



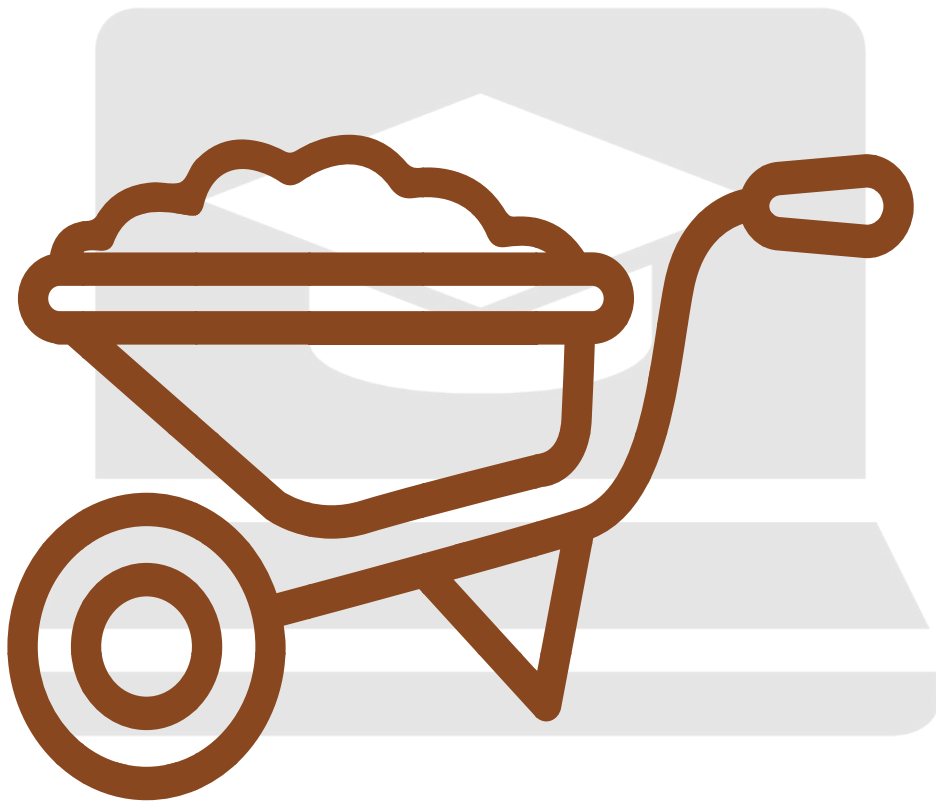
**BCATS**

BUILDING, CONSTRUCTION  
AND ALLIED TRADE SKILLS

# Basic concrete works

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Teacher/Tutor resource



**Unit Standard 31813 (v1), Level 1**

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Complete basic concrete works as a BCATS project.

**4** CREDITS

**BCITO**  
buildingpeople

**Building and Construction Industry Training Organisation  
(BCITO)**

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# Teaching and assessment tips

## Purpose

This unit standard credits learner who can complete one minor concrete works.

Students need to:

- calculate the quantities of materials needed
- prepare an order for materials
- measure, cut, and construct formwork to meet specifications
- make allowance for the easy extraction of the concrete product once it has cured
- mix, place, compact, and finish concrete correctly
- ensure concrete is cured correctly
- complete everything safely
- clean the work area and dispose of waste
- clean and store tools, plant and equipment correctly.

## Unit Interpretation

One minor concrete works is to be completed. This could be a planter box, a concrete base for a seat or table, or projects of similar complexity.

Calculation of quantities and the order form must include quantities for formwork, aggregate and cement.

The skills required for this unit standard are assessed using the Assessor Observation Sheet, a copy of the learner's calculations of quantities, their order form, and evidence of one minor concrete works. The Learner Self-reflection sheet is to help reinforce student's learning and is not required for assessment purposes.

An order form template is available in the 'L2 Generic Resources' folder on [www.bconstructive.org.nz](http://www.bconstructive.org.nz). You may alternatively source or design your own or use a facsimile of your school or business order form. If you do this, please check that all fields mentioned in the student resource are included in the order form you provide. The completed order must be attached to the Assessor Observation Sheet.

Evidence to show that the concrete work has been finished and cured must also be attached to the Assessor Observation sheet. This may be in the form of a verified photo.

Please see the Assessment Schedule at the end of this document for more details.

## **Assessment**

Information to support assessment decisions should, wherever possible, be collected naturally as the BCATS project progresses.

### **Assessment of this unit standard consists of:**

- **completion of an order, including calculations for quantities of formwork, aggregates and cement and**
- **completion of one minor concrete works and**
- **completion of the Assessor Observation Sheet.**

# Alignment with other unit standards

Developing programmes that integrate teaching and learning helps to provide students with meaningful and manageable learning opportunities. The following unit standards are not an exhaustive list of which you could include in your programme and nor should one feel obligated to offer all as linked units. Other unit standards you include will depend on your overall programme of study and what best meets your learners' needs.

## Level 1

**24352:** *Demonstrate knowledge of and apply safe work practices and use PPE in the construction of a BCATS project*

If they have not already done so, it is recommended that students work towards completing this unit standard as they make their concrete works.

**24355:** *Demonstrate knowledge of construction and manufacturing materials used in BCATS projects*

US 24355 credits learners who are able to establish job requirements and select construction and manufacturing materials for a BCATS project, and describe the properties of selected materials and evaluate their suitability to meet project requirements. The materials must include timber and at least three of manufactured board, metal, plastic, glass, concrete, mechanical fasteners, adhesives, finishing materials, upholstery (fabric or leather). US 24355 can therefore help provide underpinning knowledge that can be applied as students make their concrete project.

# Assessment Schedule

## US 31813 (v1) - Complete basic concrete works as a BCATS project (Level 1, Credit 4)

Evidence, including photos of completed project and the order form, for this unit standard must be presented for **one** basic concrete works. Basic concrete works may include a planter box, a concrete base for an outdoor seat or table, or projects of similar complexity.

		<b>Assessment evidence and judgement</b>
<b>Outcome 1</b>	Calculate quantities and prepare an order for materials for basic concrete works.	
PC 1.1	Quantities of materials are calculated from working drawings and job specifications.	Evidence gathered from student's calculations and the Assessor Observation Sheet showing: <ul style="list-style-type: none"> <li>quantities of boxing, cement, and aggregate etc are calculated correctly.</li> </ul>
PC 1.2	An order for materials is prepared in accordance with workplace practice.	Evidence gathered using order list: <ul style="list-style-type: none"> <li>order list for the chosen project is correct.</li> </ul>
<b>Outcome 2</b>	Construct formwork for basic concrete works.	
PC 2.1	Components for formwork are measured and cut to job specifications.	Evidence gathered from the concrete project and the Assessor Observation Sheet showing: <ul style="list-style-type: none"> <li>formwork was measured and cut correctly.</li> </ul>
PC 2.2	Formwork is set up to ensure that finished concrete is in accordance with job specifications.	Evidence gathered from the concrete project and the Assessor Observation Sheet showing: <ul style="list-style-type: none"> <li>formwork contains concrete to the shape specified.</li> </ul>
PC 2.3	Allowance is made for ease of removal of formwork once concrete is cured.	Evidence gathered from the concrete project and the Assessor Observation Sheet showing: <ul style="list-style-type: none"> <li>formwork was able to be easily removed once the concrete was cured.</li> </ul>
<b>Outcome 3</b>	Mix, place, finish and cure basic concrete works.	
PC 3.1	Concrete is mixed in accordance with job specifications.	Evidence gathered from the concrete project and the Assessor Observation Sheet showing: <ul style="list-style-type: none"> <li>concrete was mixed to correct consistency.</li> </ul>
PC 3.2	Concrete is placed, compacted and finished in accordance with job specifications.	Verified photos of the concrete project and evidence from the Assessor Observation Sheet showing: <ul style="list-style-type: none"> <li>concrete was placed, compacted and finished neatly and correctly.</li> </ul>
PC 3.3	Concrete is cured in accordance with job specifications.	Evidence gathered from the concrete project and the Assessor Observation Sheet showing: <ul style="list-style-type: none"> <li>there is no excessive cracking in the cured concrete.</li> </ul>
<b>Outcome 4</b>	Complete work operations.	
PC 4.1	All operations are safely completed in accordance with workplace practice.	Evidence gathered from the Assessor Observation Sheet showing: <ul style="list-style-type: none"> <li>appropriate PPE selected and used</li> <li>tools and materials used correctly and safely</li> <li>personal safety and safety of others observed.</li> </ul>
PC 4.2	Workplace, tools, plant and equipment are cleaned, and tools, plant and equipment stored in accordance with workplace practice.	Evidence gathered from the Assessor Observation Sheet showing: <ul style="list-style-type: none"> <li>work area cleaned</li> <li>waste disposed of</li> <li>tools, plant and equipment cleaned and stored correctly.</li> </ul>

