

Safety

Follow safe workplace practices and contribute to a health and safety culture in a BCATS environment.





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Introduction

This handbook provides guidance on what you need to do to achieve this health and safety unit standard. It also has some handy hints and reminders of common hazards and safety gear.

Understanding safety is critical when it comes to working on and around workshops and building and construction sites. It is so critical that you cannot be assessed as achieving any of the BCATS unit standards if you disregard any health and safety requirements.

A successful BCATS student...

Knows:

- How to understand the nature and scope of a job
- The right tools to use for a job
- The standard that is expected for a finished job
- When to ask questions and when to give advice
- The skills needed to complete a Level 3 BCATS Project

Does:

- Turn up on time every day
- Follow instructions
- Follow Health and Safety procedures and show 'due care'
- Their work in a timely manner and to a high standard

Is:

- Honest and trustworthy
- A good timekeeper
- A team player
- Willing to learn
- Hardworking
- A confident communicator

Follow safe workplace practices, and contribute to a health and safety culture, in a BCATS environment.

Evidence requirements

Outcome 1 - Follow safe workplace practices in a BCATS environment

1.1	The workplace practices of the BCATS environment are explained in terms of relevant safety procedures and site-specific requirements.
1.2	Work tasks are completed in accordance with workplace practice.
1.3	Workplace, tools, equipment, and machinery are kept clean and safe, and are stored in accordance with workplace practice.

Outcome 2 - Contribute to a health and safety culture in a BCATS environment

2.1	Workplace health and safety induction processes are completed in accordance with workplace practice.
2.2	A site-specific safety plan is completed, and its requirements are complied with.
2.3	Hazards are identified and assessed for risk, and controls are implemented and monitored, in accordance with workplace practice.
2.4	Accidents, incidents and near misses are reported, and followed up, in accordance with workplace practice.
2.5	Workplace health and safety practices are applied in accordance with workplace practice and relevant specifications.

Assessment evidence and judgement

The purpose of this unit standard is to recognise people who are aware of and can apply safe workplace practices, and who contribute to a health and safety culture. Employers all agree that this is something they look for when hiring. *

You will prove you can work safely throughout your entire Stage 3 BCATS project. This means working safely while preparing and undertaking your project right through to evaluation. Importantly, you will be able to show how you contributed to a health and safety culture by making sure your actions or inactions harm no one else.

Use your **Student Work Diary** to record your evidence about the safety equipment and procedures you used (and why) during each stage of your project, and regarding workshop or site hazards and controls. You could include notes taken at 'toolbox' meetings.

In addition to evidence that you record, your teacher (or employer, if you are being assessed against this unit standard during industry placements) must sign a declaration that they have observed you applying workplace health and safety practices throughout your Stage 3 BCATS project.

They will be particularly looking to see that you:

- participate fully in health and safety induction processes
- understand and apply workplace safety practices as you work on your project
- use materials, tools, equipment and machinery safely, which includes correct use of personal protective equipment (PPE) and safety equipment (eg, safety fences, guards, and devices)
- keep the workplace and tools, equipment, and machinery clean and tidy
- comply with the Site-specific Safety Plan (SSSP) requirements
- are thinking about yourself and your surroundings, and that nothing you do (or don't do) harms yourself or anyone else
- correctly identify and assess existing and, where relevant, new hazards.

* Employability Skills Framework for Students, Ministry of Education 2017.

You must also provide:

- a completed SSSP - see page 16, Assessment note
- a site-specific hazard and risk register
- your explanation of the safety procedures and site-specific requirements the SSSP refers to
- project documentation, which could include Product and Safety Data Sheets, manufacturers' specifications and photos of how you managed hazards.

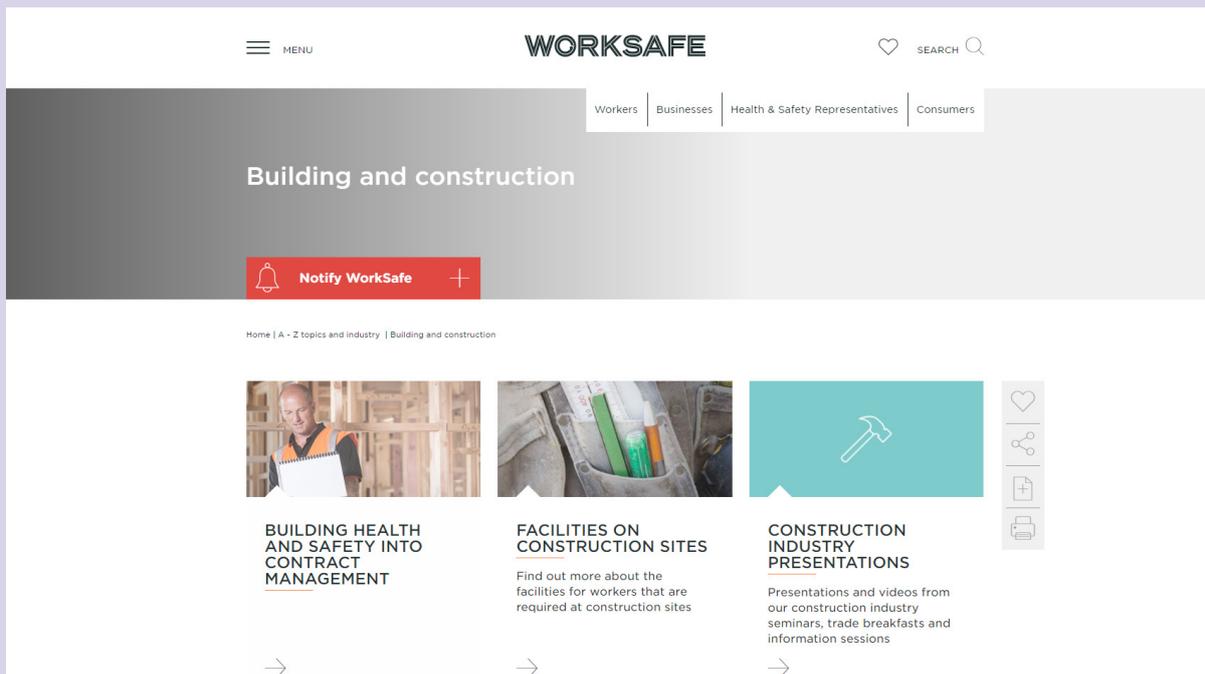
Preparing to undertake a project involves careful consideration of any potential hazards associated with the different tasks. These hazards are then recorded along with how we plan to eliminate or isolate them.

If you discover a new hazard, or witness or experience an accident, incident, or near miss, you will also need to include a copy of your report of it and note any changes to workplace practices as a result of follow up.

Although it is not a requirement of this unit standard, completing a first aid certificate and a site safety course is a good idea.

Useful web link

The WorkSafe New Zealand website has a lot of information about health and safety, including responsibilities and how to deal with hazards such as dust, heights, and noise. It is well worth taking the time to familiarise yourself with www.worksafe.govt.nz.



Why do I need to learn about health and safety?

Health and safety is the most important consideration in any project. It can seem like something that you 'have to do' just to make your teacher or boss happy. However, following good health and safety procedures, and contributing to a health and safety culture, are essential work and life skills. It is basically about looking after yourself and the people around you – your class or workmates, other tradies and members of the public.

The building and construction industry often ends up being a dangerous one. However, most workplace incidents can be prevented with a bit of common sense and some good planning. A good place to start practicing common sense and being work safe is the technology workshop at school.

Once you enter the workforce you will see pretty quickly that being work safe makes good business sense too. You can't do your job (and pay your bills) from a hospital bed or when recovering at home. Even if you intend to have a career outside of the building and construction industry, gaining this unit standard should provide you with reassurance that you can keep yourself and others safe when you do a bit of DIY.

Health and safety is something that you need to consider every day, during every task, on every project. The most important health and safety equipment is your brain.

Health and safety legislation *

Everyone should be able to go home uninjured and alive at the end of each day.

The **Health and Safety at Work Act 2015** ('the HSW Act') and its regulations are to make and keep workers and workplaces healthy and safe. Every single person has a responsibility to participate in effective risk management and do everything possible to keep people and the environment safe.

What it means for you

While schools and employers have legal responsibilities, students and employees also have a legal responsibility to ensure that they work safely at all times.

You are responsible for:

- following the rules and procedures
- identifying and reporting potential hazards and assessing risk
- protecting yourself and others from potential hazards
- taking steps to eliminate or minimise the risk of the hazard causing harm (which could mean isolating the hazard).

