



RIIHAN305D Operate a gantry or overhead crane *Student Assessment Pack*

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Introduction

This Student Package outlines the requirements for the assessment of RIIHAN305D Operate a gantry or overhead crane. This unit of competency is a requirement for any person who will be operate an overhead or gantry crane with less than 4 powered modes of operation during their normal work day.

This unit is designed by SITETRAIN for an industrial setting particularly relevant to the mining sector and those industries that service mining.

Unit Information

The unit of competency being assessed is RIIHAN305D Operate a gantry or overhead crane. This competency is drawn from the Resource and Infrastructure Industry training package RII30415.

The unit can be accessed at training.gov.au at the following link:

<https://training.gov.au/Training/Details/RIIHAN305D>.

The unit of competency is task orientated and the performance criteria expresses in detail the standard of performance and the sequence these tasks are usually performed. The RII30415 Training Package identifies the unit of competency as the benchmark for assessment.

This unit involves:

1. Plan and prepare for gantry/overhead crane operations
2. Operate gantry/overhead crane
3. Perform gantry/overhead crane operator maintenance

Entry Requirements

The person entering this course must be an existing worker in Construction, Industrial, Building, Mining or Local Councils and has completed enterprise and on-site workplace health and safety induction training.

Pre-requisites

The unit of competency has no pre-requisites units:

Co-requisites

The unit of competency has no co-requisites.

Licensing Requirements

There are no specified licensing requirements to undertake this unit.

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Assessment Overview

This unit of competency will be assessed using assessment methods including a knowledge assessment and a practical observation assessment. This allows for the discrete assessment of specific knowledge and the assessment of knowledge integrated with skills during practical simulated workplace tasks.

There are four activities for the assessment of unit RIIHAN305D Operate a gantry or overhead crane.

Number	Method	Description
RIIHAN305D Operate a gantry or overhead crane Theory Assessment	Knowledge Assessment (20 minutes)	The candidate must provide a written or verbal response to short answer/ multiple choice questions which address the knowledge requirement of the unit. The candidate must answer all questions correctly. The assessment is supervised in a classroom setting and conducted over 1 hour
RIIHAN305D Operate a gantry or overhead crane Performance Assessment Task 1 and 2	Performance Assessment task 1 and 2 (20 Minutes)	Perform 2 x load lift, traverse and place of loads selected by your trainer. <ul style="list-style-type: none"> • Complete a Take 5 (Hazard Identification) Identify and control lifting task and area hazards. • Complete a pre-start inspection of the overhead or gantry crane • Assess load weight • Check lifting gear • Identify suitable attachment points • Lift load • Follow instruction from another person
RIIHAN305D Operate a gantry or overhead crane Performance Assessment Task 3	Performance Assessment task 3 (5 Minutes)	Shutdown and park crane in appropriate area <ul style="list-style-type: none"> • Correct parking area • Post operational checks • Raise hook out of harm's way • Return pendant to appropriate area • Stow attached pendant out of harm's way • A Frame (Secure for high wind event) • Conduct greasing requirements • Dispose of hydrocarbons accordingly

Please note: An assessment of (Not Yet Satisfactory) for any performance/knowledge criteria will prevent a verdict of competent for this unit until the student can demonstrate competence in assessment activities. All final assessment results are to be recorded in the Assessor Performance Assessment and Results Document.

Reasonable Adjustment

Candidates may provide verbal responses to questions as a method of reasonable adjustment where this is required according to the candidate's needs. It should be noted however that where calculations are required in the written response; the candidate must record these.

Where students have provided verbal responses to clarify their written answers, the student must write that answer down and place an **initial** next it. This indicates that reasonable adjustment has occurred for a question and is valuable data that can help Sitetrain improve its assessment tools and course delivery.

It is also not essential that the written responses provided by the candidate include correct spelling or grammar. The assessments seek to assess the candidate's knowledge of Handling reagents.

