THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Health and Safety Risk Assessm

SMART

Activity / Task / Location: Module 6 – Computers and Coding Illumin8 Science Club	**Reviewed / Approved By:** Shelley Wilson, SMART Team Leader 21/12/2017
Risk Assessment Developed by: **Karlie Noon**	**Date:** **20/4/2016**

Risk Matrix

Likelihood

N.B. For more details regarding use of this matrix / definitions refer to final page of this document

Consequence	Rare	Unlikely	Possible	Likely	Almost Certain
Severe *Eg. Potential Fatality or Injury or Illness with permanent disability*	MEDIUM	MEDIUM	HIGH	EXTREME	EXTREME
Major *Eg. Potential Lost Time Injury (but non-permanent disability)*	LOW	MEDIUM	MEDIUM	HIGH	EXTREME
Moderate *Eg. Potential Medical Treatment injury or illness (but no lost time)*	LOW	LOW	MEDIUM	MEDIUM	HIGH
Minor *Eg. Potential First Aid injury*	LOW	LOW	LOW	MEDIUM	MEDIUM
Minimal *Eg. Hazard or near miss requiring reporting and follow up action*	LOW	LOW	LOW	LOW	LOW

Actions required based on Risk Assessment

Extreme	An "extreme" risk requires immediate assessment and senior staff consideration is required; a detailed mitigation plan must be developed, and consideration should be given to ceasing the activity unless the risk can be reduced to a level of high or less; regular monitoring and reported on to the relevant management/steering committee; Target resolution should be within 1 month.
High	A "high" risk may also require immediate assessment and senior staff consideration; a mitigation plan must be developed; regular monitoring and reported on to the relevant management/steering committee. Target resolution (ideally reduction to medium or low level of risk) should be within 3 months.
Medium	A mitigation plan must be developed; existing controls need to be reviewed. Target resolution (ideally reduction to low level of risk) should be within 1 year.
Low	Risk is tolerable; manage by well established, routine processes/procedures and be mindful of changes to nature of risks.

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Health and Safety Risk Assessment

Hazard Identification and initial Risk Rating			Control measures and Residual Risk Rating		Remaining Hazards	Actions required
What are the steps of the activity / items of equipment?	**What are the potential hazards?**	**Risk Rating based on Risk Matrix**	**What control methods or measures will be used to reduce the likelihood and/or the consequence of an illness or injury from those hazards?**	**Residual Risk Rating based on Risk Matrix**	**What hazard remains?**	**What additional actions are required (by who and in what timeframe) to raise the level of control?**
Program your teacher Challenge	Injury from moving furniture to create maze	Medium	Only supervisors should move heavy furniture for maze formation. Two person lift for objects more than 15 kg in weight.	Low	Improper lifting techniques.	All staff should be briefed on safe lifting techniques.
Unplugged activities involving movement around the venue	Injury from tripping, or running into objects	Medium	Supervisor to ensure students do not run in the venue, assess and remove trip hazards prior to starting the session	Low	Students misbehave and do not follow instructions	The supervisor must only conduct activities if the students can be trusted not to misbehave.
Unplugged activities using scissors	Cuts due to scissors	Medium	Supervisor to provide students instruction on safe use of scissors prior to handing out. Supervisor must monitor all students to reduce the risk of misconduct with scissors.	Low	Cut occurs accidently and not due to misconduct	N/A
Material in use, falls on ground	Tripping on material that has fallen on the ground	Medium	Immediately pick up any equipment that falls on floor.	Low	Participates unaware of fallen material.	Supervisors to ask students to keep work zones tidy and safe.

Computer use	Electric shock	Medium	All electronic devices to be used are to be in safe working order, and tagged and tested by qualified technicians where possible.	Low	Unknown fault, lightning strike.	Supervisors to monitor equipment, use and weather.
Material and equipment set up on tables for activities	Person's foot struck by material falling from table	Medium	No material to be placed near the edge of the tables. All participants to wear closed in shoes.	Low	Students misbehave and do not follow instructions.	The supervisor must only conduct experiments if the students can be trusted not to misbehave.
Material in use, falls on ground	Tripping on material that has fallen on the ground	Medium	Immediately pick up any equipment that falls on floor.	Low	Participates unaware of fallen material.	Supervisors to ask students to keep work zones tidy and safe.

Summary of Requirements based on Risk Assessment		Review Period / Date
Personal Protective Equipment		
Other Equipment and Equipment Protection		
Training Requirements	Safe Lifting	
Procedures, SOPs etc		
Relevant Legislation etc.	WHS Act 2011 (NSW) & Regulations / Codes of Practice	

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Health and Safety Risk Assessment

Questions to ask in order to determine the hazards relating to the task:

A Could people be injured or made sick by things such as:

- Noise
- Light
- Radiation
- Toxicity
- Infection
- High or low temperatures
- Electricity
- Moving or falling things (or people)
- Flammable or explosive materials
- Things under tension or pressure (compressed gas or liquid; springs)
- Any other energy sources or stresses
- Biohazardous material
- Laser

B Can workplace practices cause injury or sickness?

- Are there heavy or awkward lifting jobs?
- Can people work in a comfortable posture?
- If the work is repetitive, can people take breaks?
- Are people properly trained?
- Do people follow correct work practices?
- Are there adequate facilities for the work being performed?
- Are universal safety precautions for biohazards followed?
- Is there poor housekeeping? Look out for clutter
- Torn or slippery flooring
- Sharp objects sticking out
- Obstacles

C Imagine that a child was to enter your work area?

- What would you warn them to be extra careful of?
- What would do to reduce the harm to them?

D What could go wrong?

- What if equipment is misused?
- What might people do that they shouldn't
- How could someone be killed?
- How could people be injured?
- What may make people ill?
- Are there any special emergency procedures required?

E Are procedures or organisational systems missing or not being followed?

- Standard Operating Procedures?
- Risk Assessments?
- Induction or training?
- Management of change?
- Safety Inspections?
- Hazard reporting?
- Contractor Management?

F What kinds of injuries could possibly occur?

- Broken bones
- Eye damage
- Hearing problems
- Strains or sprains
- Cuts or abrasions
- Bruises
- Burns
- Lung problems including inhalation injury/ infection
- Skin contact
- Poisoning
- Needle-stick injury
- Psychological illness or injury

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Health and Safety Risk Assessment

How to Assess Risk

Step 1 – Consider the Consequences

What are the potential consequences of an incident occurring?
Consider what could reasonably happen as well as what may actually happen.

Look at the descriptions and choose the most suitable Consequence.

Consequence	
Serious	Potential Fatality or Injury or Illness with permanent disability
Major	Potential Lost Time Injury requiring time off work (but non-permanent disability)
Moderate	Potential medical treatment Injury or Illness but no lost time
Minor	Potential First Aid Injury
Minimal	No injury but hazard exists or near miss occurred requiring reporting and follow up action

Step 2 – Consider the Likelihood

What is the likelihood of the consequence identified in step 1 happening?

Consider this with the current controls in place.

Look at the descriptions and choose the most suitable Likelihood.

Likelihood	
Almost Certain	The event could be expected to occur in most circumstances: "This is a common problem here".
Likely	The event has a reasonable chance of occurring in usual conditions: "It has happened here before".
Possible	The event might occur occasionally, has occurred sometime: "Has infrequently happened here before".
Unlikely	The event has a small chance of occurring. "It has not happened here but has occurred elsewhere".
Rare	Very unlikely to occur. "It would be extremely rare for it to occur here".

Step 3 – Calculate the Risk Rating

A. Take Step 1 rating and select the correct column.

B. Take Step 2 Rating and select the correct line.

C. The calculated risk rating is where the two ratings cross

CONSEQUENCE	LIKELIHOOD: Rare	Unlikely	Possibly	Likely	Almost Certain
Serious	MEDIUM	MEDIUM	HIGH	EXTREME	EXTREME
Major	LOW	MEDIUM	MEDIUM	HIGH	EXTREME
Moderate	LOW	LOW	MEDIUM	MEDIUM	HIGH
Minor	LOW	LOW	LOW	MEDIUM	MEDIUM
Minimal	LOW	LOW	LOW	LOW	LOW

Controlling the Risk: Risk control is a method of managing the risk with the primary emphasis on controlling the hazards at source. For a risk that is assessed as "extreme" or "high", steps should be taken immediately to minimize risk of injury. The method of ensuring that risks are controlled effectively is by using the "hierarchy of controls". The Hierarchy of Controls are:

Control Type	Example
Eliminate	Removing the hazard, eg taking a hazardous piece of equipment out of service.
Substitute	Replacing a hazardous substance or process with a less hazardous one, eg substituting a hazardous substance with a non-hazardous substance.
Engineering	Redesign a process or piece of equipment to make it less hazardous, Isolating the hazard from the person at risk, eg using a guard or barrier, or containing the hazard in an enclosure.
Administrative	Adopting safe work practices or providing appropriate training, instruction or information.
Personal Protective Equipment (PPE)	The use of personal protective equipment could include using gloves, glasses, earmuffs, aprons, safety footwear, dust masks. **NOTE: This is a last resort control and should be used in conjunction with higher level controls.**

For more information visit - http://www.newcastle.edu.au/current-staff/working-here/work-health-and-safety/managing-health-and-safety-risks