Ways you can protect yourself from potential hazards include:

- drinking enough water, eating enough food, and getting enough sleep, which helps keep you alert and your mind on the job
- getting a safety induction before commencing work
- following all safety precautions
- always wearing your PPE properly
- not being afraid to ask experienced people about safety precautions and site hazards
- identifying any potential threats to your health if you are working with chemicals or exposed to any hazardous materials. To find out more information about these:
 - read the product safety data information
 - ask your supervisor or employer
 - ask WorkSafe NZ for advice.

* This section will be familiar to those who did the Level 2 *Demonstrate knowledge of and apply safe working practices in a BCATS environment* (US 24354).

The role of schools and employers under the HSW Act

Your school or training provider (or employer) is legally the Person Conducting a Business or Undertaking (PCBU). They are in control of the place where you do your learning and working.

As PCBUs, schools and employers must take all reasonable and practical steps to ensure the health and safety of workers and students.

You need to know what PCBUs have to do because you have a right to ask for these if your teacher/employer doesn't offer them.

PCBUs are required to take all reasonably practical steps to:

- provide and maintain a safe working environment
- ensure that machinery and equipment are safe for employees/students
- ensure that working arrangements are not hazardous to employees/students
- ensure that employees/students do not harm any other person while at work, including members of the public or visitors to the place of work
- ensure you are adequately trained or supervised before using or handling:
 - plant and equipment
 - toxic or dangerous materials
- provide procedures to deal with emergencies that may arise while employees/students are at work.

PCBUs also have a duty to manage hazards and must have an effective method in place to identify hazards and assess the level of risk for each one. The control measures applied to reduce the risk should also be regularly reviewed. The term "hazard" includes existing hazards, new hazards and potential hazards.

PCBUs must provide you with easily understood information on:

- the identified hazards that you will encounter and the level of risk assigned to them
- the identified hazards that you will or may create and the level of risk assigned to them
- the control measures to apply to prevent harm and reduce the level of risk
- what to do in an emergency
- where all safety clothing, devices, equipment and materials are kept
- situations that require the use of safety clothing, devices, equipment and materials.

What you should do if you are worried about safety

Sometimes people simply assume you already know how to behave and to use things safely. Other times, they have been keeping safe around hazards for long enough that how they do so is automatic and they don't realise it needs explanation. It's okay to ask questions.

There are other times where a PCBU seems to intentionally ignore their health and safety responsibilities. Or you may not feel comfortable with raising your concerns about how people are being – or not being – kept healthy and safe.

Everyone has the right to refuse to do work that is unsafe.

If you feel the place you're learning and/or working is unhealthy or unsafe there is a process to follow:

1. Tell your teacher/supervisor of the problem.
2. If your teacher/supervisor does not deal with the problem or you feel the problem has not been fixed, talk to the Head of Department or your Principal/company owner.
3. If the matter is still unresolved, discuss it with your student representative on the Board of Trustees. In a workplace, you will likely have a Health and Safety Representative who can talk with your boss about the problem if you wish.

If the unsafe situation still exists, contact **WorkSafe NZ (0800 030 040)** for further advice. WorkSafe NZ will keep your complaint confidential if you ask them to. This will mean their advice and investigation, if needed, will not include any information that could identify you. See <https://worksafe.govt.nz/notifications/health-or-safety-concern/> for more information.

If/when you are getting experience on a worksite, you will be covered by the same health and safety conditions and requirements as an employee. You will also be expected to contribute to health and safety in the same way as employees.

Students on Work Experience – a health and safety guide for schools and employers is a good resource. You can find it at <http://www.education.govt.nz/ministry-of-education/specific-initiatives/health-and-safety/risk-identification-assessment-and-management/students-on-work-experience/>



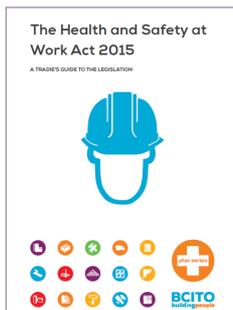
Identifying hazards and assessing risk

A primary requirement of the HSWAact is for all PCBUs (including schools and training providers) to identify hazards and manage the level of risk associated with them. Hazards which could cause health and safety risks need to be identified. The level of risk for each hazard must then be assessed and managed through appropriate controls.

To assess the risk hazard, consider the factors that determine:

- the likelihood of a hazardous event occurring (such as a fall or cut)
- the severity of the harm that may occur.

