



Vocational Pathways

CONSTRUCTION AND INFRASTRUCTURE SECTOR



April 2014, Version 2

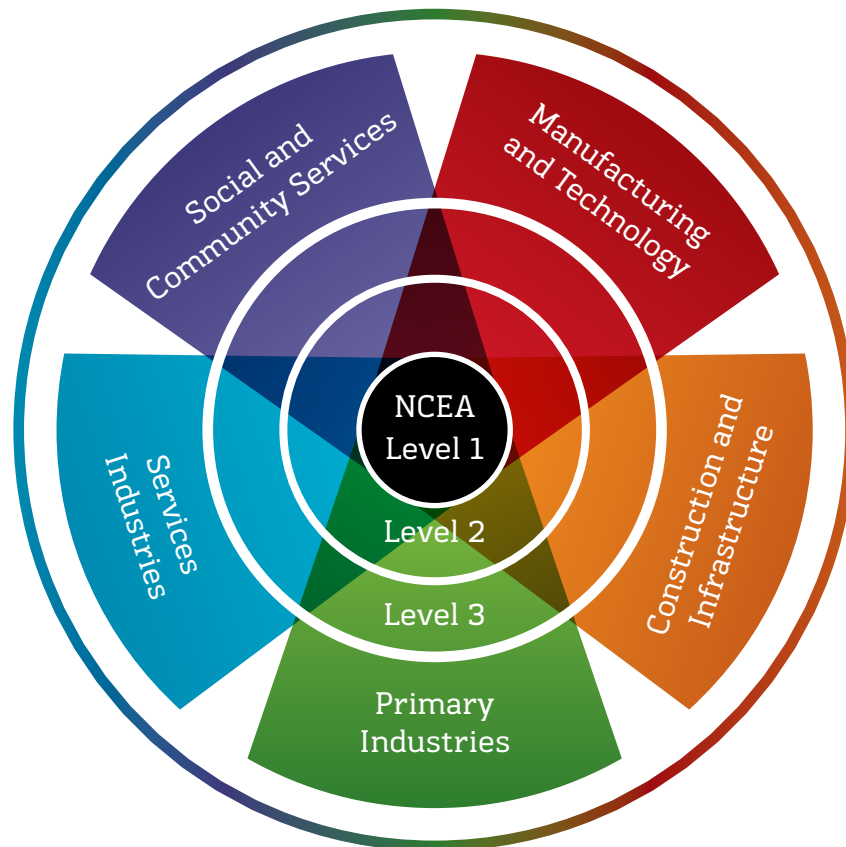
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New Zealand Government

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Vocational Pathways



Vocational Pathways provide new ways to achieve NCEA Level 2 – the foundation for success in further education and the world of work.

The pathways help you see how your learning and achievement will be valued in the ‘real world’ when you look for a job and start your career.

Achieving Vocational Pathways means that you have developed skills, and achieved in areas that employers value, and that you have skills and knowledge that are relevant for their industries.

By achieving enough credits from the standards recommended by the sector, you can have construction and infrastructure recognised as your vocational pathway; this makes it easy for employers to see if you have the strengths and abilities they are looking for.

If you are aiming for a career in this sector, the pathway helps you to see which subjects and standards you should do to get to where you want to go.

And if you haven’t decided, but are thinking about the future, the pathways can help you see how your strengths and interests match up to an amazing range of jobs and study options out there.

You can use the Vocational Pathways to see where and how your learning relates to study options and employment opportunities. Visit www.youthguarantee.net.nz to find out more.

What's the work like?

You'll be part of a well-run team that's committed to getting the job done safely and well to meet the client's specifications. You'll work indoors and outdoors. Often it'll be dusty and noisy, but you'll also get to feel the sun on your skin and the wind on your face. The hours may vary. You move around from site to site, working with lots of different tradespeople, contractors and clients. You'll have a variety of different tasks to do no matter what your job is, and you'll use heaps of different tools and types of machinery. The work is physical and active – you won't need to join a gym to stay fit. It's hard work, but there are plenty of laughs and jokes with good mates.

What qualities will I need?

You'll like putting things together and making new things from scratch. If you are good at visualising what things look like in your head, that's an asset in this sector. Being good at sketching or drawing would be an added bonus. You'll be self motivated, able to adapt to change, to respect other people's tools and opinions and interact with clients. You'll be expected to take pride in the job you do. But you'll also need to be able to laugh and take a joke. You'll need to like working with others – this is not a job for loners.

What's great about this sector?

It can be exciting, from driving a 30-tonne digger to making something out of nothing – where it never existed before. Sometimes what you do changes people's lives or makes their dreams come true.

You learn by doing. There's always some paperwork to be done, but there's also an honest day's pay for an honest day's work.