The student's ability to apply literacy skills is not being assessed. This requirement is consistent with how these tasks are performed in the workplace which do not usually involve higher writing skills.

Flexibility

What happens if I am assessed as NYC (Not Yet Competent) for any criteria (parts) of the assessments?

Your assessor will strive to provide you with as much time as possible for you to demonstrate the required skills and knowledge during an assessment.

Your assessor will provide you with feedback on your overall performance and provide constructive details on the elements where a NYC decision has been made.

If more time is required outside of the allotted time either for re-assessment due to NYC decisions or due to you being unable to complete the course for other reasons, your assessor will discuss re-assessment strategies with you that are suitable to your needs, your workplace needs and consider factors such as workplace location and availability of resources.

You will be given up to three opportunities to undertake the assessment before extraordinary arrangements are required. It is the intent of the Sitetrain to provide additional training and assessment in order to allow for differences in learning requirements. Additional assessment arrangements can be made for any student in consultation with the CEO, Damien Palazzi by email damien@sitetrain.com.au or 0428 540 681.

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Benchmarks for Assessments

In accordance with the appropriate training packages, the endorsed units of competency are the benchmarks for assessment. The unit of competency being assessed has been unpacked to identify the required knowledge and skills to be demonstrated by the student.

Assessment must also take into consideration the specific Standard Operating Procedures or Guidelines relating to RIIHAN305D Operate a gantry or overhead crane. Each workplace may also have its own specific requirements which must also be considered. In planning the assessment, training staff must liaise with the workplace supervisor to determine any specific requirements.

To support reliability in the assessment, model answers have been developed where possible. Where assessment is performance based Observational Performance, guidelines have been developed for the Trainer to ensure reliability.

Theory Assessment

To support reliability in the theory assessment, model answers have been produced.

Performance Assessment Task 1 – Plan and prepare for gantry / overhead crane operation. – 5 minutes (individual activity).

Observational Performance guidelines have also been provided to ensure the trainer is aware of expected performance.

Performance Assessment Task 2 - Conduct Pre-start, start up, lift, traverse and place loads, shutdown and park crane and complete post operational checks. – 20 minutes completed twice (individual activity).

Observational Performance guidelines have also been provided to ensure the trainer is aware of expected performance.

Model overhead or gantry crane pre-start checklist has been provided as a guide for the trainer when assessing the examples, the student completes.

These can be found in this document.

Student Handbook

You can find the following information in the Student Handbook. This is available from your Trainer, by contacting Sitetrain directly or by downloading a copy from our website. www.sitetrain.com.au.

The following is not an exclusive list please see handbook for detailed list of content.

- USI details
- Your Privacy
- Fees Payable
- Refunds
- Access to Records
- Continuous improvement
- Language, Literacy & Numeracy Skills
- Making complaints & appeals
- RPL
- Assessment
- Re-Assessment
- Issue Statement of Attainments

Candidate Instructions – Theory Assessment

Answer the following questions using the Theory Questionnaire answer sheets

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The Assessment Tasks

This task requires the candidate to complete a written or verbal response knowledge assessment involving 20 short response/multiple choice questions. The questions within this assessment relate directly to the integrated knowledge contained within the unit of competency and are fundamental to the candidate's ability to perform workplace tasks correctly.

The assessment is conducted over a one-hour period in a classroom setting directly supervised by the assessor. The classroom should be set up in order to prevent candidates from discussing questions or viewing each other's responses. The candidate must answer all questions correctly in order to satisfactorily complete this assessment.

What's Expected

Students are expected to achieve 100% on knowledge assessment.

Limitations

The following limitations apply:

- The student will have 20 minutes to complete the assessment.
- The assessment is to be completed without access to references.
- Student's responses are to be recorded in writing or may be provided verbally (MP3 recorded format).

Your Assessor will be present for duration of the theory assessment and is available should you have any questions.

Please refrain from discussing answers with other students during assessment.