The ability to recognise potential hazards in the workplace is a combination of common sense, observation, learning and experience.



The Health and Safety at Work Act 2015, A Tradie's Guide to the Legislation booklet.

You can learn more about health and safety rights and responsibilities, hazard identification and control, and other relevant matters in BCITO's **The Health and Safety at Work Act 2015; A tradie's guide to the legislation.**

Risk assessment and management

People can have different views on what constitutes a risk or hazard in a classroom, workshop or workplace setting.

Your teacher or boss might see risks differently than you and your classmates.

If you have loads of experience, it might be a low risk for you to carry out a task that could be high risk for a newbie. Similarly, if you're really fit and healthy, the risk to you of carrying out a task might be lower than it is for a less fit classmate or co-worker.

Sometimes, experienced tradespeople will engage in unsafe work practices because 'that's how things have always been done'. It's possible that the thinking around what is safe has changed since they learned the ropes.

Health and safety regulations help reduce the ambiguity (cloudy judgement) around what a safe workplace is, and give clear direction of what is a risk, and what isn't.

RISK ASSESSMENT MATRIX

CONSIDER THE LIKELIHOOD OF A HAZARDOUS EVENT OCCURRING

CONSIDER THE SEVERITY OF INJURY/ILLNESS	CONSIDER THE LIKELIHOOD OF A HAZARDOUS EVENT OCCURRING				
	Very unlikely to happen	Unlikely to happen	Possibly could happen	Likely to happen	Very likely to happen
Catastrophic (e.g fatal)	Moderate	Moderate	High	Critical	Critical
Major (e.g Permanent Disability)	Low	Moderate	Moderate	High	Critical
Moderate (e.g Hospitalisation/Short or Long Term Disability)	Low	Moderate	Moderate	Moderate	High
Minor (e.g First Aid)	Very Low	Low	Moderate	Moderate	Moderate
Superficial (e.g No Treatment Required)	Very Low	Very Low	Low	Low	Moderate

This Risk Assessment Matrix, developed by Site Safe New Zealand, shows a method for assessing the risk.

Hierarchy of Controls

HIERARCHY OF CONTROLS

Most Effective ↓ Least Effective	ELIMINATE:	
	1	Eliminate the hazard - remove it completely from your workplace. <i>If this isn't reasonably practicable, then...</i>
	MINIMISE:	
	2	Substitute the hazard - with a safer alternative. <i>If this isn't reasonably practicable, then...</i>
	3	Isolate the hazard - as much as possible away from the workers. <i>If this isn't reasonably practicable, then...</i>
	4	Use engineering controls - adapt tools or equipment to reduce the risk. <i>If this isn't reasonably practicable, then...</i>
5	Use administrative controls - change work practices and organisation. <i>If this isn't reasonably practicable, then...</i>	
6	Use personal protective equipment (PPE) - this is the last option after you have considered all the other options for your workplace.	

A **hierarchy of controls** is a structured way to answer the big 'if not, then what?' The model assumes that the safest possible thing to do is to remove the hazard altogether. It isn't always possible to do that, and so you need to think about what the next, most sensible course of action might be.

You can use a hierarchy of controls to figure out how to deal with the risks you face. The diagram above shows how the hierarchy of controls can be used to eliminate and minimise hazards and risks. This interpretation of the hierarchy of controls was developed by Site Safe New Zealand.

Managing hazards

PCBUs must make sure that:

- people know what to do to ensure they are not harmed by a hazard
- protective equipment is provided, used and easy to get at
- people know who to report any hazard to
- people's exposure to any hazard is monitored
- people's health is monitored, with their consent.

Your own behaviour is also very important in eliminating and minimising hazards. Your actions can lead to you or someone else being hurt, so you need to have a responsible and safe attitude. This involves:

- carrying out instructions correctly
- asking for advice when in doubt
- wearing personal protective equipment
- using the correct tools and equipment
- using only tools, machinery and equipment that you have been trained to use
- not starting machinery unless you have been instructed to do so and all guards are in place
- keeping the workshop/project site clean and tidy
- reporting any unsafe conditions to your teacher/tutor
- reporting any injury to your teacher/tutor
- not distracting others or fooling around
- knowing about and understanding your school or training provider's health and safety rules and procedures.

It's a good idea to make a habit of doing a 'Step Back 5x5' every time you change tasks. This is when you step back five paces from the job and spend five minutes planning.

5 x 5

A Step Back 5x5 is an opportunity to ask yourself:

- What will I be doing?
- What are the hazards?
- What equipment and plant do I need?
- How can I get hurt?
- What if something unexpected happens?

Site-Specific Safety Plans

A Site-Specific Safety Plan (SSSP) is the usual method by which site safety is managed on a building and construction site. They are 'site-specific' because each site has its own specific hazards and so needs its own safety plan.

SSSPs describe the safety activities a PCBU will undertake on a specific site. It forms an agreement between the PCBU and other parties, such as employees and contractors, about how health and safety will be managed on a specific site for the specific jobs that need doing.

It helps to:

- define safety activities on the site
- communicate and coordinate safety activities
- monitor the work to ensure that hazard controls that have been put in place are working and effective.

Among many other things, the SSSP is where to find:

- identified hazards, along with how they will be managed
- reports of any accidents and incidents
- how employees will or have been trained or supervised
- preparation for emergencies, including first aid and rescue plans
- how employees can be involved in safety procedures.

The SSSP is updated as tasks change because the hazards change with each task. It is normally referred to at the beginning of each day in 'toolbox' meetings. Toolbox meetings are where objectives for the day are discussed, the status of any hazards updated, issues raised and resolved, and tasks allocated.

Site-Specific Safety Plans

Assessment note:

It is normally the responsibility of the PCBU to complete the SSSP. However, to achieve this unit standard, you need to complete an SSSP as though you were the PCBU. Completing an SSSP will help you to:

- identify any hazards by thinking about all the tasks that need to be done
- think about keeping the risk of hazards causing harm as low as possible
- think about how to keep your class and workmates safe
- gain experience in completing an SSSP from the perspective of someone responsible for getting a job finished while keeping everyone safe. Even though you're unlikely to be formally in this role for a few years to come, understanding what an employer has to consider will help make you a better, safer employee and colleague.

Site Safe NZ has a really helpful section on SSSP's. See below.



To download a copy of Site Safe's SSSP template and a comprehensive guide on how to develop a SSSP, go to:

www.sitesafe.org.nz.

Data sheets

Safety Data Sheets and Product Data Sheets provide a summary of all the technical information for a product. They include a description of the product, its typical physical characteristics and how it is to be safely used.

Product Data Sheets

Product Data Sheets are a manufacturer's summary of the performance and other technical characteristics of each construction product, material or component.

Product Data Sheets usually include a description of the product, how to use it, when to not use it, brief safety instructions, how to dispose of it, and any other information legally required for that type of product. Using a product according to the Product Data Sheet's specifications should result in it performing and lasting as it was designed to.

Safety Data Sheets

A Safety Data Sheet, sometimes called Material Safety Sheets, is a document provided by manufacturers with details of the physical and chemical properties of the product.

Safety Data Sheets are designed to protect the health and safety of people in the workplace by providing information on the hazardous substances contained in a product and outlining how to safely use, store, transport and dispose of them.

Safety Data Sheets also contain emergency procedures, with directions for spills, ingestion, skin contact, fire etc. To make sure they comply with current standards, Safety Data Sheets shouldn't be more than five years old.

Common hazards and controls

The following table has some common hazards, risks, and controls in the building and construction industry. There are a variety of controls because each situation is different. The risk assessment process will help you to decide the most appropriate control(s) to apply.

Please be aware that this table does not contain all possible hazards, risks, and controls and so should not be used as a checklist.

Hazards	Controls
Site tidiness and access	
→ Falls, slips, trips – on same level or below	→ Tidy work areas, frequent rubbish disposal
→ Untidy work areas, excess rubbish & waste	→ Clean up at end of each task and day
→ Unsafe access and exit – slippery surfaces	→ Guardrails, adequate spaces, non-slip surfaces, good lighting, correct PPE
→ Poor lighting	
Manual handling (lifting)	
→ Unsafe lifting, shifting, pulling, pushing, bending, twisting and other body movements	→ Communication and team work
→ Working when tired, unfit or unprepared	→ Ask for help, use correct equipment and techniques
	→ Individual health and fitness
	→ Tidy and organised work areas
Health - Noise	
→ Excessive levels (over 85 decibels) - lack of engineering and/or personal protection controls	→ Monitoring of noise levels
→ Vibration – excessive use of power tools	→ Monitoring of toxic substance exposure levels
→ Chemicals – ingestion, inhalation, absorption of harmful contaminants (asbestos, isocyanates)	→ Redesign of processes, work areas to eliminate or minimise exposure
→ Site facilities – inadequate cleanliness sheds, toilets and work areas. Substandard provision of facilities	→ Provision of PPE
	→ Training in use and regular maintenance of tools and equipment
	→ Regular effective cleaning of facilities
	→ Management of staff use/abuse
Electricity - Electric shock	
→ Unsafe exposure to underground/overhead services leading to electrocution. Damaged leads, equipment. Substandard maintenance/tagging/testing	→ Regular testing/tagging and repair of all equipment. No temporary repairs
→ Mis-use/non-use of protective devices	→ Use of lockout/tagout systems
→ Overloading of circuits	→ Training and supervision of inexperienced staff
	→ Provision and use of protective devices

Hazards	Controls
Hand and power tools	
<ul style="list-style-type: none"> → Flying debris during use → Amputations → Being caught in or on (clothing, body) during use → Toxic fumes, dusts, excessive noise levels → Electric shock → Misuse, lack of guarding, incorrect tool, defective tool 	<ul style="list-style-type: none"> → Regular preventive maintenance → Training and supervision in correct safe use → Provision of guarding and suitable work areas/surfaces → Provision and use of suitable PPE (hearing, eyes, breathing, clothing)
Compressed air	
<ul style="list-style-type: none"> → Flying debris → Struck by hoses and connections → Strains and sprains → Noise → Trips and falls → Inhalation of toxins 	<ul style="list-style-type: none"> → Isolated work areas → Provision and use of suitable PPE (hearing, eyes, breathing, clothing). Secure all connections → Exercise and warm up, proper manual handling → Isolate the compressor from the user and use hearing protection → Good housekeeping → Regular preventive maintenance → Training and supervision in correct safe use
Powder-actuated tools	
<ul style="list-style-type: none"> → Struck by/exposed to flying debris → Misfires of equipment. Brittle material → Toxic fumes, dusts, excessive noise levels 	<ul style="list-style-type: none"> → Training and certification → Assessment of composition of material before use → Elimination of misfires → Provision and use of suitable PPE (hearing, eyes, breathing, clothing)
Machinery and mobile plant	
<ul style="list-style-type: none"> → Crushing from roll over → Struck by moving plant and accidental back over → Falls from height → Noise levels above 85 decibels. → Unintentional exposure to underground/overhead services 	<ul style="list-style-type: none"> → ROPS (Roll Over Protective Structures), seat belts, reverse signal alarms, hi-vis operator clothing, traffic control systems, 3-point contact getting on and off plant → Training and supervision of inexperienced staff

Hazards	Controls
Excavations – collapse of trenches	
→ Suffocation	→ Assessment of soil type and stability
→ Struck by material falling in	→ Avoidance of any water accumulation
→ Shock/fire due to undetected underground services	→ Awareness and identification of existing services
→ Falls into trenches	→ Materials 600mm from edge. Clearance from suspended loads. Use of ladders. Provision of safe egress (way out)
→ Struck by traffic, mobile plant, material storage	→ Effective barricading and signage. Use of traffic control systems. Provision and use of suitable PPE
Cranes and rigging	
→ Struck by falling loads	→ Plan and provide adequate set-down areas
→ Caught between load and stationary object	→ Correctly slung and secured loads
→ Falls	→ Regular preventive maintenance of all equipment
→ Insufficient set-down areas	→ Use of correct signals and other forms of communication
→ Loads incorrectly slung	→ Adequate supervision and process of unloading and storage of materials
→ Defective lifting equipment	
→ Unsecured loads. Falling materials	
→ Craning in close proximity to buildings, people and plant	
→ Limited vision, communication (noise)	
Working at height - ladders	
→ Falls	→ Secured against movement or footed
→ Carrying loads during use	→ Regular inspection and maintenance
→ Unsecured, resulting in dislodgement from support structure	→ Ladder should extend 1m above platform
→ Unsuitable ladder for the job – length, purpose for use, design	→ Position at 4:1 angle
→ Unsuitable positioning for use – angles, access ways, vehicle/people movements	→ Position away from vehicle movement
	→ During use – 3 points of contact. Use for access only. Avoid carrying loads. Don't use as a working platform. Don't go higher than 3rd step down from top

Hazards	Controls
Working at height - scaffolds	
<ul style="list-style-type: none"> → Falls → Collapse → Struck by dropped material → Unsuitable foundation. Incorrectly braced or stabilized to prevent overturning → Lack of ladder access → Insufficient planking. Lack of guardrails and toe-boards. Insufficient ties or other means 	<ul style="list-style-type: none"> → Training from recognised professional training organisation → Rescue plan in place and practised → 1500kg anchor points known/identified → Anchor point at shoulder height → Adequate clearance below
Working at height - harnesses	
<ul style="list-style-type: none"> → Falls → Lack of training → No emergency rescue plan → Unknown anchor points, anchor strength → Anchor points below shoulder height. Improper harness fitting. Poor component inspection → Striking objects below → Improper storage of equipment 	<ul style="list-style-type: none"> → Training from recognised professional training organisation → Rescue plan in place and practised → 1500kg anchor points known/identified → Anchor point at shoulder height → Adequate clearance below

Personal protective equipment

The kinds of Personal Protective Equipment (PPE) you use will vary depending on the types of hazards that you are likely to come across on a particular job or site.

PPE includes everything from footwear, face masks, helmets, ear protection, masks or respirators, gloves, safety harnesses to high visibility and protective clothing and sunscreen.

You're safer, not invincible

PPE minimises risks to your health and safety that you face when working on a project, but it doesn't make you superman (or woman).

The hazards you are protecting yourself against are still hazards and you can still be injured – or injure someone else – if you don't keep thinking and taking responsibility for your role in keeping yourself and others healthy and safe.

Looking after your PPE so it can look after you

PPE only protects you if you look after it. When you're using and storing PPE, it's important that you remember to:

- get into the habit of wearing it
- keep it clean and in good working order
- use gear that is made by responsible manufacturers. PPE needs to meet Standards New Zealand's specifications. These products will have a 'standards certification' mark.

Your school or employer should provide you with the right PPE to do your work. It is within your rights to ask for it.

It's a good idea to start getting your own kit together if you can, starting with those likely unique to you (like boots) or touching your body directly (such as ear protection). Your employer may offer sunscreen top-ups but applying it before the working day is your responsibility.

Common PPE

<h3>Safety Helmet</h3>	<p>Helmets complying with NZS 5806 (or suitable approved head protection) must be worn at all times while on a construction site where there is a risk of objects falling from above.</p> <p>Most construction sites in New Zealand have a mandatory hard hat rule.</p> <p>It's recommended that you use an elastic chin strap to secure your hard hat when working and to stop it being blown off in the wind.</p> <p>Your hard hat should be replaced if it is dropped from a height or if there are any visible signs of wear and tear.</p> <p>Follow the manufacturer's instructions for replacement (and check expiry dates).</p>
<h3>Steel Cap Boots</h3>	<p>Most construction sites in New Zealand also have a mandatory steel cap boot rule.</p> <p>Your boots should be comfortable with maximum grip and should provide your feet with protection from pinching, jamming and crushing.</p> <p>Look after your boots as some sites require toe caps to be fully covered to prevent the risk of creating a spark hazard, which can occur if steel comes into contact with an exposed steel toe cap.</p>
<h3>Gloves</h3>	<p>Your gloves should be snug fitting and made of leather or split leather to give you a good grip on tools, equipment and machinery and to protect your hands from cuts and abrasions.</p> <p>In extreme conditions, you might need to wear specialist gloves e.g. lined gloves in cold conditions or gloves to protect against chemical burns, acid or caustic spills.</p>
<h3>Protective Eyewear</h3>	<p>Your safety glasses should have wide vision, UV protection, be scratch resistant and have integral side shields.</p> <p>See manufacturer's instructions for special purpose glasses.</p>
<h3>Ear Protection</h3>	<p>Noise has been identified as a significant hazard in the workplace. There are a lot of different types of ear muffs, pads or plugs that you can get.</p> <p>To help you choose the right ear protection for your work, ear protectors are numbered class 1 to 5. Each class increase provides you with an additional 5 decibels of protection.</p> <p>The higher the number, the more protection you get. Your teacher or boss should help you select the most appropriate ear protection for the task you are completing.</p> <p>Some hardhats or safety helmets come with ear protection attached.</p>

High Visibility (Hi-Viz) Clothing

Fluorescent vests with a 50mm wide reflective tape allow you to be seen under normal site conditions.

