

## UNIVERSITY OF WESTERN SYDNEY

## LABORATORY RISK ASSESSMENT FORM

To complete this form refer to LRA Guidance Notes & UWS Hazard Identification, Risk Assessment and Control Procedures  
[www.uws.edu.au/about/adminorg/corpserv/ohr/occupationalhealthandsafetyandwelfare/uwsohspolproc/ohsindex](http://www.uws.edu.au/about/adminorg/corpserv/ohr/occupationalhealthandsafetyandwelfare/uwsohspolproc/ohsindex)

## PROJECT/EXPERIMENTAL DATA

Staff/Researcher/Student: Dr Omar Mubin

Supervisor/s (name and qual): Mauricio Novoa

College/School: SCEM

Unit No./Course No.: 300773

Location (Campus, Room No.): Kingswood, ZG 33

Project Title: Honours Project Commencement

## Briefly outline the procedure for this project/experiment:

Industrial Design Honours Students will be expected to use the studio lab space to accomplish hands on work on their projects. This could include model making, cutting, cardboard usage, use of the 3d printer, soldering, Arduino prototyping. It will essentially be a need based process. Different supervisors and experts will also be involved.

## LEGAL OBLIGATIONS

The NSW OHS Act 2000 and OHS Regulation 2001 (Chapter 2) requires identification of all foreseeable hazards in the workplace, assessment of the risks that these hazards pose to health and safety and the elimination or control of these risks.

## SUMMARY OF RISK ASSESSMENT

Physical Hazards -	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Electrical Hazards -	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Chemical Hazards -	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Biological Hazards -	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Radiation Hazards -	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Outdoor/Farm Hazards -	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Field Work Hazards -	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

If yes to any of the above complete the appropriate risk assessment attached.

If work involves 'physical activity' (e.g. exercise and sports assessment) of staff/students complete "pre-screening questionnaire" prior to commencement.

## DISSEMINATION OF RISK ASSESSMENT

It is imperative that copies of this form be distributed to relevant personnel, such as technical staff involved in the project, laboratory supervisors and casual staff for undergraduate units.

Has a copy of this form been disseminated to all relevant personnel? Yes ☐ No ☒

## DECLARATION

We the undersigned declare that this Laboratory Risk Assessment is a true record of the Risk Assessment undertaken. We agree to monitor the effectiveness of control measures and review this Risk Assessment in line with the requirements of the OHS Regulation 2001.

Student/Staff Researcher: OMAR MUBIN

Date: 18/02/13

Supervisor/s:

Date:

Signature:

Date:

Review Date<sup>4</sup>:

1 of 13

Head of School/ Academic Supervisor/Manager:

Date:

## RISK ASSESSMENT FOR PHYSICAL HAZARDS

Physical hazards relate to the equipment and processes that you use and include heat, cold, noise, dust, machinery, manual handling, power tools, working at heights, electrical equipment, vacuum and pressure equipment, ignition sources, projectiles, fire/explosion etc.

Are **Standard Operating Procedures (SOP)** available for any of the identified physical hazards?

Yes ☒

No ☐

If 'Yes', please specify where SOP are located WH&S

Physical Hazard Identify the hazards	Risk (Harm) Determine the risks associated with the hazard	Risk Rating (R) <sup>1</sup>			Risk Control Measures Determine control measures required to eliminate or minimise the risk using 'hierarchy of control measures'.	Risk Rating (R) <sup>2</sup>			Trained in Control Measure <sup>3</sup>
		A C	P	R		A C	P	R	
Use of mechanical devices	physical injury to limbs/hands	D	III	M	Appropriate protective equipment is compulsory	D	IV	L	

Signature:

Date:

Review Date<sup>4</sup>:

**RISK ASSESSMENT FOR ELECTRICAL HAZARDS**

HIGH RISK plug in electrical equipment must be inspected, tested and tagged as required by Workcover, in accordance with the recommendations of the Standard AS/NZS 3760:2003 (currently every 12 months). Refer to [UWS Tagging & Testing for Plug-in Electrical Equipment](http://www.uws.edu.au/about/adminorg/corpserv/ohr/occupationalhealthsafetyandwelfare/uwsohspolproc/ohsindex) for further details. (<http://www.uws.edu.au/about/adminorg/corpserv/ohr/occupationalhealthsafetyandwelfare/uwsohspolproc/ohsindex>)

HIGH RISK electrical equipment is cited as:

- Equipment that is handheld by an operator eg power tools
- Portable equipment or equipment that is routinely moved between places eg water baths, pH meters, balances, centrifuges
- Equipment that is used in a hostile work environment such as laboratories and workshops

Equipment Description	Inspection Result Operational (OK) or Faulty (F)	Maintenance Required (Yes-include date/No)	Tagged and Tested (Yes-include date/No)
Soldering equipment	OK	Yes, 05/03/13	

**DO NOT USE equipment if it is faulty, requires maintenance and has not been tested and tagged by an authorised person. Contact your supervisor if necessary.**

Has MSDS* for each chemical been read, understood and made readily accessible?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
If 'Yes', specify location of MSDS (room/building no.)				
Are adequate transport and storage facilities available?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Are appropriate chemical waste disposal systems available?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Are appropriate procedures in place in the event of a spill, leak or emergency?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Is health surveillance and/or monitoring required for any chemical?	Yes <sup>+</sup>	<input type="checkbox"/>	No	<input type="checkbox"/>
<sup>+</sup> If 'Yes', contact OHS Technical Coordinator before commencing use of chemical.				

[illegible]

\* Material Safety Data Sheet

Signature:

Date:

Review Date<sup>4</sup>:

Has approval been given by the UWS Biosafety and Radiation Safety Committee (BRSC)? <sup>6</sup>	N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
If 'Yes', specify BRSC application number and date of approval						
Does the approval cover all hazards associated with this project?	N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
If 'No' for either question above continue risk assessment below.						
Are adequate transport and storage facilities available?			Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Are appropriate biological waste disposal systems available?			Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Are appropriate procedures in place in the event of a spill, leak or emergency?			Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Has a staff:student ratio of 1:15 been applied as per BRSC recommendations for high risk biologicals/potential pathogens?			Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Is health surveillance and/or vaccination required? If 'Yes', please specify			Yes <sup>+</sup>	<input type="checkbox"/>	No	<input type="checkbox"/>
<sup>+</sup> If health surveillance is required contact OHS Technical Coordinator before commencing work.						

[illegible]

## RISK ASSESSMENT FOR RADIATION HAZARDS

Is the premises where radiation work is conducted registered with the EPA?

Yes ☐ No ☐

Has approval for radiation work been given by the UWS Biosafety and Radiation Safety Committee (BRSC)? <sup>8</sup>

Yes ☐ No ☐

If 'Yes', specify BRSC application number and date of approval

**If 'No' to either of the above, do not commence work and contact the BRSC immediately**

Are adequate storage or containment facilities available?

Yes ☐ No ☐

If 'Yes', specify location

Are appropriate procedures in place in the event of an emergency?

Yes ☐ No ☐

Are appropriate monitoring procedures available?

Yes ☐ No ☐

Are appropriate radioactive substance storage, waste and disposal systems in place?

Yes ☐ No ☐

[illegible]

Signature:

Date:

Review Date<sup>4</sup>:

If ammonium nitrate fertilisers are used, refer to <a href="#">UWS Laboratory Safety Guidelines</a> for further details.										
Are established Outdoor and Farm safety emergency procedures available?							Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Are appropriate manual handling procedures in place for outdoor/farm machinery and/or animals/livestock?							Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Are adequate storage, handling and disposal procedures for herbicides, pesticides and other toxic substances?							Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Are SOPs available for		- Farm machinery?	Please specify:	N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	
		- Workshop machinery?	Please specify:	N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	
		- Animal/Livestock Handling?	Please specify:	N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	
		- Spraying with pesticides/herbicides?	Please specify:	N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	
Are manufacturer's operating instructions available for all outdoor and farm equipment or machinery?							N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>
Is all power driven machinery and equipment securely guarded? (eg sprayers, slashers, mowers, forklifts etc)							N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>
Are tractors fitted with ROPS (roll over protection structures)?							N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>
Is there a regular maintenance or service schedule for outdoor and/or farm machinery?							N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>
Are all users of motorised machinery or vehicles licensed and operators trained?							N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>
Is appropriate PPE available for the task?							N/A	<input type="checkbox"/>	Yes	<input type="checkbox"/>
(eg hats, riding helmets, safety glasses or goggles, breathing apparatus, hearing protection, leather gloves, earplugs or earmuffs, steel toecap boots etc)										

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**For further information see UWS [Farm Safety Guidelines](http://www.uws.edu.au/about/adminorg/corpserv/ohr/occupationalhealthsafetyandwelfare/uwsohspolproc/ohsindex)**  
(<http://www.uws.edu.au/about/adminorg/corpserv/ohr/occupationalhealthsafetyandwelfare/uwsohspolproc/ohsindex>)



**RISK ASSESSMENT FOR FIELDWORK<sup>11</sup> HAZARDS**

Is the fieldwork classified as LOCAL<sup>12</sup> fieldwork?