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Student Instructions - Performance Assessments

These performance assessments require you to demonstrate your skills and knowledge in operating an overhead or gantry crane including: using documentation to conduct hazard identification and prevention, pre- and post-operational inspection of the crane and associated equipment, assessing the weight of each load and using appropriate lifting devices, operating the crane to lift and move loads.

Context of Assessment

The assessments are conducted in an actual or simulated area that requires the operation of an overhead or gantry crane to lift and move loads.

All assessments are directly supervised by your Assessor.

Performance Assessment 1 and 2– Pre-start Inspection, lift, traverse, and place loads, shutdown & park crane – 20 minutes (Individual activity) conducted twice.

Conduct pre-start inspection, lift a load, traverse and placement of loads selected by your trainer, park crane and conduct post operational inspection and maintenance.

What's Expected

You are expected to demonstrate the application of the steps involved in safely moving loads with an overhead or gantry crane twice. An actual overhead crane must be used for these assessments.

You must be observed performing the following:

1. Plan And Prepare For Gantry/Overhead Crane Operations

Complete a hazard assessment of operational area and implement controls. Locate the gantry / overhead crane pre-start inspection / log book and operations manual. Locate the pendant control device (If remote). You must erect barriers and signage around the lifting area to stop unauthorised entry, select and the lifting equipment required for the task, and implement any other controls identified during the hazard assessment.

2. Operate Gantry/Overhead Crane

Conduct pre-start inspection. You may be required to rectify and or report defects found with the overhead crane.

You will be expected to demonstrate the following; assess load weight, identify suitable attachment points, and attach lifting sling. Lift the load by following instructions from another person using hand signals and verbal communication techniques to traverse obstacles and set the load down at required location.

- Conduct pre-start checks of overhead crane and selected lifting gear and address issues.
- Assess load weight
- Identify suitable attachment points and attach lifting sling
- Lift load
- Move load, navigating obstacles
- Place down load.

During the lifting and moving of loads, the assessor will only engage with you should there be a hazard not previously identified OR there is an immediate risk to health and safety of you and others.

Performance Assessment Task 3

The Assessment Task

This task requires you to demonstrate your skills and knowledge when workers are required to inspect, park up, shutdown and conduct post operational checks.

Context Of Assessment

The assessments are conducted in an actual or simulated area that requires the operation of an overhead/gantry crane to park, inspect and maintain an operational crane within your workplace.

Both assessments are directly supervised by your Assessor and conducted over a 10-minute period for each **(20 minutes)**.

What's Expected

Use what you have learned together with the documentation you have prepared to do the following;

Perform Gantry/Overhead Crane Operator Maintenance

You will be expected to demonstrate the following; shutdown and park crane in appropriate area, conduct post operational checks and servicing, stow attached pendant out of harm's way, secure frame if required (Secure for high wind event).

- Detach and correctly store sling
- Park up crane in resting / shutdown position
- Conduct post operational checks and servicing.

Limitations

The following limitations apply:

- The student will have 5 minutes to complete the assessment.
- The assessments are to be completed without access to references.

Your Assessor will be present for duration of the assessment and is available should you have any questions.

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Theory Questionnaire

Answer the following questions using the Theory Questionnaire answer sheets

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1. Where on site are you able to get information regarding safe crane operation and documentation to ensure your work is compliant with site policies and procedures?
 - a) The cranes operations manual.
 - b) The training or OHS department.
 - c) Intranet or procedure storage.
 - d) All the above.

2. What documents on site can you use to identify hazards with the crane and lifting area?
 - a) Annual leave and clothing request forms.
 - b) Work request and sampling procedure
 - c) Take 5, JSA and pre-start checklist.
 - d) All the above.

