

## Health, Safety and Wellbeing (HSW) Risk Assessment

<b>Document No:</b>	00001	<b>Assessment Date:</b>	6/1/2020
<b>Faculty/ Service Division:</b>	Faculty of Engineering	<b>School/Department :</b>	Civil and Environmental Engineering Department
<b>HSW Risk:</b>			
<b>Form completed by:</b>	Diego Torres	<b>Responsible Line Manager:</b>	Rob Champion

<b>Signed:</b>		<b>Signed:</b>	
<b>Dated:</b>	12/11/2019	<b>Dated:</b>	

<b>Other Risk Assessments which might also be required:</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------

<b>Description of activity and/or location:</b>	Operation of Smart Digital Lab
---	--------------------------------

### Identify Hazards and Control the Risks:

1. An activity may be divided into tasks. For each task identify the hazards and associated risks. Also list the possible scenarios which could sooner or later cause harm.
2. Determine controls necessary based on University standards, legislation, codes of practice, AS / NZ standards, manufacturer's instructions etc.
3. List existing risk controls (take credit for what you do)
4. Rate the risk once all controls are in place using the matrix in
5. List any additional controls that need to be implemented and take action
6. Communicate the findings

The boxes will resize to suit your situation/the amount of text you need to use – press tab after last cell to create new rows

Task sequence	Hazard	Who may be harmed and how	Existing controls	Current Risk Rating (L)Likelihood x (C)Consequence = (R)Rating			Additional Controls required
				L	C	R	

Electrical Wired Equipment	<b>Wired Computers - Electricity</b>	<ul style="list-style-type: none"> <li>• Lab users.</li> </ul> <p>Poor electrical set up may cause electrocutions, fire and power failure.</p>	<ul style="list-style-type: none"> <li>• All electrical cables and fittings are to be serviceable and fit for purpose.</li> <li>• All cables are to be visually identifiable and are to be covered, matted, taped or are to use existing cable runs.</li> <li>• Cables are to be laid out in zero traffic areas where possible.</li> </ul>	1	4	4	
Wired VR And AR Headsets	<b>Headset user and people around Injury</b>	<ul style="list-style-type: none"> <li>• Headset users and lab users around.</li> <li>• Performers in the motion capture space.</li> </ul>	<ul style="list-style-type: none"> <li>• Headset users and lab users around to be inducted to know the headset H&amp;S guidelines and to understand the lab</li> </ul>	2	2	4	

		They may be injured during the use of the VR or AR technology because they are unable to see the surroundings, they are unfamiliar with the surroundings or equipment they will be using.	<ul style="list-style-type: none"> <li>• areas and risks respectively.</li> <li>• Headset users and lab users around to be well rehearsed and familiar with the area they are operating in.</li> </ul>				
Wearing a VR / AR Headset	<b>Eye and/or skin infection caused by the VR headset shared by many different people.</b>	VR/AR headset users could be acquired by the dirt accumulated by the many different people using them.	<ul style="list-style-type: none"> <li>• Implementing the VR/AR headset usage guideline of cleaning the headset with an optical lenses wipes before and after using the equipment.</li> <li>• Advise the use of sanitary masks.</li> </ul>	2	2	4	
Emergencies	<b>Emergencies - Evacuations</b>	<ul style="list-style-type: none"> <li>• Headset users</li> </ul> <p>Headset users may be unaware of emergencies or the need to evacuate.</p>	<ul style="list-style-type: none"> <li>• A lab technician or a student partner should be taking care of the headset users and be ready to stop their activity with the VR headset in case of emergency.</li> </ul>	2	3	6	
Motion Capture performers	<b>Performances - Movement of persons and equipment during the session.</b>	People may be struck by performers or equipment during the session.	<ul style="list-style-type: none"> <li>• No controls at the moment.</li> </ul>	2	2	4	<ul style="list-style-type: none"> <li>• Line of sight to be maintained between moving elements and persons.</li> <li>• Security line to be display.</li> <li>• Sign warning must be shown.</li> </ul>


## Action Plan

Management agreed additional control measures to be implemented	Resources Required	Action By:			Action Complete: Responsible Line Manager	
		Responsible Person	Target Date	Completion Date	Signature	Date


## Review

Review Details	Comments
Scheduled Review Date	
Are all control measures in place?	
Are controls eliminating or minimising the risk?	
Are there any new problems with the risk?	
Are the supervisory arrangements adequate?	
Are the levels of skills, capabilities and training adequate?	
<b>Review By: (name)</b>	
<b>Review Date:</b>	

Communication				
	Method	Yes	Date	Comments
Reference of formal communication to staff	Copy of risk assessment issued to staff			
	Controls covered in team procedure issued to staff			
	Staff handbook issued to staff			
	Other			
How they were consulted on the risk	Health, Safety and Wellbeing Committees			
Additional Methods of Communication	Induction			
	Toolbox Talk			
	Team Meeting			
	Email circulation			
	Other			

