STEM Tabletop Activities

1682		Current Risk Level (1=Very Low, 2=Low, 3=Moderate, 4=High, 5=Very High)	2	Final Risk Level (1=Very Low, 2=Low, 3=Moderate, 4=High, 5=Very High)	0

Department	Use the search function above or double click here for org chart -> Academic Faculties -> Faculty of Science, Engineering and Medicine -> Warwick Manufacturing Group - WMG
Location Details	These events could be organised anywhere on Warwick Campus or could be hosted at an external organisation, such as a school, library, museum or community group.
Assessment Date	07/03/2022
Risk Assessment Category	Activity/Task
Risk Assessment Title	STEM Tabletop Activities
Description of Space or Activity/Task or Equipment	This risk assessment covers the safe use of equipment during STEM activities that have an interactive element, as part of a larger event (e.g. outreach activities, work experience, festival, family day, open day, etc.). This risk assessment assumes the good behaviour of participants - if any behaviour is of concern to staff and threatens to elevate the normal risk beyond the scope of this RA the activity must be aborted immediately.
Additional Information	There will be other risks beyond the use of the equipment and these will be covered in separate risk assessments. For example, safeguarding when working with young people (RA 1622), or individual demonstrations that may have risks beyond the scope of this assessment (Stitch In Time using an embroidery machine RA 1373). The safeguarding policy of an external hosting organisation will usually take priority over our own, including to whom a notification of a concern should be made (designated safeguarding lead). This will be considered on a case-by-case basis to ensure that our safeguarding policies and the host's are in agreement.

Assessment Conclusion	If good behaviour is maintained at these events and the staff are aware of their surroundings, prepared to stop the activity in the case of inappropriate behaviour, there are no significant risks.
Is This An Acceptable Risk?	Yes
Assessment Team Members	Phil Jemmett
Approver	Margaret Low
Date	07/03/2022
Last Review	02/07/2025
Last Reviewed By	Philip Jemmett
Next Review	02/07/2026

Record Approval

Approval Stage	Approved
Approver	Margaret Low
Date	07/03/2022

Hazards And Control Measures

HAZARD TYPE, HAZARD DESCRIPTION	WHO MAY BE AT RISK?, HOW MAY PERSON(S) BE HARMED	EXISTING CONTROL MEASURES	CURRENT RISK LEVEL	WHERE CURRENT RISK IS M, H OR VH, WHAT ADDITIONAL CONTROL MEASURES ARE REQUIRED?	FINAL RISK LEVEL
Work Environment Physical activity	**Visiting members of the public** Demonstrations that encourage movement or physical activity (e.g. hand cranking a generator or wafting materials to spin wind turbines) could cause people to bump into each other or furniture.	Suitable space should be allowed for people taking part in the activity and behaviour while taking part must be carefully controlled to avoid collisions either between people or a person and an object.	**Low** Likelihood: Very likely Severity: Superficial		

Substances Material samples may be used to demonstrate a topic. These could have sharp edges or cause splinters or abrasions.	**Staff, visiting members of the public.** Sharp edges or burrs or materials that cause splinters could cause minor abrasions or irritation to people handling them.	Materials should be checked before taking into an event for any sharp edges. These should be removed in an appropriate mechanical fashion (i.e. deburring tool for metals, sandpaper for wood, etc). If a material is to be destroyed purposefully, consideration of what happens to the fragments must be made (e.g. a Charpy test should be contained within a box).	**Very Low** Likelihood: Possible Severity: Superficial	
Substances Material samples may be used to demonstrate a topic. These materials could contain substances or be made of substances of concern.	**Staff, visiting members of the public.** Substances of concern in, or on, the materials could cause harm to a person through chemical burns, irritation, or toxicity of those samples if people then consume any food afterwards.	Any material that could cause harm should not be taken into a public demonstration, regardless of how interesting the point that could be made is. For example - lead is an interesting metal sample but its toxicity is not acceptable and should not be used. The content of any material 'selection' purchased through a supplier should be checked before use in public to find and remove toxic or hazardous materials.	**Low** Likelihood: Unlikely Severity: Major	

Work Environment Use of noisy equipment could cause alarm to people with a disposition to sensory overload, or could impact on the safe operation of the activity.	**Staff, visiting members of the public.** If the noise of any piece of equipment is such that clear instructions can't be heard over it, there could be harm caused by disruption of an evacuation or instructions to control behaviour. If a person were alarmed by the noise of the machine and wanted to remove themselves from the situation they may wander away from the rest of the group.	Note that no equipment that is loud enough to cause damage to hearing should ever be used without a separate risk assessment. The noise of the equipment must be below the level where an alarm or vocal instruction could be heard over it. It must be possible to quickly shut down the noise to allow for clear communication. The operator must be aware of these hazards. Before using the equipment the room should be warned that a noise is about to happen to prepare people who are sensitive to that stimulus. A safe space for people, away from the noise, should be available in most cases but this should be checked against a safeguarding policy (i.e. can under 18s wander away from the group in that scenario?)	**Low** Likelihood: Unlikely Severity: Serious	