3. A gantry or overhead crane that is operated from within a cabin or via a control pendant where the powered modes of operation are more than 3, requires the operator to hold a high risk work licence class (CB)?
 - a) True
 - b) False

4. Only the holder of a high-risk work licence for dogging (DG) or rigger (RB) can make decisions about slinging techniques. As non-high-risk licence holders, we can only attach the crane hook to a load where attachment points already exist and the load is centred, i.e. no slinging calculations need to be made?
 - a) True
 - b) False

5. What does the following mean when operating a gantry or overhead crane?

WLL	
SWL	
FSWR	
Bridle sling	

6. During a check of the work area you notice a person working directly under the travel path of your crane. As the operator of the crane, what is your responsibility?
 - a) Abuse them for being a moron.
 - b) Remember to report them to the safety department once your task is completed.
 - c) It doesn't matter you haven't started the lift yet, so no harm done.
 - d) Inform the person you will be conducting a lift in the area and ensure adequate signage and barricades will demarcate the lifting area.

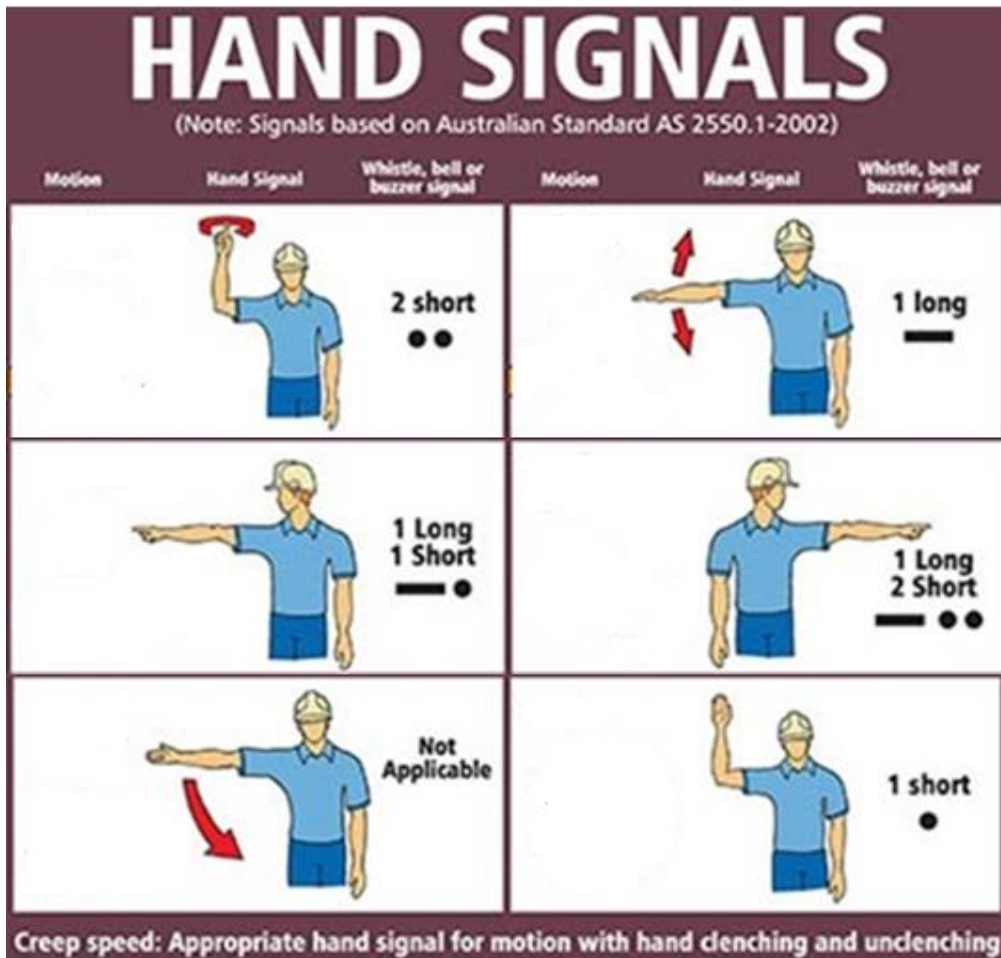
7. Which of the following is not a pre-start check on a gantry or overhead crane?
- Check the rope is running free on the spool and guides and inspect for damage.
 - Check the fuel tank level is sufficient.
 - Check the collector wires or power cables are running free and connected properly.
 - Inspect the pendant for damage, buttons are working and clearly marked.
8. What is the maximum percentage of overall wear allowed on any lifting equipment??
- 5%
 - 10%
 - 15%
 - 20%
9. Give 3 examples of defects to look for in the equipment listed in the following table?

Equipment	Defect 1	Defect 2	Defect 3
Synthetic Flat Slings			
FSWR Sling			
Chain Sling			
Crane Hook			

10. Give two examples of methods you can use to assess the weight of a load **accurately**?
- _____
 - _____
11. How can you determine the safe working load that a crane and slings can lift for any given lifting job?
- The WLL is marked on the side of the crane, as long as the weight does not exceed that is OK.
 - All I need to do is look at the tag on the sling, if a tiny little sling can handle the weight then surely the crane can, after all is sitting on a huge beam.
 - I need to look at the SWL of the crane beam, the hook and the sling; the lowest rated SWL is the SWL for the lift.
 - All the above.
12. How can a spreader beam or equipment cage affect the weight of the load?
- It doesn't, those items are designed to be lifted and crane manufacturers know this.
 - I need to take their weight into consideration so I do not exceed the SWL for the lift, their weight and SWL should be clearly marked.
 - It increases it but only by a little, so it's not required to calculate its weight into the load.
 - A) and b) are correct answers.

13. What is the difference between a **Dee** shackle and a **bow** shackle with regard to attaching hooks or slings?
-
-
14. What should you do when first lifting a load to test the lifting brakes?
- a) Stop raising the load to see if the brakes hold the weight, if so then continue.
 - b) It doesn't matter if they don't hold as you can simply keep pressing the raise button to compensate.
 - c) Place more weight on the load to just over the SWL of the crane and sling, if it holds near the ground, then you can remove the extra weight and safely continue the lift.
 - d) All the above.
15. What should you do if the lifting brakes don't hold the load?
- a) You can simply raise the load, as long as you don't let go of the raise button, its safe.
 - b) Lower the load to the ground, this is a serious defect and the crane needs to be tagged out of service and the defect reported.
 - c) Lighten the load if possible and then lift, if the brakes hold then all is good to continue.
 - d) Open the lifting head gearbox and blow compressed air into the brake mechanism, its probably full of dust.
16. What is "catching the load"?
- a) If a sling breaks, you stand under the load and catch it.
 - b) It's where you latch or "catch" a load securely onto the hook using a minimum of 16mm diameter rope.
 - c) It's a technique to limit load swing when stopping the crane by waiting for the load to swing towards the direction of travel and then moving the crane head to catch up, thereby eliminating the swing.
 - d) Inspect the pendant for damage, buttons are working and clearly marked.
17. What can be done to control swinging loads during a lift? *(Select all correct answers)*
- a) Nothing, it's going to swing, just ensure that there is enough travel room for the swing to occur without making contact with anything.
 - b) Use tag lines if required to stabilize loads, attached rope of at least 16mm diameter.
 - c) You can limit load swing during the lift by ensuring the hook is centred directly above the load. This also prevents unnecessary strain on the lifting equipment.
 - d) Both b) and C) are correct answers.

18. Label the following crane hand signals?



19. What must occur with Take 5s, completed JHA's and the crane pre-start checklist?

20. Where should any residual oils or greasy rags be stored to comply with environmental requirements?

- a) In the bin, it's only a small amount.
- b) It needs to be taken down to the rubbish tip so we can ensure its buried deep.
- c) It must be burnt to ensure complete destruction of hydrocarbons.
- d) Designated hydrocarbon storage bins.