You can earn well and aim high if you want to. You can work for yourself or you can work for someone else. Bottom line: if you like to work hard, respect people, do a quality job and deliver on people's expectations, you can earn it all – the house, the car, the bach, the boat – without having to win them in the lottery.



“I love putting things together and creating. All I ever wanted to do was building. I don't need to go to the gym after work – I get a full on workout on the job!”

Larissa, apprentice, Fletcher Construction.



Construction

Building anything from the ground up: from garages to high rise towers – see the full list over the page.

Infrastructure

Planning, designing, building, repairing and laying utilities for the community

- essential services below the ground, invisible to the naked eye, from drainage to dams, sewerage to broadband
- services above the ground: roads, bridges, pavements, tunnels, drainage systems, ports, airport runways, dams and electricity generation and supply.

What key competencies do employers look for?

They'll be matching your key competencies to their work place:

Thinking

You'll need to be able to use good judgment especially when it comes to quality requirements, to problem solve, to look for ways to do the job better – without affecting safety or cost. You'll be expected to respond effectively to changes and learn from your mistakes.

Relating to others

You'll be expected to work as part of a team, to communicate well and interact appropriately with clients, sub-contractors, bosses and workers.

Participating and contributing

You'll have skills to contribute towards improving your community's built environment e.g. through pre-schools, clubs, service organisations and wider community projects.

Managing self

You will need a 'can do' attitude, be willing to take responsibility, arrive at work on time, and have the confidence to ask questions when you don't understand.

Using language, symbols and texts

You'll need to be able to read manuals and texts and apply them to practical situations, and to do practical maths for every day life like measuring, using plans, and computers.

Where might I end up?

You could be a:

Foreperson, supervisor, manager, contractor, business owner, master builder, architect, architectural draughtsman, engineer, project manager in both construction and infrastructure.



“I was always good at drawing. Now I get to make people’s visions come alive on paper.”

John, trainee draughtsman.

What work could I do?

”I love being able to work outside and being part of the environment. I hate being cooped up inside. In this job I get to do all the stuff I like to do with the sun on my back and I never have to wear a suit!”

In construction:

labouring, building, demolition, electrical, excavation, concreting, kitchen and bathroom design, carpentry, plastering, painting, decorating, joinery, flooring, scaffolding, roofing, tiling, glazing, glass processing, brick-laying, plumbing, gas fitting, drain laying, drafting plans, quantity surveying, engineering, installing heating, ventilation and air conditioning, providing products or services to the industry.

In infrastructure:

Laying pipes, laying drains, road building and repair, building dams, wharves, airport runways, building and maintaining telecommunication and electricity networks.



Why is this sector important?

If you don't have roads, drainage, a water supply, functioning electricity or a telecommunications network at your gate or on your doorstep, you can't live or run a business properly in today's world.

There is a massive amount of construction and infrastructure needed in New Zealand over the next five years – from rebuilding Christchurch to fixing leaky homes – without the right skills the future growth and efficient operating of our country will be reduced. Be part of an industry that is building, maintaining and repairing New Zealand – from below the ground up.

Find out more

about life and jobs in infrastructure from:

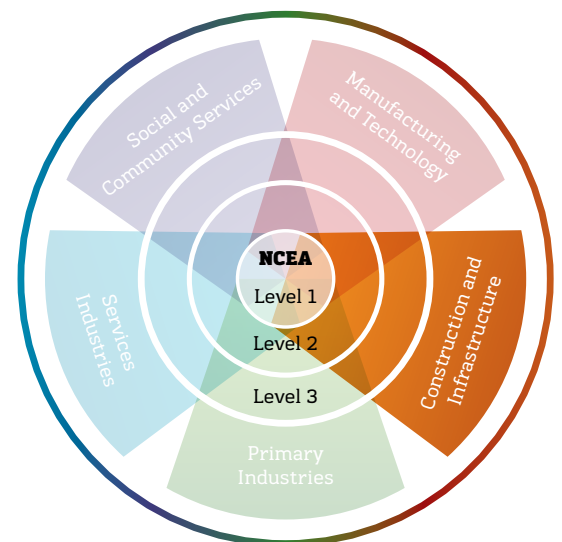
- Infratrains, Electricity Supply, or Building and Construction ITO
Websites: www.infratrains.co.nz, www.esito.org.nz, www.bcito.org.nz, The Skills Organisation (www.skills.org.nz)
- the infrastructure or construction sections on the Careers New Zealand website or browse its jobs database
- Just the Job videos on YouTube or TVNZ on demand, or on DVD from your school careers adviser.

Vocational Pathways Award

If your NCEA Level 2 includes enough credits from recommended standards, and you meet the NCEA literacy and numeracy requirement, you can have Construction and Infrastructure awarded as your Vocational Pathway on your NZQA Record of Achievement. This will be a real advantage when you get out there and look for work and training opportunities in the sector.

- Achieve NCEA Level 2
- Meet the NCEA Literacy and Numeracy requirements (20 credits at Level 1 or above)
- Gain 60 Level 2 credits from recommended standards
including
- at least 20 Level 2 credits from sector-related standards

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Recommended Assessment Standards

for the Construction and Infrastructure Pathway

The assessment standards on the following pages are recommended by the industries across our sector. So if you are looking for a pathway into construction and infrastructure, you would do well to focus on these subjects and work hard to achieve the standards listed here.

You don't need to do all of these standards! However, if you gain enough credits from the standards we recommend then you are gaining the skills, knowledge and competencies that are most important to employers in our sector.

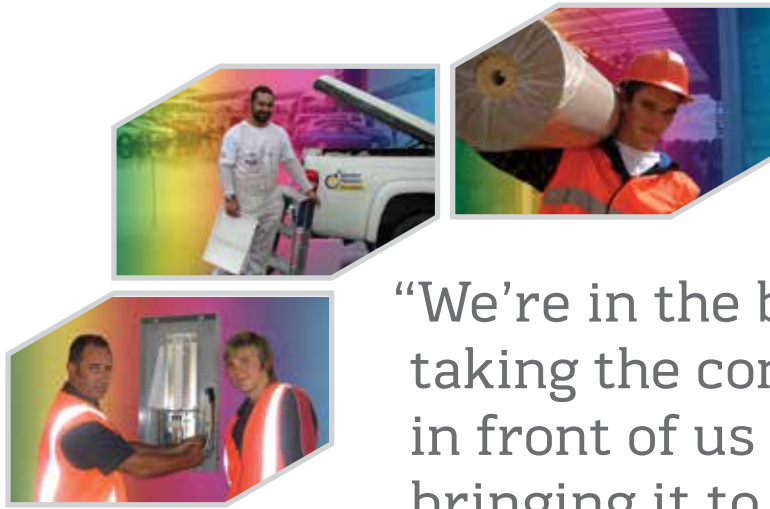
But there's another way to look at it; if these are the subjects you enjoy, and these are the sorts of standards that you tend to do well in, then you should definitely consider the Construction and Infrastructure sector as a possible career option for you. As you will see in the next section, there are heaps of opportunities, and a wide range and growing number of jobs at many different levels.

Level 1

These are the standards we recommend at level 1. If these are areas of strength or interest for you then you're making a great start at gaining the key skills you need in our sector.

Std No.	Title	Credits
Chemistry		
90930	1.1 Carry out a practical chemistry investigation, with direction	4
90931	1.2 Demonstrate understanding of the chemistry in a technological application	2
90932	1.3 Demonstrate understanding of aspects of carbon chemistry	4
90933	1.4 Demonstrate understanding of aspects of selected elements	4
90934	1.5 Demonstrate understanding of aspects of chemical reactions	4
Construction and Mechanical Technologies		
91057	1.20 Implement basic procedures using resistant materials to make a specified product	6
91058	1.21 Implement basic procedures using textile materials to make a specified product	6
91059	1.22 Demonstrate understanding of basic concepts used to make products from resistant materials	4
91060	1.23 Demonstrate understanding of basic concepts used to make products from textile materials	4
91061	1.24 Demonstrate understanding of basic concepts related to structures	3
91062	1.25 Demonstrate understanding of basic concepts related to machines	3
Design and Visual Communication		
91063	1.30 Produce freehand sketches that communicate design ideas	3
91064	1.31 Produce instrumental, multi-view orthographic drawings that communicate technical features of design ideas	3
91065	1.32 Produce instrumental paraline drawings to communicate design ideas	3
91066	1.33 Use rendering techniques to communicate the form of design ideas	3
91068	1.35 Undertake development of design ideas through graphics practice	6
91069	1.36 Promote an organised body of design work to an audience using visual communication techniques	4

Std No.	Title		Credits
	English		
90849	1.1	Show understanding of specified aspect(s) of studied written text(s), using supporting evidence	4
90850	1.2	Show understanding of specified aspect(s) of studied visual or oral text(s), using supporting evidence	4
90851	1.3	Show understanding of significant aspects of unfamiliar written text(s) through close reading, using supporting evidence	4
90052	1.4	Produce creative writing	3
90053	1.5	Produce formal writing	3
90857	1.6	Construct and deliver an oral text	3
90855	1.7	Create a visual text	3
90852	1.8	Explain significant connection(s) across texts, using supporting evidence	4
90853	1.9	Use information literacy skills to form conclusion(s)	4
90854	1.10	Form personal responses to independently read texts, supported by evidence	4
90856	1.11	Show understanding of visual and/or oral text(s) through close viewing and/or listening, using supporting evidence	3
	Generic Technology		
91044	1.1	Undertake brief development to address a need or opportunity	4
91045	1.2	Use planning tools to guide the technological development of an outcome to address a brief	4
91046	1.3	Use design ideas to produce a conceptual design for an outcome to address a brief	6
91047	1.4	Undertake development to make a prototype to address a brief	6
91048	1.5	Demonstrate understanding of how technological modelling supports decision-making	4
91049	1.6	Demonstrate understanding of how materials enable technological products to function	4
91050	1.7	Demonstrate understanding of the role of subsystems in technological systems	4
91051	1.8	Demonstrate understanding of how different disciplines influence a technological development	4
91052	1.9	Demonstrate understanding of the ways a technological outcome, people, and social and physical environments interact	4
91053	1.10	Demonstrate understanding of design elements	3
91054	1.11	Demonstrate understanding of basic human factors in design	4
91055	1.12	Demonstrate understanding of basic concepts used in manufacturing	4
91056	1.13	Implement a multi-unit manufacturing process	4
	Geography		
91010	1.4	Apply concepts and basic geographic skills to demonstrate understanding of a given environment	4
	Mathematics and Statistics		
91026	1.1	Apply numeric reasoning in solving problems	4
91027	1.2	Apply algebraic procedures in solving problems	4
91028	1.3	Investigate relationships between tables, equations and graphs	4
91029	1.4	Apply linear algebra in solving problems	3
91030	1.5	Apply measurement in solving problems	3
91031	1.6	Apply geometric reasoning in solving problems	4
91032	1.7	Apply right-angled triangles in solving measurement problems	3
91033	1.8	Apply knowledge of geometric representations in solving problems	3
91034	1.9	Apply transformation geometry in solving problems	2



“We’re in the business of taking the concept you put in front of us and creating it, bringing it to life. We make what wasn’t there before. That’s the special thing people in our industries do.”

Std No.	Title		Credits
Physics			
90935	1.1	Carry out a practical physics investigation that leads to a linear mathematical relationship, with direction	4
90936	1.2	Demonstrate understanding of the physics of an application	2
90937	1.3	Demonstrate understanding of aspects of electricity and magnetism	4
90938	1.4	Demonstrate understanding of aspects of wave behaviour	4
90939	1.5	Demonstrate understanding of aspects of heat	4
Science			
90943	1.4	Investigate implications of heat for everyday life	4
90944	1.5	Demonstrate understanding of aspects of acids and bases	4
90945	1.6	Investigate implications of the use of carbon compounds as fuels	4
90946	1.7	Investigate the implications of the properties of metals for their use in society	4
90947	1.8	Investigate selected chemical reactions	4

Std No.	Title		Credits
Building, Construction, and Allied Trades Skills			
24352		Demonstrate knowledge of and apply safe working practices in the construction of a BCATS project	2
24355		Demonstrate knowledge of construction and manufacturing materials used in BCATS projects	4
24356		Apply elementary workshop procedures and processes for BCATS projects	8
25919		Use hardware and fastenings for a BCATS project	2
25920		Use joints for a BCATS project	3
Furniture Making			
2216		Recognise and confirm furniture job specifications	2
Generic Infrastructure Works			
6477		Identify, hand spread, and assist in compacting materials for infrastructure works	3

Level 2

Remember, if your NCEA Level 2 includes 60 credits from recommended level 2 standards, including at least 20 credits from sector-related level 2 standards, you can have Construction and Infrastructure recognised as your vocational pathway.

Recommended Standards

Std No.	Title	Credits
Agricultural and Horticultural Science		
91296	2.8 Produce a landscape plan	4
Chemistry		
91161	2.1 Carry out quantitative analysis	4
91162	2.2 Carry out procedures to identify ions present in solution	3
91163	2.3 Demonstrate understanding of the chemistry used in the development of a current technology	3
91164	2.4 Demonstrate understanding of bonding, structure, properties and energy changes	5
91165	2.5 Demonstrate understanding of the properties of selected organic compounds	4
91166	2.6 Demonstrate understanding of chemical reactivity	4
91167	2.7 Demonstrate understanding of oxidation-reduction	3
Earth and Space Science		
91187	2.1 Carry out a practical Earth and Space Science investigation	4
91188	2.2 Examine an Earth and Space Science issue and the validity of the information communicated to the public	4
91189	2.3 Investigate geological processes in a New Zealand locality	4
91190	2.4 Investigate how organisms survive in an extreme environment	4
91191	2.5 Demonstrate understanding of the causes of extreme Earth events in New Zealand	4
91192	2.6 Demonstrate understanding of stars and planetary systems	4
91193	2.7 Demonstrate understanding of physical principles related to the Earth System	4
Education for Sustainability		
90810	2.1 Plan, implement and evaluate a personal action that will contribute towards a sustainable future	6
90811	2.2 Describe the consequences of human activity within a biophysical environment in relation to a sustainable future	4
90812	2.3 Describe world views, their expression through practices and activities and the consequences for a sustainable future	4
90813	2.4 Describe values and associated behaviours in relation to a sustainable future	3
90814	2.5 Describe aspects of sustainability in relation to a sustainable future	4
90815	2.6 Work cooperatively to develop and present a strategy or design for sustainability in response to a future scenario	3

