Title	**Program a robot using teach method**		
Level	**5**	**Credits**	**5**

Purpose	People credited with this unit standard are able to: prepare for programming; program a robot using teach method; explain and apply modes for program testing; and correct faults, edit, save, and backup program.

Classification	Mechanical Engineering > Engineering - Robotics

Available grade	Achieved

Guidance Information

Definitions
Organisational procedures refer to documents that include: worksite rules, codes, and practices; equipment operating instructions; documented quality management systems; and health and safety requirements.
Robot refers to a reprogrammable multifunction manipulator designed to move material, parts, tools or specialised devices through variable programmed motions for the performance of a variety of tasks.
Teach method refers to programming a robot with a prescribed sequence of motions and activities using a teach pendant.
Teach pendant refers to a device which uses computer logic and programmable memory to control robotics.
Dead-man's switch refers to a controlling device allowing power to be connected only as long as the operator presses it appropriately.

Outcomes and performance criteria

Outcome 1

Prepare for programming.

Performance criteria

1.1 Safety issues to be considered when teach programming are described in accordance with organisational procedures.

Range dead-man's switch, work envelope, machine/equipment integration, speed control, safety interlocks.

1.2 Program backup is described in terms of timing, memory device, and storage.

1.3 Teach pendant operation is described in terms of screen layout, operating modes, function keys, dead-man's switch.

1.4 Functional description of program to be executed is produced.

Outcome 2

Program a robot using teach method.

Performance criteria

2.1 Teach mode is activated and dead-man's switch energised.

2.2 Teach mode is set for movement and speed according to organisational procedures.

Range reference position, speed control, movement control, machine/equipment integration controls.

2.3 Robot and integrated machinery/equipment are operated and moved to required positions and recorded for program.

Range may include but is not limited to – insert, change, add comment, wait position, program save.

Outcome 3

Explain and apply modes for program testing.

Performance criteria

3.1 Explanations are given for the selection of step, manual, and automatic mode for program testing.

3.2 Step mode and reduced speed are set and program is checked for faults.

3.3 Manual mode and reduced speed are set and program is checked for faults.

3.4 Automatic mode is set and program is checked for faults.

Outcome 4

Correct faults, edit, save and backup program.

Performance criteria

4.1 Program faults are corrected.

Range may include but is not limited to – change step, delete, add, wait time, open-close sequence.

4.2 Program optimisation method is applied in accordance with organisational procedures.

Range one of – manual optimisation, automatic optimisation.

4.3 Program is saved to central processing unit.

4.4 Program is backed up from central processing unit in accordance with organisational procedures.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 August 2002	31 December 2026
Review	2	26 September 2024	31 December 2026

Consent and Moderation Requirements (CMR) reference	0013

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.