University of Plymouth

Risk Assessment Form (RA1)

All staff undertaking risk assessments or checking risk assessments for student projects must be competent and have undertaken the University's Risk Assessment training.

Assessment Ref. No.	1	**Activity Assessed**	PROJ324 – Final Year Project
Assessment Date	16/02/2022	**Faculty / Directorate**	
Assessor		**School / Service**	School of Engineering, Computing and Mathematics
Version No.	1.0	**Additional individuals involved in developing the RA**	
Signature of Assessor		**Signature of Academic Supervisor / Approver**	T Howard

Risk Score Matrix

Likelihood \ Severity	Insignificant	Minor	Moderate	Major	Fatal
Very Unlikely	1 Green	2 Green	3 Green	4 Green	5 Amber
Unlikely	2 Green	4 Green	6 Amber	8 Amber	10 Red
Possible	3 Green	6 Amber	9 Amber	12 Red	15 Red
Likely	4 Green	8 Amber	12 Red	16 Red	20 Red
Almost Certain	5 Amber	10 Red	15 Red	20 Red	25 Red

Risk Score and Description

Risk Score	Risk Level	Category	Description
1 – 4	Low	Acceptable	No further actions needed
5 – 9	Medium	Tolerable/Adequate	Should be reviewed to ensure that there is nothing else which could be done
10 – 15	High	Undesirable	Immediately review current control measures, and where appropriate decide on further actions
16 - 25	Very High	Unacceptable	Stop activity and make immediate improvements

Likelihood (L) x Severity (S) = Risk Score (RS)

What is/are the hazard(s) involved with the activity being undertaken?	Who might be harmed and how?	What are you already doing to control the risk?	Risk Score with current controls in place			What further action is necessary? (Add these actions to the action plan below).	Target Risk Score Likelihood x Severity = Risk Score		
			L	S	RS		L	S	RS
Fumes from Soldering are Toxic and may affect health of operator and adjacent students.	Student operating the soldering iron may breathe in fumes, or may absorb through eyes.	Soldering in Smeaton 303 with extraction on. Keeping the Tip Temp below 340 degrees. Wearing glasses to prevent fumes contacting eyes. Following all lab guidelines.	1 - Very Unlikely	2 - Minor	2 - Low Risk	None.	Choose an item.	Choose an item.	Choose an item.
Soldering Iron tip is at 325-340 degrees.	Student may suffer burns from the tip of the soldering iron.	Handle the soldering iron with care and respect, and no messing around.	1 - Very Unlikely	2 - Minor	2 - Low Risk		Choose an item.	Choose an item.	Choose an item.

Batteries in the Main Craft/Controller may be shorted or damaged and cause a fire/harm	Battery fires can release toxic fumes that can be damaging to health	Using an external battery charger to charge up any batteries. Check whilst they are charging that nothing is damaged	1 - Very Unlikely	4 - Major	4 - Low Risk	None	Choose an item.	Choose an item.	Choose an item.
Inhalation of small components whilst doing SMD soldering	Components can cause suffocation or internal damage if they enter the body	Keeping a suitable distance whilst doing soldering and not breathing in too hard	1 - Very Unlikely	1 - Insignificant	1 - Low Risk	None	Choose an item.	Choose an item.	Choose an item.
Risk of falling into water during testing of the craft	Student operating or retrieving craft may become unbalanced and fall into water	Not leaning too far over, incorporating an easy retrieval mechanism that won't require too much effort to collect craft, appropriate	1 - Very Unlikely	2 - Minor	2 - Low Risk	Appropriate safety equipment will be worn when working around	Choose an item.	Choose an item.	Choose an item.
Electronics may short out in water and may cause damage to the components	Student handling the craft may get a shock if they touch any of the components with wet hands. Components may be damaged if this happens	Making waterproof cases for all the electrical assemblies with appropriate waterproof connectors where necessary. Voltages and currents throughout the project are low and considered unharmful.	1 - Very Unlikely	2 - Minor	2 - Low Risk	Will evaluate the state of the waterproofing at each stage of the design process.	Choose an item.	Choose an item.	Choose an item.
			Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.	Choose an item.
			Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.	Choose an item.
			Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.	Choose an item.
			Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.	Choose an item.
			Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.	Choose an item.

All staff undertaking risk assessments or checking risk assessments for student projects must be competent and have undertaken the University's Risk Assessment training.

Refer to scoring matrix on page ¾

Action Plan and Monitoring

This section should be completed by the Risk Assessor and discussed with Manager / Academic Supervisor		This section should be completed by the Manager / Academic Supervisor for monitor and review		
Hazard	Action required	Action assigned to	Target date	Date Completed

Review

When reviewing this risk assessment remember to move completed actions into the 'what are you already doing.' column, as these actions should be in place by the time you review the risk assessment. You should review your risk assessment if you think it might no longer be valid (e.g. following an incident in the workplace or if there are any significant changes to hazards, such as new work equipment, work activities, personnel etc.)

Severity Table

Severity of injury	Examples	Score
Insignificant	None or very insignificant injuries, health effects, damage or disruption to work. Short-term and/or localised environmental harm.	1
Minor	Cuts bruises, mild skin irritations, mild headaches and pains requiring minor first aid treatment. Minor property damage or disruption to work. Notable contributor to environmental harm.	2

Likelihood Table

Severity of injury	Examples	Score
Very unlikely	Good control measures are in place. Controls do not rely on a person using them (i.e. personal compliance with safety rules). Controls are very unlikely to break down. People are very rarely in this area or very rarely engage in this activity.	1
Unlikely	Reasonable control measures are in place but they do rely on a person using them (some room for human error). Controls unlikely to breakdown. People are not often in this area / do not often engage in this activity.	2

Moderate	More serious injuries or ill-health requiring time off work or a hospital visit for example burns sprains, strains, short term musculoskeletal disorders, cut requiring stitches, back injuries, fractures to fingers and toes. Short term absence relating to physical or mental health issues. More serious property damage or disruption. A significant contributor to environmental harm.	3
Major	Broken limbs, amputations, long-term health problems or longer absence. Acute illness requiring medical treatment. Loss of consciousness, serious electric shock, loss of sight. Major property damage, major disruption to work. A major contributor to significant environmental harm.	4
Fatal	Injury or ill-health which leads to death either at the time, soon after the incident, or eventually, as in the case of certain occupational diseases, such as asbestos-related cancers. Catastrophic business losses. The major contributor to significant environmental harm.	5

Possible	Inadequate controls are in place, or likely to breakdown if not maintained. Controls rely on personal compliance. People are sometimes in this area or sometimes engage in this activity and situations sometimes arise from this activity.	3
Likely	Poor controls in place. Heavy reliance on personal compliance (lots of room for human error). People are often in this area / engage in this activity on a regular basis / situation often arise from this activity.	4
Almost certain	No controls in place where there should be, exposure to the hazard is expected to occur in most circumstances. The activity is considered such high risk that it will `certainly lead to injuries.	5