

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.

To fill out the Risk Assessment either highlight all applicable cells or use the drop down arrow to select relevant options.

Then click complete on the page and click "Next" to proceed.

Program Title:

Game of Drones

Risk assessment prepared by:	Liam Mudge	Reviewed by:		Date of Assessment:	31/10/2022		
Select type of activity:	Normal Program Delivery			Date due for reassessment:	26/10/2023		
Location of Activity	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.

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

#	Step	Location	Equipment/Materials	Specialist Personnel	Hazard	Notes
1	Welcome	Presentation Space			Slips/trips/falls	
2	Phone, drone or Cologne?	Advanced Manufacturing				
3	Batteries on Charge	Advanced Manufacturing	Tello Drones & Batteries			
4	Drone Design and makeup	Advanced Manufacturing	Laser cut drone models			
5	Setup Arduino rig	Advanced Manufacturing	Drone Test Rig (1 per table)		Shear	rotating drone propellas may cause: shear and entangelment hazards.
			Power supplies (1 per table)		Electrical	
			Arduino Kit (1 per group of 2)			
			Joysticks (2 pairs for each group)			
9	Arduino Coding	Advanced Manufacturing				
10	Manual drone Flying	Advanced Manufacturing	Video from Direct Wind Services??			
11	Flying a Tello	Advanced Manufacturing	Cardboard cut-outs with magnets			
12	Coding challenge	Advanced Manufacturing	Tello challenge props - rings, witches hats and blocks		Entanglement	
13	Challenge					
14						
15						
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17						
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25						
26						

Biological hazards	
Are there any biological hazards involved with this activity? If YES, please complete the following form	No

Biological Hazard Controls	
Recommended banned and restricted hazardous biological agents will not be used?	
Biological agents used are recommended for the age group undertaking the practical experiment?	
I understand the risks of the practical experiment and will undertake this practical in a 'wet area'?	
I have obtained relevant safety data sheets for agents being used and understand the accidental spillage or exposure, emergency response and first aid information?	
All hazardous agents and mediums are labelled appropriately?	
List any additional activities or equipment being undertaken/used that require an additional risk assessment to be developed	

[List other measures here](#)

Check: If you answer 'No' to any of the above questions, do not carry out practical experiments until the matter has been resolved.

I will **not** 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.

List the chemicals to be used and generated. Identify key hazard information from safety data sheets, control measures to be undertaken and disposal requirements.

Hazards
Electrical
Slips/trips/falls
Entanglement
Temperature
Noise
Crush
Ergonomic
Atmospheric
Human
Chemical
Radiation
Shear
Biological
Fumes
Food Safety
Collision
Other

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
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Notes:

Larger systems have been designed to operate in a contained and secured enclosure, isolating moving componenets from user access.

Risk Assessment Matrix

Assessing OHS Risks

Risk assessments in matters of Occupational Health and Safety* are based on 2 key factors:

- The severity of any injury/illness resulting from the hazard(s), and
- The likelihood that the injury/illness will actually occur.

Based on the Risk Assessment Matrix, identify the level of hazard

MEDIUM

If the initial risk is **LOW** or **VERY LOW** you do not need to complete a full Risk Assessment

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

List Hazards Identified:	Reviewer Comments

Hazards
Electrical
Slips/trips/falls
Entanglement
Temperature
Noise
Crush
Ergonomic
Atmospheric
Human
Chemical
Radiation
Shear
Biological
Fumes
Food Safety
Collision
Other

Hazard	Control	Control Type	Notes
Electrical	Electrical isolation Workplace inspections	Isolation Administration	
Slips/trips/falls	Removal of hazard	Elimination	Bags, chairs etc to be removed from walk ways etc
Entanglement	Specialized equipment Training/Induction Supervision	Substitution Administration Administration	
Shear	Specialized equipment Safe work zones Mechanical isolation Training/Induction Supervision	Substitution Isolation Isolation Administration Administration	smaller drones have fitted cages restricting access to props, larger drone are secured in a rig to restrict access

If the initial risk is **LOW** or **VERY LOW** you do **NOT** need to complete a full Risk Assessment

Notes:
Drone activity in this program is restricted to indoor use under supervision of BTS staff

Risk controls				
Initial Risk Level	MEDIUM			
Elimination	Alternate type of practical	Relocate work area	Removal of hazard	
Substitution	Alternate equipment to be used	Alternate chemical to be used	Specialized	
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		
COVID-19	<p>Note COVID-19 specific controls, especially shared equipment or resources</p> <p>Example: Restrict sharing between students. Replace paper resources with digital. Cleaning processes (including resources in plastic pockets) Students work in pairs or groups of 5-6. These students will be restricted to a single table, and will not share resources between tables. All equipment will be sprayed/wiped/cleaned after use.</p>			
Residual Risk Level	LOW			

Complete:

TRUE

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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

Liam Mudge

31/10/2022

Reviewed by:

Damon Minotti

30/03/2023

Reviewed by supervisor, where high risks are involved.

Changes that need to be considered next time: