

# Student Robotics Competition Risk Assessment Form

March 14, 2013

**Activity being assessed:** Student Robotics Competition 2013 (13/04/2013, 14/04/2013)

**Location:** Students' Union, Building 42, Highfield Campus, University of Southampton  
(<http://data.southampton.ac.uk/building/42.html>)

**Who is exposed to the hazard:** Competitors, Team leaders, Mentors

**Assessor's name:**

**Assessor's job title:**

**Assessor's signature:**

**Date of assessment:**

# 1 Risks

The following risks have been considered for the student robotics competition. Further description of the meaning of risk ratings (presented in this section as  $L \times S$ ) can be found in the next section.

A safety briefing will be given on all mornings, covering the points below.

Hazard	Control Measures	Risk Rating
Electrical extension cable trip hazard	Cables taped down, kept near walls where practical.	2
Injury while using power or manual tools	Team leaders to supervise all use of tools given that teams bring their own. These tools are used at the teams own risk. Student Robotics will not provide tools at the competition.	3
Electric shock by contact between water, electrical output and human	Water and electrical outputs kept strictly apart. Food and Drink is not allowed in the pit areas (i.e. places where teams work on their robots), or around the arena.	3
Risk of Fire	No naked flames are allowed to be used intentionally. If a fire breaks out accidentally, University of Southampton Regulations will be followed as detailed below.	2
Risk of falling objects from arena	The arena is designed to tolerate reasonable additional weight. It is built out of building scaffolding. All objects are securely attached but may become loose if tampered with. Competitors will not be permitted in the arena without supervision, and Student Robotics will endeavour to remove any person using the arena as a climbing frame or tampering with the equipment attached to it.	4
Interaction with robots: electric shock, minor injury	Competitors are only allowed into the arena with a mentor present, but may only work on robots in their pits. Robots may only be tested under supervision and if robot safety rules are met (see rulebook 2.10-2.14, 2.16, 2.17). Electronics provided by Student Robotics are housed in a plastic casing, and wiring will be inspected by a member of Student Robotics before competitors are allowed to work on their robots. Rulebook: <a href="https://www.studentrobotics.org/resources/2013/rulebook.pdf">https://www.studentrobotics.org/resources/2013/rulebook.pdf</a>	1
Misuse of batteries	For the duration of the competition, Student Robotics will handle charging of the batteries and will be collecting spare batteries and chargers from teams on entry. Student Robotics will be charging batteries in a safe zone away from the main competition area and inaccessible to competitors, and the batteries will be charged by trained Student Robotics personnel in the manner described in <a href="https://www.studentrobotics.org/docs/kit/batteries">https://www.studentrobotics.org/docs/kit/batteries</a>	3

# 2 Assessment Guidance

The risk ratings of the risks in the previous section are calculated by multiplying *L*, the likelihood rating, by *S*, the severity rating.

Likelihood	Likelihood rating
Very unlikely	1
Unlikely	2
Likely	3
Fairly likely	4
Very likely	5

Severity	Severity rating
First Aid injury/illness	1
Minor injury/illness	2
‘3 day’ injury/illness	3
Major injury/illness	4
Fatality/disabling injury	5

The following should be used to rate the risk and plan corrective action:

Risk Rating	Category	Tolerability	Comments
1–2	Very Low	Acceptable	No further action is necessary other than to ensure that the controls are maintained.
3–4	Low	Acceptable	No additional controls are required unless they can be implemented at very low cost (in terms of time, money and effort).
5–7	Medium	Tolerable	Consideration should be given as to whether the risks can be lowered, where applicable, to a tolerable level, and preferably acceptable level, but the costs of additional risk reduction measures should be taken into account. The risk reduction measures should be implemented within a defined time period.
8–14	High	Tolerable	Substantial efforts should be made to reduce the risk. Risk reduction measures should be implemented urgently within a defined time period and it might be necessary to consider suspending or restricting the activity, or to apply interim risk control measures, until this has been completed. Considerable resources might have to be allocated to additional control measures.
15 and above	Very High	Unacceptable	Substantial improvements in risk control are necessary, so that risk is reduced to a tolerable or acceptable level.



# Fire Safety & Evacuation

## **If you discover a fire:**

1. Activate the alarm at any fire alarm call point by breaking the glass
2. Evacuate the building by the most direct route
3. Report to the assembly area

## **If you hear the alarm:**

1. Switch off any electrical equipment that you have been using, if safe to do so
2. Close the door to the room when leaving
3. Evacuate the building by the most direct route
4. Report to the assembly area