Yes ☐ No ☐

**If 'Yes' proceed to Risk Assessment Table for Fieldwork Hazards** and see UWS [Fieldwork Safety Guidelines](#) Section 3.3 and Attachment 1.

(<http://www.uws.edu.au/about/adminorg/corpserv/ohr/occupationalhealthsafetyandwelfare/uwsohspolproc/ohsindex>)

Is the fieldwork classified as REMOTE<sup>13</sup> fieldwork?

Yes ☐ No ☐

**If 'Yes' continue risk assessment below:**

Outline the Fieldwork Activity:

Name of designated 'Fieldwork Supervisor' leading the fieldtrip:

Name of designated contact person within UWS and/or elsewhere not involved in the fieldtrip:

Contact details of nearest emergency services and/or hospital:

Have all staff/students/volunteers completed a "Fieldwork Health & Safety Acknowledgement Form"

Yes ☐ No ☐

Is there a reliable means of communication if in a remote area?

Yes ☐ No ☐

- (eg mobile/sat. phone, radios, GPS for boats & land vehicles)

Are all staff & students trained in the various operations and emergency procedures of the fieldtrip?

Yes ☐ No ☐

Is there a portable First Aid Kit (containing appropriate supplies) available for the fieldtrip?

Yes ☐ No ☐

**If 'No' each Dept./School should configure their own specific First Aid Kit taking into account potential hazards/injuries as detailed in RA**

Name of trained First Aid Officer (Senior First Aid level) attending the field trip:

Are there appropriate SOPs for working in sun, heat, wet, cold, and/or windy conditions on the fieldtrip?

Yes ☐ No ☐

Is there special safety equipment required for the fieldtrip? (see [Fieldwork Safety Guidelines](#) section 5.2.1)

Yes ☐ No ☐

**If 'Yes' please specify:**

Are there any vehicles including 4WDs being used on the trip?

Yes ☐ No ☐

**If 'Yes' see [Fieldwork Safety Guidelines](#) section 4.5.**

State type of vehicle and name of licensed and appropriately trained driver(s):

Does the fieldtrip involve the use of boats?

Yes ☐ No ☐

**If 'Yes' boating fieldtrips must comply with Maritime legislation** see [NSW Safe Boating Handbook](#)

Yes ☐ No ☐

Name of licensed and trained personnel:

**List specific hazards that may be present in the fieldwork in table following and continue risk assessment procedure.**

RISK ASSESSMENT FOR FIELDWORK HAZARDS (Local & Remote)

Fieldwork Hazard	Risk (Harm)	Risk Rating (R) <sup>1</sup>			Risk Control Measures	Risk Rating (R) <sup>2</sup>			Trained in Control Measure <sup>3</sup> Y/N/NA
		A C	P	R		A C	P	R	

## Laboratory Risk Assessment Guidance Notes

1. The **Risk Rating (R<sup>1</sup> and R<sup>2</sup>)** is determined using the Risk Assessment Table below.

For each hazard, *using the Risk Assessment Table*, record the outcomes or adverse consequences (**AC**) – i.e. how severely could it harm someone if they are exposed to that hazard? Consider the worst-case scenario. In the column ‘**AC**’, record A, B, C or D as follows:

<b>A</b>	fatality, etc
<b>B</b>	long-term illness, etc
<b>C</b>	medical attention, etc
<b>D</b>	first aid needed, etc

Then, *again using the Risk Assessment Table*, judge the probability (**P**) or likelihood of each consequence occurring. In the column ‘**P**’, record I, II, III, or IV as follows:

<b>I</b>	very likely
<b>II</b>	likely
<b>III</b>	unlikely
<b>IV</b>	rare

Using the Risk Assessment table, determine the Risk Rating for each hazard, and record the priority for action (T, M, or L) in the column ‘**R**’. The risk rating number, from 1 – 6, indicates the level of priority i.e. it shows how important it is to do something about the hazard:

<b>T</b>	Top priority	<b>1 &amp; 2</b>
<b>M</b>	Medium priority	<b>3 &amp; 4</b>
<b>L</b>	Low priority	<b>5 &amp; 6</b>

All hazards must be addressed using the hierarchy of control measures in the following *order of priority* - elimination, substitution, isolation, engineering, administrative, personal protective equipment (PPE) – (refer to the [UWS “Hazard Identification, Risk Assessment and Control Procedure”](#)). The best approach will be to use a combination of any or all of the control measures.

Top priority hazards must be isolated and fixed immediately. It is extremely important to do something about this hazard as soon as possible. Procedures using such hazards should not be allowed to continue.