Std No.	Title		Credits
English			
91098	2.1	Analyse specified aspect(s) of studied written text(s), supported by evidence	4
91099	2.2	Analyse specified aspect(s) of studied visual or oral text(s), supported by evidence	4
91100	2.3	Analyse significant aspects of unfamiliar written text(s) through close reading, supported by evidence	4
91101	2.4	Produce a selection of crafted and controlled writing	6
91102	2.5	Construct and deliver a crafted and controlled oral text	3
91103	2.6	Create a crafted and controlled visual and verbal text	3
91104	2.7	Analyse significant connections across texts, supported by evidence	4
91105	2.8	Use information literacy skills to form developed conclusion(s)	4
91106	2.9	Form developed personal responses to independently read texts, supported by evidence	4
Generic Technology			
91354	2.1	Undertake brief development to address an issue	4
91355	2.2	Select and use planning tools to manage the development of an outcome	4
91356	2.3	Develop a conceptual design for an outcome	6
91357	2.4	Undertake effective development to make and trial a prototype	6
91358	2.5	Demonstrate understanding of how technological modelling supports risk management	4
91359	2.6	Demonstrate understanding of the role of material evaluation in product development	4
91360	2.7	Demonstrate understanding of redundancy and reliability in technological systems	4
91361	2.8	Demonstrate understanding of sociocultural factors, and how competing priorities are managed, in technology	4
91362	2.9	Demonstrate understanding of the nature of technological outcomes	4
91363	2.10	Demonstrate understanding of sustainability in design	4
91365	2.12	Demonstrate understanding of advanced concepts used in manufacturing	4
91366	2.13	Undertake development and implementation of an effective manufacturing process	6
Geography			
91241	2.2	Demonstrate geographic understanding of an urban pattern	3
91243	2.4	Apply geography concepts and skills to demonstrate understanding of a given environment	4
Mathematics and Statistics			
91256	2.1	Apply co-ordinate geometry methods in solving problems	2
91257	2.2	Apply graphical methods in solving problems	4
91258	2.3	Apply sequences and series in solving problems	2
91259	2.4	Apply trigonometric relationships in solving problems	3
91260	2.5	Apply network methods in solving problems	2
91261	2.6	Apply algebraic methods in solving problems	4
91262	2.7	Apply calculus methods in solving problems	5
Physics			
91168	2.1	Carry out a practical physics investigation that leads to a non-linear mathematical relationship	4
91169	2.2	Demonstrate understanding of physics relevant to a selected context	3
91170	2.3	Demonstrate understanding of waves	4
91171	2.4	Demonstrate understanding of mechanics	6
91172	2.5	Demonstrate understanding of atomic and nuclear physics	3
91173	2.6	Demonstrate understanding of electricity and electromagnetism	6

Std No.	Title	Credits
Generic Computing		
2784	Create and use a computer spreadsheet to solve a problem	3
20332	Use the Internet for information retrieval in an organisation	3
2791	Integrate spreadsheet and database data into word processed documents to meet a set brief	3
2781	Manage and protect data in a personal computer system	3
25662	Use digital communications technologies	3
2783	Demonstrate knowledge of the components of personal computer systems	3
2786	Create and use a computer database to solve a problem	3
2788	Produce desktop published documents to meet a set brief	5
2790	Use and maintain personal computer peripherals	3
5940	Produce a presentation using a desktop presentation computer application	3
5957	Produce schematic diagrams using a computer application	2
Core Driving Knowledge and Skills		
3462	Demonstrate knowledge of traffic law for the purpose of safe driving	3
3465	Describe driving hazards and risk reduction strategies and responses to driving hazards	3
3467	Describe dynamics, and techniques for managing dynamics, of light motor vehicles	4
1734	Demonstrate knowledge of stress, health and fatigue for driving	3
3464	Describe human risk factors in terms of a self-management strategy for a driver	3
3469	Apply control in driving a light motor vehicle	2
3472	Describe factors contributing to and consequences of road crashes	1
17677	Demonstrate knowledge of safe night driving	2
3470	Execute low speed manoeuvres in a light motor vehicle	1
17458	Demonstrate knowledge of light motor vehicle systems and components	2
17563	Demonstrate knowledge of the New Zealand Graduated Driver Licensing System (GDLS)	3
17676	Carry out a pre-drive vehicle check on a light motor vehicle, and start and shut down the vehicle.	3

“You have a sense of ownership. After 20 years as a contractor I can still drive down the main street of Palmerston North and say ‘I built that, I did that, that’s ours.’ I can count off the houses I have worked on – and man, there’s a lot of them.”

Sector Related Standards

Std No.	Title		Credits
Construction and Mechanical Technologies			
91344	2.20	Implement advanced procedures using resistant materials to make a specified product with special features	6
91345	2.21	Implement advanced procedures using textile materials to make a specified product with special features	6
91347	2.22	Demonstrate understanding of advanced concepts used to make products	4
91346	2.23	Demonstrate understanding of advanced concepts used to make textile products	4
91348	2.24	Demonstrate understanding of advanced concepts related to structural frameworks	3
91349	2.25	Demonstrate understanding of advanced concepts related to machines	3
91350	2.26	Make advanced adaptations to a pattern to change the structural and style features of a design	4
Design and Visual Communication			
91337	2.30	Use visual communication techniques to generate design ideas	3
91338	2.31	Produce working drawings to communicate technical details of a design	4
91339	2.32	Produce instrumental perspective projection drawings to communicate design ideas	3
91341	2.34	Develop a spatial design through graphics practice	6
91342	2.35	Develop a product design through graphics practice	6
91343	2.36	Use visual communication techniques to compose a presentation of a design	4

Std No.	Title		Credits
Architectural Aluminium Joinery			
550	Demonstrate knowledge of the aluminium joinery industry		8
551	Store, handle and check aluminium joinery extrusions and components		4
Basic Residential Property Maintenance			
25068	Perform basic residential plumbing maintenance under supervision		5
25069	Perform basic residential roofing maintenance under supervision		4
21973	Perform basic residential grounds maintenance under supervision		5
22040	Perform basic residential flooring maintenance under supervision		4
25062	Perform basic residential cleaning under supervision		4
25064	Perform basic residential carpentry maintenance under supervision		5
25065	Perform basic residential electrical maintenance under supervision		5
25066	Perform basic residential glazing maintenance under supervision		3
25067	Perform basic residential painting and decorating under supervision		5

Std No.	Title	Credits
Boatbuilding		
18161	Perform measurements and calculations used in boatbuilding	5
25343	Identify boat fittings and fastenings	4
25344	Demonstrate knowledge of marine trades and expectations of employees	3
18158	Select, use and care for hand tools used in boatbuilding	5
18159	Select, use and care for portable power tools used in boatbuilding	5
18160	Operate mechanical plant used in boatbuilding	12
18166	Participate in a project team in the boating industry	4
Building, Construction, and Allied Trades Skills		
24350	Identify, select, maintain, and use portable power tools for BCATS projects	6
24360	Demonstrate knowledge of timber and other construction materials used in BCATS projects	5
25319	Demonstrate knowledge of the carpentry industry within a BCATS environment	2
25321	Demonstrate knowledge of the concrete industry within a BCATS environment	2
25322	Demonstrate knowledge of the drainlaying industry within a BCATS environment	2
25325	Demonstrate knowledge of the floor and wall tiling industry within a BCATS environment	2
25327	Demonstrate knowledge of the gasfitting industry within a BCATS environment	2
25329	Demonstrate knowledge of the interior systems industry within a BCATS environment	2
25330	Demonstrate knowledge of the joinery industry within a BCATS environment	2
25333	Demonstrate knowledge of the plumbing industry within a BCATS environment	2
25334	Demonstrate knowledge of the roofing industry within a BCATS environment	2
12938	Lay paving blocks as a BCATS project	4
22129	Erect and maintain a basic residential fence and gate as a BCATS project	7
24351	Demonstrate knowledge of and use specified fixed machinery in the construction of BCATS projects	6
24353	Demonstrate knowledge of and create sketches and drawings for BCATS projects	6
24354	Demonstrate knowledge of and apply safe working practices in a BCATS workplace	4
24357	Receive instructions and communicate information in relation to BCATS projects	4
24358	Plan and monitor the construction of a BCATS project, and quality check the product	2
24361	Apply mathematical processes to BCATS projects	3
25921	Make a cupboard as a BCATS project	6
12927	Identify, select, maintain, and use hand tools for BCATS projects	6
12933	Complete minor concrete works as a BCATS project	4
12932	Construct timber garden furniture and items of basic construction equipment as a BCATS project	8
12935	Erect a spaced residential timber deck up to one metre high as a BCATS project	8
12936	Construct a non-consent timber framed utility building as a BCATS project	8
12937	Erect a timber pergola as a BCATS project	5
12939	Erect basic garden edge retaining walls as a BCATS project	4
22607	Read and interpret plans, working drawings and specifications for BCATS projects	3
Civil Construction Works		
6476	Read and interpret civil construction plans	2
17328	Demonstrate fundamental knowledge of earthworks	5

Std No.	Title	Credits
Civil Infrastructure Health, Safety, and Environment		
20873	Demonstrate knowledge of health, safety, and environmental legislation at civil infrastructure sites	5
20877	Demonstrate knowledge of working safely at sites under temporary traffic management	1
Concrete Core Skills		
24879	Demonstrate knowledge of concrete materials and the concrete production process	8
24880	Demonstrate knowledge of the concrete industry	8
Construction Health and Safety, and Injury Prevention		
21209	Demonstrate knowledge of and carry out health and safety procedures for a building construction site	4
Core Construction		
2138	Demonstrate knowledge of asbestos and safety procedures	1
22145	Handle construction materials	2
Core Electrical		
750	Demonstrate knowledge of electrical test instruments and take measurements	2
1178	Follow safe practices in an electrical workplace	3
5907	Work safely with electrical equipment	1
6626	Demonstrate knowledge of electrical and electronic components	3
15844	Select and install flexible cords	3
15845	Draw and explain simple electrical diagrams	4
15846	Demonstrate knowledge of capacitors and semiconductor diodes	3
15847	Demonstrate knowledge of mathematics and mechanics for electrical trades	4
15848	Demonstrate knowledge of safeguards for use with portable electrical appliances	2
15849	Perform manual soldering and de-soldering procedures for electrotechnology work	2
15851	Demonstrate knowledge of electrical safety and safe working practices for electrical workers	3
15852	Isolate and test low-voltage electrical subcircuits	2
25070	Explain the properties of conductors, insulators, and semiconductors and their effect on electrical circuits	7
25071	Demonstrate knowledge of electromotive force (e.m.f.) production	3

“You may be a commercial developer, a residential homeowner, or a farmer who wants a bridge constructed: the reason why you’ve got one of our people in, is because you haven’t got the skills, time, or ability to do it yourself. We take your concept and make it a reality.”



Std No.	Title	Credits
Core Plumbing, Gasfitting, and Draining		
21883	Demonstrate knowledge of hazards and precautions for working with gas in plumbing, gasfitting, or draining	3
25413	Draw and form simple patterns for plumbing and gasfitting sheet metal components	3
25414	Cut and join sheet metal for plumbing and gasfitting components	2
25425	Apply mathematics in a plumbing, gasfitting, or draining situation	3
Drainlaying		
1120	Identify and describe hand tools and checking equipment for drainlaying	2
1121	Identify and describe trade equipment and power tools used for drainlaying	2
Electrical Installation and Maintenance		
5922	Use cutting tools and machines in the performance of electrical installation and maintenance	2
Flat Glass		
20498	Use safe work practices to handle, store, and move glass manually	4
Forest Operations		
6916	Demonstrate knowledge of the Approved Code of Practice relating to chainsaw use	5
Furniture Finishing		
2206	Demonstrate knowledge of safety requirements and safely handle hazardous substances used in furniture finishing	2
25523	Apply stains to furniture surfaces using conventional spray methods	3
25524	Apply stains to furniture surfaces using wiping methods	3

Std No.	Title	Credits
Furniture Making		
18915	Use fixing hardware in furniture making	3
18917	Construct hand joints for furniture	3
18918	Construct a furniture carcass	6
2199	Use and maintain hand tools for furniture making	4
16231	Calculate lengths, areas, and costs and percentages of waste for furniture making	3
14995	Construct free-hand drawings for use in furniture making	2
16230	Demonstrate knowledge of and use adhesives in furniture making	2
9786	Set and operate a sanding machine to sand shaped furniture components	2
25532	Assemble non-show wood dining chair seat frames	2
2220	Set and operate a single boring machine to bore holes in furniture components	4
9785	Set and operate a flat bed sander to sand wooden furniture components	4
18909	Set and operate a basic planing machine to produce simple wooden furniture components	2
20047	Hand turn wood to produce furniture articles	4
16232	Use portable power tools for furniture making	4
25536	Operate a bandsaw to produce furniture components	3
25550	Operate a straight cutting saw to cut square profiled furniture components	3
25551	Operate a dimension saw to produce square profiled furniture components	2
25532	Assemble non-show wood dining chair seat frames	2
25536	Operate a bandsaw to produce furniture components	3
25569	Demonstrate knowledge of timber types and insect attack in furniture operations	4
25550	Operate a straight cutting saw to cut square profiled furniture components	3
25551	Operate a dimension saw to produce square profiled furniture components	2
Furniture Operations		
16235	Demonstrate knowledge of manufactured boards used in furniture operations	4
25569	Demonstrate knowledge of timber types and insect attack in furniture operations	4
25570	Demonstrate knowledge of abrasives used in furniture production	3
Gasfitting		
2114	Identify and describe hand tools and testing equipment for gasfitting	2
2115	Identify and describe trade equipment and power tools for gasfitting	1
General Glass and Glazing		
19608	Demonstrate knowledge of primary glass manufacture	2
19609	Demonstrate knowledge of glass processes	3
Generic Infrastructure Works		
17327	Apply communication skills on an infrastructure works site	3
Goods Service		

