

Programme of Study:

Programme title:	New Zealand Certificate in Building, Construction, and Allied Trades Skills
Programme Level:	2
Programme credits:	41-45
Programme ID:	126815-1

This programme leads to the award of:

Qualification title:	New Zealand Certificate in Building, Construction, and Allied Trades Skills
Qualification number:	3844-1
Qualification Level:	2
Qualification credits:	40
Version:	1
NZSCED:	040399 Architecture and Building>Building>Building not elsewhere classified

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Introduction

The Building and Construction Industry Training Organisation (BCITO) has developed this programme of study on behalf of secondary schools. BCITO has developed this as the qualification developer of the qualification it relates to and as the Standard Setting Body for the unit standards the programme consists of. BCITO cannot apply for accreditation to deliver it.

Tertiary Education Providers (TEPs) can also seek accreditation for this programme of study for those of secondary school age not enrolled in a secondary school and for second chance learners. Please contact BCITO in the first instance to discuss.

Every school and TEP seeking accreditation will need to include in their application NZQA-required details of how they will deliver and assess the programme.

Criterion 1: Qualification to which the programme leads

This programme of study will allow those with accreditation for it to award graduates with the New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 2) [Ref: 3844-1] (Credits 40).

Criterion 2: Title, aims, learning outcomes, and coherence

Title

The title of this programme of study is the New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 2) (ID: 126815-1)

Programme aim/strategic purpose

The purpose of this programme of study is to develop learners' knowledge, skills, and experience of building, construction, and allied trades, resulting in the award of the qualification to which it leads and assisting with the achievement of the National Certificate of Educational Achievement (NCEA).

This programme of study is primarily for use by the providers of education to secondary school students and those of secondary school age enrolled in alternative education and/or those enrolled in second-chance learning programmes.

It does not require graduates to be commercially competent. For the avoidance of doubt, someone who is commercially competent is able to confidently and safely repeat varied tasks, to the required standard and within commercially viable timeframes, without need to be instructed, and to do so in different situations throughout employment.

The programme of study consists of unit standards to enable its achievement to contribute also to NCEA's credit requirements.

Graduate outcomes

Graduates will be able to apply knowledge to perform construction tasks and complete Building, Construction, and Allied Trades Skills (BCATS) projects under general supervision. They could complete one or more of their projects in a range of construction and allied trades learning environments, such as school workshops, training establishments, outdoor areas, and industry placement workplaces. Those who achieve the New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 2) through this programme of study are expected to have essential skills and knowledge for building, construction, and allied trades that may also assist with the achievement of NCEA and future employment.

Graduate profile

Graduates of this programme of study will be awarded the New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 2) [Ref: 3844-1] in recognition they can, through performing the tasks needed to complete at least two BCATS projects:

- apply safe working practices while completing BCATS projects
- apply knowledge of a range of materials to plan and complete BCATS projects
- interpret and use project documentation to plan and complete BCATS projects
- comply with instructions and communicate effectively to work within a team in a BCATS environment
- perform measurements and calculations to complete BCATS projects
- select, use, and care for a range of power tools and equipment needed for BCATS projects
- explain the different roles of trades involved in a construction project.

Education pathway

The New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 1) [Ref: 3843], or equivalent skills and knowledge, is a prerequisite for entry to this programme of study.

People enrolled in this programme will primarily do so in conjunction with working to achieve the National Certificate of Educational Achievement (NCEA) Level 2.

Graduates may choose to continue their education with the New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 3) [Ref: 3845] or a variety of qualifications relevant to the built environment and their chosen trade.

Employment pathway

Graduates of this programme will have the skills and knowledge to obtain entry-level roles in building, construction, and allied trades' sectors.

Learning outcomes

This programme of study has been developed to meet the qualification graduate outcomes. Details of how the learning outcomes will be achieved will vary according to the requirements of the chosen projects and how the organisation seeking accreditation structures their programme.

All unit standards are Level 2. Seven are compulsory and are contextualised to the two projects students must complete. The electives section will enable schools to select unit standards appropriate to the needs of their learners and kaupapa of their programme.

The table below summarises the learning outcomes, associated assessments and resources associated with each graduate profile outcome, in alignment with the qualification's purpose.

Aim	SPECIFICATION	LEARNING			ASSESSMENT			
		Learning outcomes	Learning hours	Credits	US	Unit standard title	Resources	
To enable students to learn and apply their knowledge and skills as they safely complete at least two BCATS projects.	Candidates will complete at least two BCATS projects under general supervision.	Prepare cutting lists/materials order forms; complete their projects; and complete all work operations.	120-160	12-16			 All standards have, as their base resource: Assessment Guidelines for Level 3 Building Construction and Allied Trades Skills (BCATS) unit standards Stage 3 BCATS Project; Guide for Level 3 Building, Construction, and Allied Trades Skills (BCATS) unit standards Student Work Diary Assessment Record Sheets Information informing the specific project Other resources will be as required of the BCATS project but all organisations seeking accreditation to offer this programme must have ready access to a workshop. 	
	GRADUATE PROFILE OUTCOME	Learning outcomes		Credits	US	Unit standard title	Resources	
To provide students with an introduction to legal health and safety rights and obligations, knowledge of health and safety requirements specific to a BCATS environment, and demonstrate how they apply safe working practices as they do a BCATS project.	Apply safe working practices while completing BCATS projects	Demonstrate knowledge of health and safety legislation, as it applies to a BCATS environment, and of health and safety procedures and to demonstrate these in their application of safe working practices throughout a BCATS project.	40	4	24354	Demonstrate knowledge of health and safety legislation and apply safe working practices in a BCATS environment	 L2 Safety student handbook L2 Safety teacher/tutor resource Learner Self-reflection sheets x 3 Knowledge Assessment Sheet Knowledge Assessment Sheet model answers Assessor Observation Sheet Assessment Schedule 	
To enable students to learn about timber and other construction materials to be able to make decisions about which/which combinations of materials are most suitable for particular BCATS projects.	Apply knowledge of a range of materials to plan and complete BCATS projects.	Demonstrate knowledge of timber - including types and structure, common defects, and its conversion, treatment, handling, and storage – and of other construction materials.	50	5	24360	Demonstrate knowledge of timber and other construction materials used in BCATS projects	 Timber and materials student handbook Timber and materials teacher/tutor resource Learner Self-reflection Sheets x 4 Knowledge Assessment Sheet Knowledge Assessment Sheet model answers Assessment Schedule 	

To enable students to interpret plans to identify any preliminary work required and the quantities and types of materials needed for a BCATS project.	Interpret and use project documentation to plan and complete BCATS projects.	Read and interpret plans, working drawings, and specifications, including identifying from them any preliminary work required and the materials needed.	30	3	22607	Read and interpret plans, working drawings and specifications for BCATS projects	 Plans & specifications student handbook Plans & specifications teacher/tutor resource Plans & specifications Knowledge Assessment Sheet Knowledge Assessment Sheet model answers Assessment Schedule
To enable students to follow instructions and learn and practice communication skills needed to effectively work with others in a BCATS environment.	Comply with instructions and communication effectively to work within a team in a BCATS environment	Receive instructions and clarify and confirm they were understood correctly; ask for help and/or information when needed; share information with at least three parties that is relevant to the situation, occasion, and relationship of the parties.	40	4	24357	Receive instructions and communicate information in relation to BCATS projects	 Communication student handbook Communication teacher/tutor resource Knowledge Assessment Sheet Knowledge Assessment Sheet model answers Assessor Observation Sheet Assessment Schedule
To enable students to learn and apply measurements and calculations required for BCATS projects.	Perform measurements and calculations to complete BCATS projects.	Establish project outcome requirements and select mathematical methods for solving problems associated with achieving them; use trigonometry and at least one of numerical calculation, measurement, geometry to solve mathematical problems for BCATS projects.	30	3	24361	Apply mathematical processes to BCATS projects	 Maths processes student handbook Maths processes teacher/tutor resource Learner Self-reflection Sheets x 4 Knowledge Assessment Sheets x 2 Knowledge Assessment Sheets model answers x 2 Assessor Observation Sheet Assessment Schedule
To enable students to learn about a range of power tools and their safe use and to use and care for at least four when making their BCATS projects.	Select, use, and care for a range of power tools and equipment needed for BCATS projects.	Identify, describe safe use, and select, eight portable power tools; use four portable power tools for the construction of BCATS projects; demonstrate maintenance procedures, care for them, and report damaged/faulty ones.	60	6	24350	Identify, select, use, and maintain portable power tools for BCATS projects	 Power tools student handbook Power tools teacher/tutor resource Learner Self-reflection Sheets x 6 Knowledge Assessment Sheet Knowledge Assessment Sheet model answers Assessor Observation Sheet Assessment Schedule
To enable students to learn about at least two BCATS industries.	Explain the different roles of trades involved in a construction project	Demonstrate knowledge of at least two BCATS industries through describing their overall roles and responsibilities, job roles within them, potential clients, relationship between the selected industries, and their industry bodies.	40	4	31511	Demonstrate knowledge of BCATS industries	 BCATS industries student handbook BCATS industries teacher/tutor resource Knowledge Assessment Sheet Knowledge Assessment Sheet model answers Assessment Schedule

