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