Std No.	Title	Credits
1753	Load and unload a goods service vehicle	4
Infrastructure Works Equipment		
27500	Operate trench compaction equipment for infrastructure works	4
Joinery Machining		
2552	Set up and use fixed machinery in the joinery industry under supervision	6
Painting		
1071	Describe, select, use, and maintain paint rollers	8
1073	Describe, select, use, and maintain paint brushes	8
Plumbing		
2136	Identify and describe hand tools and testing equipment for plumbing	2
2137	Identify and describe trade equipment and power tools used for plumbing	1
Proprietary Plaster Cladding Systems		
17502	Demonstrate knowledge of Proprietary Plaster Cladding Systems trade tools	4
Stairs and Other Joinery Trade Skills		
2543	Carry out safe working practices in joinery workplaces	8
2550	Use hand tools for joinery and related trades	6
2544	Demonstrate knowledge of ordering, receiving, handling and storing joinery materials	3
2556	Demonstrate knowledge of timber in the joinery industry	6



“You’re using real skills, measurable outcomes and products – from the day you start working.”



Job Profiles

for the Construction and Infrastructure Sector

There are a huge number of roles and occupations available in this sector, ranging from entry level through to high level.

Even for entry level jobs or apprenticeships, NCEA Level 2 is the minimum you need nowadays, because it means you will have a good foundation in the skills and competencies you will need to go further. For other roles, you'll definitely need to further your education after school, by undertaking tertiary study, or training on the job.

More information about all of the roles listed here can be found on the Careers New Zealand Website www.careers.govt.nz along with key information about the job, what it pays, and current opportunities.

To find out the pay, prospects, and study costs of a number of jobs you can also check out the Occupation Outlook – www.dol.govt.nz/occupation-outlook.



The 'dots' in the following table show the level (or levels) of qualification usually associated with the role. Sometimes you need a specific qualification to get into a job, but in many areas you can work towards higher qualifications by learning on the job. Check out the job profiles on www.careers.govt.nz, or talk to your careers advisor to find out more.

NZQF Level	2	3-4-5	5-6	7	8-10
	NCEA Level 2	Certificate	Diploma	Degree	Postgraduate Degree
Architect				•	•
Architectural Technician			•	•	
Boat Builder	•	•			
Bricklayer	•	•			
Building Contractor	•	•			
Building Inspector	•	•		•	
Building Insulator	•	•			
Cabinet Maker	•	•			
Caretaker	•				
Carpenter	•	•			
Civil Engineer				•	•
Civil Engineering Technician/Draughtsperson			•	•	
Concrete Worker	•	•			
Construction Manager	•	•	•		
Crane Operator		•	•		
Diver	•	•			
Driller	•		•		
Earthmoving Machine Operator	•	•			
Electrician		•			
Energy Auditor				•	
Environmental Engineer				•	•
Fabrication Engineer	•	•			
Floor and Wall Tiler	•	•			
Floor Covering Installer	•	•			
Fork-Lift Operator		•			
General Labourer	•	•			
Glazier	•	•			
Interior Designer	•		•	•	
Joiner	•	•			
Landscape Architect				•	
Landscape Gardener	•				
Lift Technician	•	•			
Line Mechanic		•			
Locksmith		•			
Metal Worker	•	•			
Mine/Quarry Manager		•	•		
Miner/Quarry Worker	•	•			

	NZQF Level	2	3-4-5	5-6	7	8-10
		NCEA Level 2	Certificate	Diploma	Degree	Postgraduate Degree
Mining Engineer					•	•
Naval Architect/Boat Designer					•	•
Painter and Decorator	•	•				
Plasterer	•	•				
Plumber, Gasfitter, and Drainlayer		•				
Project Manager				•	•	
Property Manager			•	•	•	
Quantity Surveyor				•	•	
Railway Shunter			•			
Roading Construction Worker	•	•				
Roadmarker	•	•				
Roofer	•	•				
Rubbish/Recycling Collector						
Scaffolder	•	•				
Stonemason	•	•				
Survey Technician				•		
Surveyor					•	
Water/Waste Water Treatment Operator			•		•	
Welder	•	•				



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people turn dreams into
reality!”

Greg, Flooring industry



Vocational Pathways



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ISBN 978-0-478-42285-6 (Web)
ISBN 978-0-478-42286-3 (Print)