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| Crane-10 | Sling irregular loads for lifting operations |  |

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| **Kaupae** | Level | 4 |
| **Whiwhinga** | Credit | 25 |
| **Whāinga** | Purpose | This skill standard recognises the skills to calculate and sling irregular loads for lifting operations.This skill standard aligns with the New Zealand Certificate in Cranes (Level 4) and may contribute to other programmes of study as appropriate. |
| **Whakaakoranga me mātua oti** | Pre-requisites | Crane 3 and Crane 9 are pre-requisites. |

**Hua o te ako me Paearu aromatawai |** Learning outcomes and assessment criteria

| **Hua o te ako |** Learning outcomes  | **Paearu aromatawai** | Assessment criteria |
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| 1. Calculate and sling irregular loads for lifting operations.
 | 1. Calculations of load weight and centre of gravity are completed in preparation for rigging.
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| 1. Irregular loads are prepared and rigged according to the rigging plan and industry good practice.
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| 1. Features of load stability and lifting equipment that may affect safe operation of the crane are determined.
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| 1. Lifting equipment is selected and rigging equipment is used for the load according to industry good practice.
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| 1. Lift plan developed for the lifting operation.
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| 1. Packing and dunnage is selected and applied to crane lift situations according to industry good practice.
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**Pārongo aromatawai me te taumata paearu** | Assessment information and grade criteria

Assessment specifications:

For the assessment:

* Cranes with either a 10-tonne minimum capacity or tower crane/self-erecting tower crane with a 4-tonne minimum capacity must be used.
* Experience must be demonstrated via verifier documented and observed slinging of lifts.
* A minimum of 40 lifts with at least six variations of lifting operations which may include site, crane, loads, and communication methods.
* At least two regular and two irregular loads, including one where the centre of gravity is offset, must be observed by the assessor.

Features of load stability and lifting equipment that may affect safe operation of the crane may include weather, weight of load, site conditions, centre of gravity, nature and stability of the load.

*Industry good practice* refers to requirements of the Approved Code of Practice for Cranes, Approved Code of Practice for Load-lifting Rigging, and the Crane Safety Manual.

*Irregular loads* include two or more of the following characteristics: unequal weight distribution, eccentric loading, irregular shape and proportions, with or without set lifting points.

*Regular loads* have the characteristics of uniform weight distribution, concentric loading or regular proportions, known lifting points, repetitively lifted.

**Ngā momo whiwhinga** | Grades available

Achieved.

**Ihirangi waitohu** | Indicative content

* Purpose and use of different lifting equipment (ropes, chains, web slings, lifting clutch and eye inert, shackles, spreader bar, chain hoist, equaliser, chain block, lifting beams, eye bolts, concrete lifting systems).
* Practices of the dogman that may affect stability of the load.
* Calculations required.
* Types of packing that may be used.

**Rauemi |** Resources

Crane Programme Guidance, available from qualifications@waihangaararau.nz.

Approved Code of Practice for Cranes, available from [www.worksafe.govt.nz](http://www.worksafe.govt.nz).

Crane Safety Manual: For Crane Operators & Dogmen (Crane Association of New Zealand), available from [www.cranes.org.nz](http://www.cranes.org.nz).

**Pārongo Whakaū Kounga |** Quality assurance information

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| **Ngā rōpū whakatau-paerewa |** Standard Setting Body | Waihanga Ara Rau Construction and Infrastructure Workforce Development Council |
| **Whakaritenga Rārangi Paetae Aromatawai |** DASS classification | Service Sector > Cranes > Crane Operation |
| **Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga |** CMR | 0025 |

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| **Hātepe |** Process | **Putanga |** Version | **Rā whakaputa |** ReviewDate | **Rā whakamutunga mō te aromatawai |** Last date for assessment |
| **Rēhitatanga |** Registration | 1 | dd mm 2024 | N/A |
| **Kōrero whakakapinga |** Replacement information | N/A |
| **Rā arotake |** Planned review date | 31 December 2029 |

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihangaararau.nz to suggest changes to the content of this skill standard.