Programme coherence and components

This programme of study introduces students to holistic, integrated learning and assessment. Learning and assessment are integrated as students prepares for, undertakes, and completes their BCATS projects.

The table below shows how the core standards in the programme of study align with the qualification's outcome requirements. Their learning and application are contextualised to a minimum of two projects.

Note: The contextualisation of the GPOs to the projects and the integrated nature of the programme means that it is unlikely the total hours required to achieve the outcomes will be equivalent to the 41-45 credits' nominal learning hours of 410-450 hours. It is not possible to separate the programme of study's unit standards into a 'complete one then do the next' model. Students will simultaneously be learning and applying their knowledge of, for example, tools, materials, safety, communication, and maths to their projects as they are doing them.

Please see the table on the following pages.

Graduate Profile	Assessment standards							
Outcome	Core standards	Balance of 12-16 credits from the following standards.						
		Students must complete two projects even if project-specific unit standards are not selected.						
1. Apply safe working practices while completing BCATS projects Credits 7	US 24354: Demonstrate knowledge of health and safety legislation and apply safe working practices in a BCATS environment (Level 2, 4 credits)	 US 12927 - Demonstrate knowledge of select, maintain and use hand tools for BCATS projects (Level 2, 6 credits) 	 US 24351 - Demonstrate knowledge of and use fixed machinery in the construction of BCATS projects (Level 2, 6 credits) 					
2. Apply knowledge of a range of materials to plan and complete BCATS projects Credits 6	US 24360: Demonstrate knowledge of timber and other construction materials used in BCATS projects (Level 2, 5 credits)	 US 12932 - Construct timber garden furniture as BCATS projects (Level 2, 8 credits) US 12933 - Complete minor 	 US 24353 - Demonstrate knowledge of and create sketches and drawings for BCATS projects (Level 2, 6 credits) 					
 3. Interpret and use project documentation to plan and complete BCATS projects Credits 7 4. Comply with instructions 	US 22607: Read and interpret plans, working drawings and specifications for BCATS projects (Level 2, 3 credits) US 24357: Receive instructions and	 concrete works as a BCATS project (Level 2, 6 credits) US 12935 - Construct a spaced residential timber deck up to one metre high as a BCATS project 	 US 24358 - Plan and monitor the construction of a BCATS project, and quality check the product (Level 2, 3 credits) 					
and communicate effectively to work within a	communicate information in relation to BCATS projects (Level 3, 4 credits)	(Level 2, 8 credits)	 US 25921 - Make a cupboard with a drawer as a BCATS project (Level 2, 6 credits) 					

