GENERAL RISK ASSESSMENT TEMPLATE

Work area / operation	CB11.10.403	**Assessor's name**	Cristian Corso, Arthur Demasi, Hugh Radvan
Other persons consulted	Hugh Radvan, Muhammad Haris, Arthur Demasi	**Date of safety assessment**	13/10/23
Subject Coordinator's Name	Gavin Paul	Lab Supervisor's Name	Michael Lee

ACTIVITY - Describe hazardous activities related to the work area or operation.	**ASSOCIATED HAZARDS**	**INHERENT RISK** - Harm that could occur from these hazards if controls fail or are not in place.	**EXISTING CONTROL MEASURES**	**PROPOSED CONTROL MEASURES** - Proposed action to minimise risk to an acceptable level.	**TARGET DATE** - To implement proposed controls	**RESIDUAL RISK LEVEL** (H,M,L)
Operating multiple robot arms in a populated workspace	**Work Environment Plant & Equipment**	Physical injury to self/others from movement of the robot. Tripping over electrical cables when traversing workspace. Collisions between two robots.	Isolate arm, to a non-thoroughfare/ place unfrequented to minimize risk. Monitor the robot when operational.	Eliminate the hazard/ Isolate the hazard from the people: Move the robot to a separate workspace/use physical dividers when operating. Incorporate robot-robot collision detection.	13/10/23	L
Leaving the robot arm unattended	**Work Environment**	Physical injury to others from moving parts. May damage other lab equipment.	Lab supervisors monitor actions and assist in enforcing proper practice.	Ensure obvious signage to turn the robot off when leaving it or inform another and transfer the duty. Timed off switch for inactivity.	13/10/23	L
Using inappropriate load on the robot	**Plant & Equipment**	May fall off the robot, resulting in bludgeoning. May hinder operational life expectancy, or damage robot.	Specifications sheets possess the load capacity of the robot and can inform the user.	Eliminate the hazard. Ensure obvious signage.	13/10/23	L
Using inappropriate tool heads on the robot.	**Plant & Equipment**	Falling objects from using incorrect tool heads on the robot may result in bludgeoning to individuals.	Lab supervisors may ensure you do not utilise inappropriate/incompatible tools with the robot. Robot spec sheets.	Eliminate the hazard. Ensure only compatible tools are used. If incompatible/custom tools require use contact a supervisor.	13/10/23	L
Incorrect manual handling	**Manual Handling**	May damage robot. May cause harm to self, i.e., injury to body from strenuous activity.	Lab supervisor would inform you of incorrect use if present.	Eliminate the hazard. Use signage, to deter others from incorrect use. Identify proper handling procedures.	13/10/23	L

Operating robot when tired/ distracted.	**Plant & Equipment** **Work Environment**	Damages to self/others from ignoring safety procedure. Damages to robot from incorrect operations.	Lab supervisor may notice signs of fatigue/tiredness and stop you from operating the robot.	Eliminate the hazard. Restrict use of mobile phones, and devices when operating the robots.	13/10/23	L
Operating robot with volatile/brittle payload (glass cup).	**Work Environment** **Plant & Equipment**	Laceration to skin from dropped payload. Damage to equipment from shards.	Lab supervisor would inform you of incorrect use if present. First aid kit in lab.	Substitute glass with less breakable material, i.e., plastic. To reduce risk of shattering.	13/10/23	L
Operating robot with spillable liquids in payloads.	**Work Environment** **Electrical**	Slipping from spillage of payload liquid. Shorting of exposed/non-protected electrical equipment from spilled liquid.	Slip hazard signage. Cleaning equipment.	Using equipment with an IP water rating above 4 (ensuring minimum degree of water resilience).	13/10/23	L
Electrical Cables mishandled	**Electrical** **Work Environment**	Electrocution from exposed cables. Tripping from incorrectly stored wires.	Electrical equipment certification checks	Increased number of outlets to reduce cable length requirements. Additional signage to alert others of presence of cables and electric hazards	13/10/23	L
Clutter/mis-stored equipment left in workspace.	**Work Environment**	Injury from tripping hazards. Heightened risk due to incorrectly stored safety equipment.	Dedicated storage areas for equipment.	Increased signage indicating storage areas. Reduction of unnecessary equipment in the lab.	13/10/23	L

Approval of assessment	I am satisfied that the residual risk with existing controls is acceptable X Yes ☐ No OR I am satisfied that that the proposed controls will reduce risk to an acceptable level. ☐ Yes ☐ No	Signature	**Arthur Demasi**	Date	13/10/23

Guidance notes for documenting General Risk Assessments

ACTIVITY

Briefly describe this hazardous work activity - E.g. Operating, Handling, Using … (Include names) of hazardous equipment, substances or materials used, and any quantities and concentrations of substance(s) or reaction products.

ASSOCIATED HAZARDS

Plant & Equipment – noise, vibration, moving parts (crushing, friction, stab, cut, shear), pressure vessels, lifts/hoists/cranes, sharps
Manual Handling – repetitive movements, lifting awkwardly, lifting heavy objects
Work Environment – moving objects, extremes in temperature, isolation, work at height, allergies to animal bedding, dander and fluids, risk of fire/explosion, slippery surfaces/trip hazards **People** – potentially violent or volatile clients/interviewees
Communicable Diseases – exposure to bodily fluids/infectious materials, animal bites and scratches,
Environmental – emissions to atmosphere, discharge to soil and water bodies (including stormwater run-off), nuisance noise & odour, poor ventilation/air quality
Radiation (non-ionizing) – including lasers, microwaves or UV light
Electrical – plug-in equipment used in 'hostile' work environment, exposed conductors, high voltage equipment
Pathogens – dealings with pathogenic microorganisms such as bacteria, parasites, fungi or viruses
GMOs – dealings with genetically modified organisms
Cytotoxins – carcinogens, mutagens or teratogens
Radiation (ionizing) – Ionizing radiation source such as radioactive substance or radionuclide, or irradiating apparatus **Chemical** – hazardous substances, dangerous goods, fumes, dust, compressed gas, hazardous waste

INHERENT RISK

Provide details of the harm that could be caused to people or the environment if something goes wrong.
For example: inhalation of fumes, laceration, injury to back, infection, burns to skin or eyes. Think about what could happen if controls fail or are not in place.

CONTROL MEASURES

Note the existing and proposed actions to reduce risk to an acceptable level. Apply the "Hierarchy of Controls", listed below, when deciding the best control measure to apply. Control types closer the top of the list are preferable.

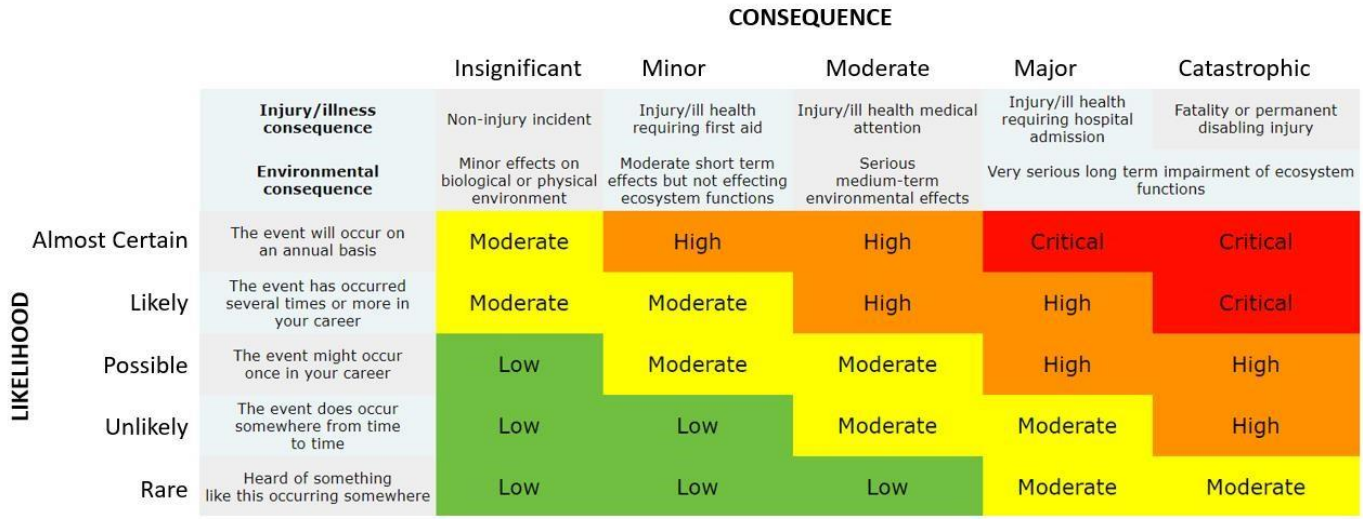
1. ELIMINATE THE HAZARD. For example: use a different less dangerous piece of equipment, fix faulty machinery, use safer materials or chemicals
2. ISOLATE THE HAZARD FROM THE PEOPLE. Separate people from the danger. For example: use shielding, use lifting equipment or trolleys, remove dust or fumes with exhaust system, lock-out machinery.
3. CHANGE THE WAY THE JOB IS DONE. For example: change work practices, provide training, information and signs, develop work procedures.
4. USE PERSONAL PROTECTIVE EQUIPMENT (PPE), noting specific PPE is required for each job. For example: respirator, hearing protection, gloves. Training and information is required for the use of PPE.

RESIDUAL RISK LEVEL (H, M, L)

Estimate risk taking into account the way the activity is run and control measures put in place. The level of risk can be determined by combining consequence and likelihood using the risk matrix from below. Residual risk should be reduced to a level acceptable by management.

CONSEQUENCE OF HARM - This is how bad it will be if something does go wrong e.g. the number of people that could be harmed, the severity of injury.

LIKELIHOOD OF HARM - Chance of harm occurring is affected by the duration of the activity and its frequency; the number of people doing the activity and the level of exposure to the hazard.


CONSEQUENCE
Insignificant
Minor
Moderate
Major
Catastrophic
Injury/illness consequence
Non-injury incident
Injury/ill health requiring first aid
Injury/ill health medical attention
Injury/ill health requiring hospital admission
Fatality or permanent disabling injury
Environmental consequence
Minor effects on biological or physical environment
Moderate short term effects but not effecting ecosystem functions
Serious medium-term environmental effects
Very serious long term impairment of ecosystem functions
LIKELIHOOD
Almost Certain
The event will occur on an annual basis
Moderate
High
High
Critical
Critical
Likely
The event has occurred several times or more in your career
Moderate
Moderate
High
High
Critical
Possible
The event might occur once in your career
Low
Moderate
Moderate
High
High
Unlikely
The event does occur somewhere from time to time
Low
Low
Moderate
Moderate
High
Rare
Heard of something like this occurring somewhere
Low
Low
Low
Moderate
Moderate