### HSW Risk Assessment Matrix

Likelihood Level	4	<b>Very likely</b> Probably expect the event to occur in most circumstances	Moderate (4)	High (8)	Extreme (12)	Extreme (16)
	3	<b>Likely</b> Event likely to occur at least once over the coming year	Moderate (3)	High (6)	High (9)	Extreme (12)
	2	<b>Possible</b> Event may occur at some time	Low (2)	Moderate (4)	High (6)	High (8)
	1	<b>Unlikely</b> Occurrence is conceivable, but not expected to occur	Low (1)	Low (2)	Moderate (3)	Moderate (4)
			Minor	Moderate	Major	Severe
			1	2	3	4
		Consequence level				
Consequence description	<b>Harm to People</b> Potential for injury or death	None or trivial / negligible injury (no or slight injury which requires localised first aid)	Minor injury (illness or injury is not serious, medical treatment required)	Serious injury (serious injury or illness, hospitalisation required)	Fatality, major injury (death, permanent disablement, or significant long-term illness)	
	<b>People Affected</b> Extent of people potentially affected	None or few (e.g. 0 to 2)	Small numbers (e.g. 3 to 10)	Moderate numbers (e.g. 10 to 50)	Wide scale (e.g. more than 50)	
	<b>Reputation and Legal</b> Potential for publicity with a negative impact on reputation / potential for legal prosecution	None or issue raised by staff or students and resolved promptly by management  None or legal dispute – found not guilty – fines up to \$3 million (Body Corporate), \$600,000 (Officer)	Internal scrutiny to prevent escalation and short-term stakeholder concern  Minor non-compliance, limited notification to regulators / affected stakeholders	Medium-term stakeholder concern, national media scrutiny and 'brand' impact  Medium non-compliance, moderate notification to regulators / affected stakeholder,	Persistent stakeholder concerns, international media scrutiny and long term 'brand' impact  Significant non-compliance, extensive notification to regulators / affected stakeholders, potential for	

			potential for legal proceedings / fines	legal proceedings / imprisonment / fines
<b>Operations</b> Extent of ability to maintain core business	None or business interruption < 4 hours	Business interruption between 4 hours to 5 days	Business interruption > 5 days	Business interruption of many weeks
	None or effectiveness and efficiency of a service, programme or project impacted in the short term	Operational disruption manageable by workarounds	Medium operational impact resulting in delay of key deliverables	Breakdown of key activities and significant long-term impact
	None or slight damage to property or equipment	Moderate damage to property or equipment	Major damage to property or equipment	Massive damage to property or equipment
<b>Environment</b> Extent of negative impacts on the environment	None or minimal impact	Minor short-term or intermittent impact, able to be contained with specialist assistance	Serious, medium-term detrimental impact	Very serious, long-term or permanent damage
	None or clean up expenses up to \$25,000	Clean up expenses up between \$25,000 to \$1m	Clean up expenses up between \$1m - \$5m	Clean up expenses > \$5m

### Consider the Likelihood

How often is the task done? Has an accident happened before (here or at another workplace)? How long are people exposed? How effective are the control measures? Does the environment affect it (e.g. light, temperature, space)? What are people's behaviours (e.g. stress, panic, deadlines)? What people are exposed (e.g. disabled, young students, etc.)?

### Consider the Consequences

What type of harm could occur (minor, serious, death)? Is there anything that will influence the severity (e.g. proximity to hazard, person involved in task, etc.)? How many people are exposed to the hazard? Could one failure lead to other failures? Could a small event escalate?

### Calculate the Risk

The final score for each risk is calculated by multiplying the likelihood and consequences response scores. This will give a risk score of between 1 and 16.

All risks rates as "High" or "Extreme" require detailed analysis of mitigating practices / controls to determine the residual risk rating. **Action must be taken.**

"Low" and "Moderate" risks may be excluded from further analysis (other than when the consequence may be severe). However the rationale for excluding these risks should be documented to demonstrate the completeness of analysis undertaken. **Some action may be required.**



Other than in the most unlikely circumstance, risks that can cause major or severe harm to people have been determined as “high” or “extreme”. Management review is considered appropriate for risks of these nature due to the potential magnitude of the impact, even though the likelihood may be assessed as relatively low.

### Risk Priority - Legend

<b>Extreme</b> (12-16)	<b>Intolerable risk.</b> Immediate action(s) is to be taken by Faculty/Service HSW risk owners - including DVCs, Deans of Faculties, Directors of Services, Academic Heads/PIs, Services Managers. Work should not be started or continued until the risk has been reduced to as low as reasonably practicable using the hierarchy of risk controls. The Associate Director Health, Safety and Wellbeing, and Manager Risk and Performance must be advised of the risk for their review. The risk should be included in the UoA wide risk register.
<b>High</b> (6-9)	<b>Should not be tolerated.</b> Urgent action is to be taken by the immediate manager. Work should not be started or continued until the risk has been reduced to as low as reasonably practicable using the hierarchy of risk controls. The HSW Manager working with the Faculty/Service, and Manager Risk and Performance must be advised of the risk for their review. To be included in the UoA wide risk register.
<b>Moderate</b> (3-4)	Management to <b>monitor risks</b> in case changing circumstances increase the level of risk. Some action may be required, e.g. improving controls.
<b>Low</b> (1-2)	<b>Requires no further attention</b> above routine practices and procedures, apart from monitoring.

**Note:** This proposed Health and Safety Risk Assessment Matrix aligns with WorkSafe NZ guidance, UoA Resilience Management Plan, UoA Risk Determination Matrix, UoA TVRA and UoA Incident Levels