High visibility vests should conform to AS/NZS 4602 or EN471, the Transit New Zealand Code of Practice and local authority requirements.

Masks

Disposable respirators should have two straps which fit securely around your face to protect you from dust.

In building and construction, usually a disposable or half-face respirator is satisfactory.

If you have facial hair (beard, stubble growth, moustache or sideburns) or you wear glasses, a half-face respirator might not form a tight seal around your nose and mouth and you may have to wear a full-face, powered respirator.

If you are working with abrasive blasting, you will need to use an airline respirator.

When respirators are used at a worksite, it's important to:

- carry out facial fit testing to make sure you have a good, tight seal
- carry out appropriate maintenance on respirators to ensure they remain fit for purpose
- have training on the correct use of respirators
- keep records that detail respirator use
- store respirators in a clean cupboard when they are not in use

Harnesses

If you are working at height or in a situation where you are at risk of a fall, correctly used harnesses can prevent serious injuries.

Harnesses should be well fitted and regularly checked for wear.



To download a copy of this Students on Work Experience Health & Safety Guide go to:

www.education.govt.nz/assets/Uploads/SES-Students-on-Work-Experience-HS.PDF

Common safety signs

You will see signs like these a lot in and around your classroom workshop, workplace.

You need to make sure you know what they all mean and what you should do if you see them.



Corrosive material



Gloves must be worn



Ear protection must be worn



Hard hats must be worn



Exit



In case of fire, use stairs



First aid supplies



No cell phones



Flammable materials



No smoking



Eye protection must be worn



Poisonous materials



Full-face respirator must be worn



Dust mask must be worn



Half-face respirator must be worn



Protective footwear must be worn



Two person lift required



Asbestos is present

Safe lifting practice

Lots of the injuries that happen in a BCATS environment are caused by poor lifting techniques or trying to lift something that's too heavy.

Strains, sprains, hernias, hand and foot injuries, spinal injuries and torn ligaments and muscles can all keep you off your feet for weeks at a time and can even cause long-term damage.

Manual lifting vs mechanical lifting

Manual lifting means lifting something using only person power.

Mechanical lifting means using some sort of device or machine to help you support or spread the load. Cranes, hi-abs, scissor lifts, carts, wheelbarrows, pallet jacks and rollers are all types of mechanical lifting aids.

The official construction industry term for lifting is 'handling' and doing it safely is taken seriously. WorkSafe has a whole 'Code of Practice' on Manual Handling.

What controls can you use?

You can't always control what you have to lift in a BCATS setting, but you can control how much strain you place on your body.

- Always use safe lifting techniques and, if needed, a lifting belt.
- Check the weight of the load. Can you realistically lift it on your own? Will you need help? Will you need some sort of mechanical assistance?
- Where you can, eliminate manual lifting altogether by using mechanical lifting aids.
- Stay fit. Exercising keeps your body strong and good core muscles help limit the strain on your back.
- Warm up before you start. Lifting at work is no different to lifting at the gym - cold muscles get hurt more easily.
- Get enough sleep and try to get your heavy lifting done earlier in the day while you're still fresh. Working while over-tired is dangerous, not just for muscle strain, but for other accidents too.
- Keep your movements slow and fluid. Sudden and jerky lift attempts are much more likely to cause harm.
- Keep an eye out for any additional hazards on your load, such as sharp

edges, unsecured wire, nails or glass. Use gloves.

- Regardless of the weight, if the load is so large you can't see where you're walking, get someone to help you or use a mechanical aid such as a wheelbarrow or trolley.
- Use handles if there are any, or create your own make-shift handles using strops.

Lifting with your knees

Being taught how to lift can seem a bit like being taught how to breathe or swallow; we've all been doing it since before we can remember.

However, being able to pick something up doesn't mean that you are practicing safe lifting techniques.



Whenever you have to lift something up off the ground (or any surface below your knees) you will need to practice 'lifting with your knees'.

1. Stand close to the object with your feet shoulder width apart. Find your balance first.
2. Bend at your knees, keeping your back as straight as you can.
3. As you lift, use your leg muscles to bear the weight of the load. Keep your back straight.
4. Turn your whole body in the direction you want to go. Don't twist from the waist.