Electricity Faulty electrical items could cause electrocution.	**Staff, visiting members of the public.** Damaged cables or faulty equipment could potentially lead to contact with exposed live cabling and electrocute people.	All equipment must have up to date PAT tests and visual inspections of any cables and equipment before contact with the public must be performed to ensure standard, safe operating conditions.	**Low** Likelihood: Unlikely Severity: Major	
Equipment/Plant Objects at high or low temperature - burns caused by heat or by cold.	**Staff, visiting members of the public.** Some demonstrations may require temperatures different to room temperature. Any item at a decreased or elevated temperature has the risk to harm exposed skin that comes into contact with the object.	Under normal operating conditions safe temperatures will be maintained. The temperatures used must be evaluated and considered before the demonstration is used with the public. No temperature that would cause a burn is acceptable and if temperatures outside of safe boundaries are required the demonstration must be reconsidered. Staff must be cautious and careful to monitor the operation of the demonstration to make sure they remain within these safe boundaries. If members of the public have to touch these items they must be warned that the item will be warm/cold (e.g. the thermoelectric generator in STEM Connections uses ice packs in contact with metal which can become cold to the touch).	**Very Low** Likelihood: Possible Severity: Superficial	

Equipment/Plant Mechanical components, moving parts - pinch risk.	**Staff, visiting members of the public.** Moving components in mechanical demonstrations (e.g. Robot arms) could potentially trap and pinch and injure fingers.	Staff must be aware of this risk and examine for any hazardous points during testing before the demonstration is used in public. During a public demonstration members of the public must be warned by staff to be careful of the pinch risks and to not get too close to the equipment. If members of the public do not follow these warnings the equipment must be stopped immediately. All equipment must have a safe method to abort movement without making any pinch injuries worse. E.g. the robot arm demonstration in STEM Connections can be powered down immediately by pulling the cable out, which will remove the power and any force exerted by the mechanism.	**Very Low** Likelihood: Unlikely Severity: Superficial	

Electricity Batteries - short circuiting.	**Staff, visiting members of the public.** Inappropriate use of batteries can cause short circuits which can in turn lead to a build-up of heat. This poses a burn and/or a fire risk.	Batteries used in public should be used in cases with a switch that is turned off when the item is not in use. The condition of batteries should be checked before starting an activity and removed if they show any signs of wear, corrosion, or physical damage.	**Low** Likelihood: Unlikely Severity: Serious	

Work Environment Falling objects.	**Staff, visiting members of the public.** Typically these demonstrations will be performed with loose equipment placed on a table with a tablecloth. If members of the public are careless or badly behaved the tablecloth could be pulled from the table causing any items on the table to fall onto the visitors. Crowding may also lead to bumps and pushing on the table which could cause items to fall.	Staff must assess their working environment during the activity. The demonstrations must be secure enough to not topple over after a bump to the table. Demonstrations should be placed in the centre of the table and if they are passed to a young person the member of staff must evaluate whether that person can take the item and use it safely. If the crowding becomes an issue and there are concerns about people leaning on or grabbing the table the member of staff at that stand must be confident to stop the activity.	**Very Low** Likelihood: Unlikely Severity: Minor	

Work Environment Slips, trips, and falls. Caused by a messy work environment.	**Staff, visiting members of the public.** Public events can often become crowded and busy places. It is possible for several stands to have to share space and to have a very fast turnaround with visitors. If the staff do not take time to clear and maintain a tidy environment around the stand it is possible for mess to build up and pose a hazard. If care is not taken to set the environment up properly at the start of the activity a hazard may be present (e.g. trailing power cables).	Staff must assess their working environment before the start of the event making sure that trailing cables are avoided and where a cable does need to cross an area of walkway it must be securely taped to the floor and monitored throughout the event. If the event becomes busy and mess begins to build up staff must be prepared to pause their interactions with the public in order to reorganise and keep the area clear and tidy.	**Very Low** Likelihood: Unlikely Severity: Minor	

Work Environment Slips, trips, and falls. Caused by spilled liquids.	**Staff, visiting members of the public** Some demonstrations use water. It is possible for some of this water to spill and create a slippery surface.	Any demonstration that involves water will be performed in a tray to catch any minor spillages. If there is a considerable amount of water being used (more than 1 litres) then additional care must be taken to ensure that the person performing the demonstration can do so without creating a large spillage. This could be members of staff or it could be volunteering members of the public taking part in an activity. Staff must be prepared to refuse to let people take part in the activity if they are either not able to perform it safely or not prepared to follow instructions to prevent spills. Staff must also be prepared to support people throughout the demonstration and maintain concentration and control of the activity. Good behaviour of the visitors must be maintained and if visitors are too boisterous the member of staff must be prepared to stop all activity and make safe their stand.	**Very Low** Likelihood: Unlikely Severity: Minor	

Use this field to confirm that end users have been talked through the Risk Assessment and they have read and understood it.

Training Record(s)

General Details

Confirm affected users have read and understood the risk assessment (large number of individuals). Attach signed sheet. Attach a sign off sheet with relevant users details, read date and signatures	
Confirm affected users have read and understood risk assessment (small number of individuals). Type names and date. Type the persons name and date to confirm they have read and understood the risk assessment.	