

SDP Lab Rules Health & Safety, Pitch Feedback, How To, Equipment & Ordering and Manufacturing

- Read the Lab Rules (can be found in the labs and on Learn and The Wiki)
- Treat Level 3 like a Robotics Lab for the duration of SDP
- Avoid obvious hazards - use common sense - eating & drinking and tidiness or work areas,
- No Eating and Drinking in the labs/demo rooms
- No water, or degradable items to be used as food
- Bowls, plant pots and other peripheral containers shouldn't be too easy to knock over

Note:- Cleaning will be minimal on L3 for the next 3 months, so keep the place tidy Use your lockers for all important project stuff especially arts and crafts materials and smaller peripheral items - label any bigger items accordingly.

- How busy is the work place? - Too busy to be filing, cutting something or am I alone and therefore shouldn't be working with anything potentially hazardous.
- Read and sign the relevant H&S sheets before starting and electro mechanical work
- Signs - wet paint, glue drying etc
- Common sense - check the condition of the tool before use, use the right tool for the right job, open windows to ventilate area, light the area, use vices, clamps etc to hold work-piece.
- Am I likely to hurt myself or others by doing this?
- Accident form:- <https://www.ed.ac.uk/health-safety/accident-reporting>

Pitch Feedback

- Drop by for group specific feedback and advise on sensors and electro mechanics
- Match robots methods to the pitch, do background research if necessary. Use elements from the environment ie if they have lines use them if not do they have cameras or a fixed interior layout that could be mapped? Minimise environmental add ons for home use systems ie painting lines or installing tracks in a home environment isn't an attractive proposition for most homeowners.
- Demo room allocation and requirements

How To

- Watch Youtube videos for Lego Robots doing similar tasks or complex tasks ie paper plane folding robot. Google for images on how lego mechanisms work. Look at the Lego books for parts maps to see what's available to build with
- On board vision - pi-cam or logitech C270 camera
- Environmental vision - ceiling and wall mounted cams, nanny cams etc
- Use sensors - Visual, Touch sensors, Mechanical sensors, simple and complex sensors
- Scale - not just the robot size, but the size and weight of peripherals and environment

Equipment & Ordering

- Large Pool of equipment - 1 item each, first come first served
- Read Pricing, Budget and available hardware guides on wiki
- Kit amnesty
- Ask first

Manufacturing

- 3D Printing
- CNC Mill
- Vacuum Former
- Printed Circuit Board Mill
- Peg board
- RS Pro Metal Framework
- MDF Sheets
- Mechanical Workshop
- Ucreate
- Freeusehub
- Other new equipment and techniques
- Parts and Labour
- Prototype vs Mass Production costs and lead times