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team in a BCATS environment Credits 5		 US 12936 - Construct a non- consent timber framed utility building as a BCATS project (Level 2, 8 credits) US 31812 - Complete a BCATS project (Level 2, 6 credits)
5. Perform measurements and calculations to complete BCATS projects Credits 4	US 24361: Apply mathematical processes to BCATS projects (Level 2, 3 credits)	 US 12938 - Lay paving blocks as a BCATS project (Level 2, 4 credits) US 31860 - Construct and perform maintenance on a basic residential timber fence (Level 2, 4 credits)
 6. Select, use, and care for a range of power tools and equipment needed for BCATS projects Credits 7 	US 24350: Identify, select, use and maintain portable power tools for BCATS projects (Level 2, 6 credits)	 US 12939 - Construct a basic retaining wall as a BCATS project (Level 2, 4 credits)
7. Explain the different roles of trades involved in a construction project Credits 4	US 31511: Demonstrate knowledge of BCATS industries (Level 2, 4 credits)	

Criterion 3: Delivery methods

Target learners

As per the purpose of this programme of study, the target learners are primarily secondary school students and those of secondary school age enrolled in alternative education and/or those enrolled in second-chance learning programmes. Learners will already have successfully completed the New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 2) [Ref: 3844] (40 credits) or be able to demonstrate they have equivalent skills and knowledge.

The diversity of learners and circumstances was considered in designing this programme. The standards, which comprise this programme of study, are accessible for all learners throughout their broad range of community, socio-economic, and geographical contexts. Māori and Pasifika educational success, and the success of those in both advantaged and disadvantaged areas, were considered in the development of the qualification, the unit standards, and the resources.

There is flexibility with the non-core standards that enables educators to focus their students' learning using materials within their means, in meaningful and relevant contexts, and to do so in various environments such as workshops, school outdoor areas, community, workplaces, and marae.

Consent to assess unit standards and accreditation to deliver the programme of study

Schools have consent to assess the unit standards within the programme but must continue to meet all the Consent and Moderation Requirements (CMR) for Building and Construction [Ref: 0048]. They must apply to NZQA for accreditation to offer this programme of study.

As previously mentioned, every school and TEP seeking accreditation will need to include in their application NZQA-required details of how they will deliver and assess the programme. It is expected these details will include consideration of their target student audience's needs, and the physical resources and environment through which the programme will be delivered.

Teacher/tutor requirements

Teachers and tutors involved in the delivery of the programme must:

- be suitably qualified, including having the necessary skills and knowledge to teach and assess the skills, knowledge, and attributes required of a Level 2 BCATS student
- be able to show evidence of current competence within their discipline
- be able to demonstrate knowledge of and apply safe working practices
- have opportunities for professional development related to assessment and the building, construction, and allied trades
- participate in internal and external moderation and, for schools, in BCITO's school cluster moderation workshops.

Facilities and resources

Organisations wishing to offer this programme of study must have an appropriate range of training equipment and access to specialist equipment, materials, and resources needed to support the learning and assessment activities relevant to the selected projects and the environment within which they are undertaken.

It is preferred that students have access to the internet to be able to research, for example, project ideas, product safety data sheets, and materials. Where access is not possible, students can instead perform this research through, for example, contacting companies directly, visiting building suppliers, and using resources held by their school and/or public library.

Regardless of what project(s) are initially intended to be offered, each organisation seeking accreditation to offer this programme must have ready access to a suitable workshop.

Delivery methods

This programme of study is not suitable for distance learning.

The programme of study will be delivered by a broad range of secondary schools. There are a number of ways schools can deliver it.

Known factors that will influence delivery decisions include senior management support, annual subject credit caps, timetable flexibility, and whether or not a school has an internal trade academy programme or sends students to an external trade academy.

In no particular order, examples of delivery methods already shared with BCITO are below.

Schools without credit caps, who allow double-subjects, and/or have a trade academy

These are schools who are able to offer the full programme of study within one year. Information to support assessment decisions can be collected throughout the year, with final assessment decisions made as projects are completed and other unit standard requirements are met.

Schools with credit caps

Many schools have a limit of how many credits can be achieved per subject per year, making the achievement of a 41-45 credit qualification in one year problematic. To be able to award the qualification within these caps, BCITO is aware of and supports schools delivering the programme in these ways:

- BCATS subject line plus Gateway

BCITO has a programme, *BCITO Gateway*, which includes BCITO Training Advisors supporting and assessing students throughout their TEC-funded formal workplace learning and assessment programme. BCITO recommends that students on this programme focus on the following unit standards during their Gateway programme.

Note that these have been selected due to the additional value students will gain by focussing on these in 'real life' situations and for their applicability across a wide range of building and construction trades. Adaptations to meet to meet the needs of particular students are recommended. For example, a student will apply mathematical processes during their work placements but they may need additional teaching and support at school to achieve the unit standard's requirements – it would therefore be more appropriate for them to be assessed in school.

US #	Unit standard title			
24354	Demonstrate knowledge of health and safety legislation and apply safe working	4		
24554	practices in a BCATS environment	4		
24360	Demonstrate knowledge of timber and other construction materials used in	5		
24360	BCATS projects	5		
24357	Receive instructions and communicate information in relation to BCATS			
24357	projects	4		
24361	Apply mathematical processes to BCATS projects	3		
31511	Demonstrate knowledge of BCATS industries	4		

The remaining BCATS unit standards required for a school's accredited programme of study would then be taught, applied, and assessed by the school as part of a 'BCATS' subject line.

Results for those achieved within school are reported by the subject teacher in accordance with standard practices. As per the terms of the Memorandum of Understanding between the school and BCITO, schools report the ones assessed by BCITO with BCITO as the assessing provider and the school as reporting provider.

BCATS subject line plus a TEP-run programme

There are schools who offer BCATS as a subject line plus have an arrangement with a Ministry of Education-funded Secondary Tertiary Pathways (Trades Academy) delivered by a Tertiary Education Provider (TEP).

Which unit standards will be assessed in each environment will be in accordance with the agreement between the school and the TEP.

- Single subject line

Schools can deliver the programme over 1.5 to two school years.

Schools doing so may choose to contextualise learning to more than the minimum number of two projects even when the additional projects aren't part of their accredited programme of study. Schools can choose whether or not to formally assess these additional projects; if they choose to do so, the total credits for the particular school's learning programme will be more than the minimum required for their accredited programme of study.

Aside from the value of the additional learning and practice, planning for a minimum of 4 projects over the multi-year teaching and learning programme would enable students not returning to the school – or not returning to school – after the first year to gain credits for unit standards that require their application to at least two BCATS projects.

Teaching and learning resources

BCITO has developed a suite of, teaching, learning, and assessment resources specifically to meet the learning needs of those working towards achieving all or part of the requirements of the New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 2) [Ref: 3844]. Additional support is available through BCITO's national office and field staff.

Templates for materials order forms and cutting lists are provided, along with a work diary template to encourage recording of information about project work in a similar way that apprentices are required to.

All but any applicable model answers are available, without charge, at the <u>www.bconstructive.org.nz</u> site. Teachers and tutors can access all the resources, including model answers, through registering on the <u>www.mybcito.nz</u> site. This site also provides options for teachers to communicate directly with their registered students, such as through providing feedback on photographs and descriptions of work the student has uploaded and through sharing Learner Self-reflection and Knowledge Assessment Sheets when students are ready to complete them.

Assessment

This programme consists entirely of unit standards; assessment is therefore competency based.

The New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 2) is intended prepare graduates to either succeed with the New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 3)[Ref: 3845] or enter into and succeed in the industry post-school.

Assessment materials and approaches work to introduce students to BCITO's assessment model. A pillar of this is that information to support assessment decisions is, wherever possible, collected naturally as students prepare for and complete their projects. Many of the unit standards additionally have 'Learner Self-reflection Sheets'. These are intended to support students' learning and to provide them with confidence in the knowledge already gained as they work their way through their learning programme. These are not required for assessment purposes but can help students prepare for completing Knowledge Assessment Sheets – which are required for assessment purposes where evidence to support assessment decisions for the applicable unit standard cannot come solely from the project(s) itself.

Moderation

All organisations accredited to deliver this programme must undertake internal post-assessment moderation and have evidence of this available during external moderation.

BCITO performs external moderation of school unit standard assessments through a series of cluster moderation workshops. These additionally provide attending teachers with professional development opportunities, including being able to benchmark planned and/or current projects and information required to support unit standard assessment decisions.

On a case by case basis, BCITO reserves discretion to undertake external moderation for individual schools through postal and/or on-site visits.

Consistency arrangements

BCITO, as the programme owner, will be responsible for attending a consistency review run by NZQA.

This will involve review of evidence associated with graduates' achievement of outcomes, and agreeing acceptable thresholds for qualification outcome achievement, and areas for improvement.

To demonstrate how graduates are achieving the qualification graduate profile outcomes, BCITO will produce evidence in a high-level report.

BCITO may require a sample of schools to produce additional supporting evidence. All schools with graduates of this programme of study are required to provide this evidence when asked.

Evidence may include the following:

- programme statistics such as completion data and graduate destination data
- evidence from internal and/or external moderation processes
- evidence of stakeholder engagement to ensure that programmes continue to meet the ongoing needs of the industry sector
- regular feedback gathered from learners, teachers, and employers
- any other relevant evidence as appropriate.

Further information about the consistency process can be found at http://www.nzqa.govt.nz/providers-partners/consistency-of-graduate-outcomes/

As mentioned in the Moderation section, schools will continue to be expected to attend cluster moderation workshops to assist with benchmarking progress towards consistent outcomes for graduates.

Criterion 4: Acceptability of the programme and consultation

In 2015, BCITO undertook extensive consultation with stakeholders regarding the value of the qualification. This consultation included a survey sent to 302 schools, PTEs, ITPs, and Wānanga, a working group with school representatives, and meetings with 15 National Advisory Groups consisting of industry representatives. It resulted in Approval to Develop in 2016.

A further survey sent to 690 education stakeholders in 2018 resulted in more than 87% of respondents attesting to its need. Meetings with industry representatives on the 15 National Advisory Groups resulted in almost 100 industry representatives formally attesting their support. The New Zealand Certificate was approved and listed in 2018.

The unit standards to be included in the programme of study were reviewed in 2018. This review incorporated stakeholder feedback which was considered by an expert panel of secondary school teachers of BCATS. All previous versions – and some unit standards – expired at the end of last year. As previously mentioned, the new versions and new unit standards are supported by student, teacher, and assessment resources developed by BCITO.

The programme leading to the New Zealand Certificate in Building, Construction, and Allied Trades Skills (Level 2) was discussed at 31 cluster moderation days with teacher representatives from 265 schools in 2018 to 2020¹. Two concerns were raised.

- That 40 credits is too much for one year for most schools within existing credit caps and that a 20 credit programme leading to a 20 credit qualification would be better. The explanation about minimum NZQA qualification credits was accepted. Some schools are already rearranging their BCATS programmes to allow the award of the Level 2 qualification in a way that fits in with school credit-caps.
- 2. That 40 credits is not enough for schools with full-time full-year trades' academy programmes and that 60 credits would be better. After discussions with the small number of schools with these programmes, teachers are comfortable with a standard 40 credit programme and qualification as a baseline. There are additional standards available to recognise the expanded breadth of these students' learning. As the programme of study is rolled out, consideration of whether or not this being recognised through a micro-credential would be valued may need to be given.

In addition to discussions at the cluster moderation days, BCITO staff are always available to support individual schools with any queries or ponderings they have.

The delivery methods included in this programme of study reflect how schools are already delivering or preparing to deliver 40 (or more) credit Level 2 BCATS programmes.

¹ BCITO has also worked with tertiary providers to assist with the design of their programmes of study.