



**Australian Government**

# **MSS405035 Design a process layout**

**Release: 1**

## MSS405035 Design a process layout

### Modification History

Release 1. Unit code changed. Application changed. Elements changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to MSS405022 Design a process layout.

### Application

This unit describes the skills and knowledge required to design or redesign a process using a process layout as distinct from volume production layout (product layout).

This unit applies to technical experts who will apply the principles of competitive systems and practices to identify process boundaries and determine layout and infrastructure requirements and solutions with input from others.

This applies to any organisation implementing a process layout within competitive systems and practices.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

### Competency Field

Competitive systems and practices

### Elements and Performance Criteria

| Elements                                  | Performance Criteria                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element.                                                                                                                                                                                                                                                                 |
| 1. Determine process for redesign         | 1.1 Obtain or develop a process map of existing process<br>1.2 Identify main products or classes of products produced by existing process<br>1.3 Determine product families (or clusters) based on product profiles, sales forecasts and patterns and compatible process steps<br>1.4 Determine process boundaries to accommodate one or more proposed families |
| 2. Engineer the process                   | 2.1 Make a preliminary selection of equipment, technology and process for proposed families<br>2.2 Estimate required resource times for each family<br>2.3 Calculate total resourcing required for each family                                                                                                                                                  |

| Elements                                  | Performance Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element.                                                                                                                                                                                                                                                                                                                                                                                      |
|                                           | 2.4 Estimate appropriate lot size<br>2.5 Evaluate costs, benefits and alignment to organisation's competitive systems and practices approach to determine viability of proposed families and preliminary process layout                                                                                                                                                                                                                                                              |
| 3. Design the infrastructure              | 3.1 Consult with stakeholders to determine details of layout needs<br>3.2 Identify physical infrastructure required by system<br>3.3 Identify information and control infrastructure required<br>3.4 Identify work organisation required<br>3.5 Identify work health and safety (WHS) and other regulatory requirements<br>3.6 Identify workforce development and training requirements<br>3.7 Check the availability of required infrastructure and compatibility with requirements |
| 4. Lay out the process                    | 4.1 Draft proposed process flow map<br>4.2 Draft proposed configuration diagram<br>4.3 Draft proposed space plan or layout<br>4.4 Check availability of services and structural suitability<br>4.5 Validate proposed layout with stakeholders<br>4.6 Finalise process layout<br>4.7 Develop implementation plan in liaison with stakeholders<br>4.8 Implement and review layout                                                                                                      |

## Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret workplace documentation
- Writing skills to document process flows and recommendations
- Oral communication skills to facilitate engagement and consult with a range of stakeholders
- Numeracy skills to calculate benefit/cost ratio, resource requirements, process capability.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

## **Unit Mapping Information**

Release 1. Supersedes and is equivalent to MSS405022 Design a process layout.

## **Links**

Companion Volume Implementation Guides are found in VETNet – -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

## Assessment Requirements for MSS405035 Design a process layout

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### Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- redesign at least one process using a process layout within competitive systems and practices.

### Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of process layout design
- equipment capabilities and reliability
- workforce capabilities and reliability
- business and customer requirements from layout
- work health and safety (WHS) and other regulatory requirements
- determining product profile and processing requirements including:
  - components/materials needed
  - equipment/technology/processes required
  - volume of activity to manufacture forecast amount
  - set-up time
  - equipment time
  - person time
  - process time.
- 

### Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - access to relevant data and information
- modelling of industry operating conditions, including:

- functioning competitive systems and practices environment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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