The priority rating for medium and low priority hazards should be reduced to the lowest possible number (risk) before proceeding. Laboratory environments are inherently potentially dangerous and there will always be a level of risk associated with the work undertaken. You will need to make a judgement as to whether the level of risk is acceptable given a defined set of circumstances.

**R<sup>1</sup>** refers to the Risk Rating **before** risk control measures have been determined.

2. **R<sup>2</sup>** refers to the Risk Rating **after** control measures have been determined and implemented.

3. All personnel involved in the procedure must be satisfactorily **trained** in the required **control measures**. Such measures include engineering controls (e.g. containment, fume cupboards, isolation), administrative procedures (e.g. written safe operating procedures, job rotation to restrict hours worked in hazardous situations, appropriate staff training), use of personal protective equipment (e.g. gloves, safety glasses, respirator, laboratory coat, safety boots).
4. The **Review Date**. Regular monitoring and review is required to assess the effectiveness of the hazard assessment and control measures. A risk assessment *must* be undertaken for all new procedures, when there are substantial changes to the workplace or procedure, when new equipment is used, when new or relevant information regarding health and safety becomes available from an authoritative source, after an incident, accident or workplace illness, when there is evidence that the assessment is no longer valid, or 5 years has elapsed.
5. Please specify if a **specific procedure for spill, leak or emergency** is required, and state its nature. For example, some chemicals required specific first aid or spill procedures.
6. For procedures covered by this risk assessment that have been given approval by the **UWS Biosafety and Radiation Safety Committee (BRSC)**, attach a copy of the application to this form. Continue to complete the risk assessment for any hazards, procedures or other details not covered by the BRSC application.
7. **Biological Hazards** include microbiological hazards, pathogenic organisms, genetically modified organisms (GMOs), human tissue/fluid, animal tissue/fluid, and carcinogenic/mutagenic/teratogenic/allergenic and zoonotic hazards.
8. All work involving the use of ionising radiation sources must have approval from the **UWS Biosafety and Radiation Safety Committee (BRSC)** before commencement. If the procedure covered by this risk assessment has approval from the BRSC, specify the application number and date of approval as indicated. For work with all other sources of radiation, continue to complete the risk assessment.
9. **Radiation Hazards** include X-rays, gamma rays, alpha particles, beta particles, neutrons, protons, ultraviolet radiation, high intensity visible light sources, lasers, infrared radiation, radio-frequency radiation, acoustic and ultrasonic radiation (AS2243.4-1998 and AS 2243.5-2004).
10. **Outdoor/farm hazards** refer to all such work conducted on UWS campuses. Outdoor work conducted off campus should be considered in the **Fieldwork** section.
11. **Fieldwork** is any work, study or research authorised by the University and undertaken by staff, postgraduate or undergraduate students or authorised volunteers at sites other than the campuses of the University.
12. **Local Fieldwork** involves visits to shops, factories, buildings, galleries, hospitals etc, within the Sydney metropolitan area.
13. **Remote Fieldwork** is fieldwork in areas where it would be difficult to summon help and /or emergency assistance eg inland waterways/estuaries, woodlands, ocean, geological/mine sites, and off-road areas.

**RISK ASSESSMENT TABLE**

**How dangerous is the hazard you've found?** For each risk associated with a hazard think about:

1 – How severe are the adverse consequences or outcomes (**AC**) if exposed?

2 – How likely or probable (**P**) is it to occur?

**PROBABILITY (or likelihood)**

		<b>I</b> Very likely Could happen any time	<b>II</b> Likely Could happen sometime	<b>III</b> Unlikely Could happen but very rarely	<b>IV</b> Rare Could happen but probably never will
<b>A C O N D E V Q E U R E S N C E S</b>	<b>A</b> <b>Fatality or permanent disability</b> , or property or environmental damage over \$50,000	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
	<b>B</b> <b>Long term illness or serious injury</b> , or property or environmental damage between \$5,000 and \$50,000	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
	<b>C</b> <b>Medical attention and several days off work</b> , or property or environmental damage between \$500 and \$5,000	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>D</b> <b>First aid needed</b> , or property or environmental damage up to \$500	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

The numbers below show you how important it is to do something, and the action to take:

**1 & 2    Top Priority (T)    Eliminate or isolate the hazard immediately. Must fix the cause(s) immediately.**

**3 & 4    Medium Priority (M)    Must reduce the risk to the lowest possible level using hierarchy of control measures. Regularly monitor the cause(s) and hazard to ensure level of risk remains acceptable.**

**5 & 6    Low Priority (L)    Reduce the risk further if possible and manage by routine procedures. Regularly monitor the cause(s) and hazard to ensure level of risk remains acceptable.**

Signature:

Date:

Review Date<sup>4</sup>: