

# Program Risk Assessment

This document has been developed to assist with the development of HIRAC's (Hazard Identification, Risk Assessment and Control) for programs delivered by the Ballarat Tech School.

**Program Title:** Prototyping Activities

<b>Risk assessment prepared by:</b>	Ryan Ringin, Liam Mudge	<b>Reviewed by:</b>		<b>Date of Assessment:</b>	29/01/2024		
<b>Select type of activity:</b>	Normal Program Delivery			<b>Date due for reassessment:</b>	23/01/2025		
<b>Location of Activity</b>	Advanced Manufacturing	Breakout 1	Presentation Space	Science	Class Room	Food and Fibre	Off Site
	New Energies	VR	Foyer Space	Breakout 2	Studio Space	Cafeteria Space	

**Activities Performed and level of supervision required:**

The intention is that this document is to be working through in an interview style with the Safety Officer and those developing/delivering the program. To assist with the identification of any pre-existing HIRACs relevant to the program being delivered, complete the sections below by selecting the activities and hazards involved with your activity/program.

**Location(s)**

Identify the workspace required to deliver this program e.g. The Chocolate program may require the Food & Fibre lab as well as the Advanced Manufacturing lab.

**Workflow**

Identify the steps involved with carrying out the program, including the location of step, resources & materials required, as well as any specialized personnel required for the step and identify if this is covered by a pre-existing HIRAC report

**Activities/Equipment**

Identify all equipment required for delivery of the program e.g. Laser Cutter, tools, chemicals and consumables.

**Hazard Identification**

Identify the types of Hazard applicable to the program.

**Exposure**

Identify all groups who will be exposed to risks associated with this activity as well as any staff/specialist skills required to deliver this program e.g. Chocolate may require the assistance of some lab technician and personnel trained to operate the 3d printers/CNC machine.

**Chemical Hazards**

List any chemicals to be used and generated during this activity. Acquire, review and identify key hazard information from applicable material safety data sheet (MSDS), control measures to be undertaken and disposal requirements.

**Biological Hazards**

List any Biological Agents to be used and/or generated during this activity. Acquire, review and identify; key hazard information from applicable data sheets, control measures to be undertaken and disposal requirements.

**Risk Controls**

Identify the potential risk associated with undertaking this program (using the work space, operation of equipment, conducting experimentation etc.)

**Approval**

After reviewing all relevant MSDSs and HIRACS by supervising staff seek approval of Manager.

**Reference Material**

List all reference materials, MSDS's and HIRACs used to complete this form.

Complete  TRUE

**Workflow**

Identify the steps involved with carrying out the program, including the location of step, resources & materials required, as well as any specialized personnel required for the step and identify if this is covered by a pre-existing HIRAC report. If more than one hazard exist for a single "step" select the item in the line below. Add additional steps as required.

#	Step	Location	Equipment/Materials	Specialist Personnel	Hazard	Notes
1	Session Introduction	Ballarat Tech School				
2	Safety briefing tailored to the equipment being used.	Advanced Manufacturing	Sewing materials		Slips/trips/falls	Use of exclusion zones as required.
3		New Energies	Cutting tools		Entanglement	Induction
4		Science	Laser cutters		Temperature	Supervised activity
5			3D printers		Food Safety	
6			Hot glue gun		Chemical	
7			Sharp workpieces		Shear	
8			Hammers/nails/Hole punches		Fumes	
9			Stand Mixer		Radiation	
10			ThermoMix		Ergonomic	
11			Vacuum former		Electrical	
12			Oven		Temperature	
13			Additives/Solvents		Chemical	
14			Hand drills		Collision	
15			Hand saws		Noise	
16	Demonstration of safe work practice.					
17	Observe safe use					
18	Prototyping Activity					

Complete  TRUE

<b>Chemical hazards</b>	
<b>Are there any chemical hazards involved with this activity?</b> If YES, please answer the following form.	Yes
<b>Chemical Hazard Controls</b>	
I have consulted the Victorian Department of Education's <a href="#">Guidance Sheet 3 Prohibited and Restricted Chemicals</a> .	TRUE
Banned and restricted hazardous chemicals will not be used?	TRUE
No explosive reactants will be used or explosive products generated.	TRUE
I understand the risks of the practical experiment and will undertake this practical in a 'wet area'?	FALSE
I have obtained the safety data sheets for reactants and understand the accidental spillage or exposure, emergency response and first aid information?	TRUE
Quantities of flammable reactants are kept to a minimum and ignition sources are eliminated?	TRUE
All hazardous chemicals and decanted products are labelled appropriately?	TRUE
List any additional activities or equipment being undertaken/used that require an additional risk assessment to be developed	

If you answer 'False' to any of the above questions, do not carry out practical experiments until the matter has been resolved.

I will <b>not</b> carry out the practical experiment if extreme or high chemical risks exist.								
I have considered all chemical exposure routes of the eyes, skin, inhalation, ingestion and injection to be used and generated.								
I have located and linked all relevant MSDSs for Chemicals used in this activity. <a href="#">BTS MSDS Register</a>								
<b>List the chemicals to be used and generated. Identify key hazard information from safety data sheets, control measures to be undertaken and disposal requirements.</b>								
	Concentration	Flamable	Gases Under Pressure	Oxidising	Corrosive	Chronic	Health Hazard	MSDS
Super Glue								<a href="https://federationuniversity.sharepoint.com/:b:/r/sites/FedUni/academic/tafe/Governance/OHS/HSIT%20group%20BTS%20and%20Support%20Services/BTS/Plant%20and%20Chem/MSDSs/Parfix%20Super%20Glue.pdf">https://federationuniversity.sharepoint.com/:b:/r/sites/FedUni/academic/tafe/Governance/OHS/HSIT%20group%20BTS%20and%20Support%20Services/BTS/Plant%20and%20Chem/MSDSs/Parfix%20Super%20Glue.pdf</a>
Acrylic Glue								<a href="https://federationuniversity.sharepoint.com/:b:/r/sites/FedUni/academic/tafe/Governance/OHS/HSIT%20group%20BTS%20and%20Support%20Services/BTS/Plant%20and%20Chem/MSDSs/Weld-on%2016%20Solvent%20Cement.pdf">https://federationuniversity.sharepoint.com/:b:/r/sites/FedUni/academic/tafe/Governance/OHS/HSIT%20group%20BTS%20and%20Support%20Services/BTS/Plant%20and%20Chem/MSDSs/Weld-on%2016%20Solvent%20Cement.pdf</a>
Hot Glue								<a href="https://federationuniversity.sharepoint.com/:b:/r/sites/FedUni/academic/tafe/Governance/OHS/HSIT%20group%20BTS%20and%20Support%20Services/BTS/Plant%20and%20Chem/MSDSs/Bosch%20Hot%20Melt%20Glue%20Stick%20E2%80%93%20White_MSDS.pdf">https://federationuniversity.sharepoint.com/:b:/r/sites/FedUni/academic/tafe/Governance/OHS/HSIT%20group%20BTS%20and%20Support%20Services/BTS/Plant%20and%20Chem/MSDSs/Bosch%20Hot%20Melt%20Glue%20Stick%20E2%80%93%20White_MSDS.pdf</a>

Products								

Hazards		Exposure						
Identify all groups who will be exposed to risks associated with this activity as well as any staff/specialist skills required to deliver this program e.g. Chocolate may require the assistance of some lab technician and personnel trained to operate the 3d printers/CNC machine.		Program Staff	Technical Staff	Students	Teachers	Volunteers	Cleaning Staff	Other
Notes:		Hazards vary depending on the prototyping process used.						
<b>Risk Assessment Matrix</b> Assessing OHS Risks Risk assessments in matters of Occupational Health and Safety* are based on 2 key factors: <ul style="list-style-type: none"> <li>The <u>severity</u> of any injury/illness resulting from the hazard(s), and</li> <li>The <u>likelihood</u> that the injury/illness will actually occur.</li> </ul>								
Assessment of risk level based on likely severity and probability of harm		LIKELIHOOD						
		Very Unlikely Could happen, but probably never will	Unlikely Could happen, but very rarely	Likely Could happen sometime	Very likely Could happen any time			
SEVERITY	Death or permanent disability	MEDIUM	HIGH	EXTREME	EXTREME			
	Long-term illness or serious injury	LOW	MEDIUM	HIGH	EXTREME			
	Medical attention and short-term incapacity	VERY LOW	LOW	MEDIUM	HIGH			
	First aid needed	VERY LOW	VERY LOW	LOW	MEDIUM			

Notes:	
STEM Educator	Reviewer Comments
Students are verbally inducted into using equipment, briefed on safety points relevant to equipment being used in the session. Safe use of the equipment is demonstrated, and the safe operation is observed by supervising educators. Prototyping Operations take place in a range of different locations across the BTS site.	

Based on the Risk Assessment Matrix, identify the level of hazard.
LOW
If the initial risk is LOW or VERY LOW you do not need to complete a full Risk Assessment

Complete	TRUE
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Risk Identification and			
List List major hazards			
Hazards	Control	Control Type	Notes
Electrical	Specialized equipment	Substitution	Ensure work space kept neat and tidy, free from trip hazards. Compliance with BTS electrical safety procedures. Set up exclusion zones as required
Slips/trips/falls Entanglement	Electrical isolation Safe work zones	Isolation	
Temperature	Hazardous chemicals register Training/Induction	Administration	
Noise		Administration	
Crush	Risk assessment	Administration	
Ergonomic	Hand protection	PPE	
Atmospheric	First aid kit	Administration	
Human	Eye wash	PPE	
Chemical	Enclosed footwear	PPE	
Radiation			
Shear			
Biological			
Fumes			
Food Safety			
Collision			
Other			

Risk controls				
Initial Risk Level	LOW			
Elimination	Alternate type of practical	Relocate work area	Removal of hazard	
Substitution	Alternative equipment to be utilized	Alternative chemical to be used	Specialized equipment	
Isolation	Electrical isolation	Safe work zones	Mechanical isolation	Security
	Restricted areas	Chemical storage cabinet		
Engineering	Locking	Guarding	Fume cupboard	Spill trays/ bund wall
Administration	Hazardous chemicals register	Training/Induction	Workplace inspections	Risk assessment
	Safe work procedures	Material Safety Data Sheets	Supervision	First aid kit
PPE	Eye protection	Sun Screen	Hand protection	Hearing protection
	Lab coat or apron	Face Shield/Mask	Safety footwear	Enclosed footwear
Emergency facilities	Eye wash	Spill kit		
Residual Risk Level	LOW			

Notes:

Compliance with Overarching HIRACs as specified in reference section.

Complete  TRUE



### Reference Documentation

List all reference documentation, HIRACs and MSDS forms applicable to this activity. If HIRAC does not already exist, the creation of a new HIRAC may be required.

HIRACS	Current HIRACs	URL
Advanced Manufacturing	<a href="#">Advanced Manufacturing</a>	<a href="https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Advanced%20Manufacturing_HIRAC.pdf">https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Advanced%20Manufacturing_HIRAC.pdf</a>
Electronics	<a href="#">Electronics</a>	<a href="https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Electronics_HIRAC.pdf">https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Electronics_HIRAC.pdf</a>
Hand Tools	<a href="#">Hand Tools</a>	<a href="https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/BTS_%20Hand%20Tools_HIRAC.pdf">https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/BTS_%20Hand%20Tools_HIRAC.pdf</a>
PWR Tools	<a href="#">PWR Tools</a>	<a href="https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/BTS_PWR%20Tools_HIRAC.pdf">https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/BTS_PWR%20Tools_HIRAC.pdf</a>
Food Science	<a href="#">Food Science</a>	<a href="https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Food%20Science%20HIRAC_0.pdf">https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Food%20Science%20HIRAC_0.pdf</a>
Adhesives	<a href="#">Adhesives</a>	<a href="https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Aerosols%20Adhesives%20and%20Solvents_HIRAC.pdf">https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Aerosols%20Adhesives%20and%20Solvents_HIRAC.pdf</a>
Vacuum Forming	<a href="#">Vacuum Forming</a>	<a href="https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/Vacuum%20FormingHIRAC.pdf">https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/Vacuum%20FormingHIRAC.pdf</a>
Laser Cutting Operations	<a href="#">Laser Cutting Operations</a>	<a href="https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/BTS_LaserCutting%20Operations_HIRAC.pdf">https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/BTS_LaserCutting%20Operations_HIRAC.pdf</a>

MSDS Forms	
Super Glue	<a href="#">Super Glue</a>
Acrylic Glue	<a href="#">Acrylic Glue</a>
Hot Glue	<a href="#">Hot Glue</a>

Other Activities/Reference Material	

Complete	TRUE
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Sections Completed	
<a href="#">Risk Assessment</a>	COMPLETE
<a href="#">Work Flow</a>	COMPLETE
<a href="#">Chemical Hazards</a>	COMPLETE
<a href="#">Hazards</a>	COMPLETE
<a href="#">Controls</a>	COMPLETE
<a href="#">Reference</a>	COMPLETE

Activity Approval		
This activity has been reviewed and determined that it can be carried out safely. Where risks have been identified appropriately mitigation measures will be implemented.		Date
Completed By	Ryan Ringin, Liam Mudge	29/01/2024
Reviewed by:	0	
Reviewed by supervisor, where high risks are involved.		
Changes that need to be considered next time:		