



Health & Safety Design, Development and Manufacture Policy

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¹ or earlier if change in legislation or on risk assessment

Amendment Control

Version	Date	Amendments
v1.0	Aug 2015	
v2.0	Jun 2018	Review
v3.0	Jun 2019	Review
v4.0	Oct 2022	Sections 2, 4 and 6

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1. Introduction

Any process or equipment designed, developed or manufactured by a School or Service must conform to modern safety standards and be safe and free from risks.

Operability studies and safety analysis are to be carried out at an early stage when equipment is being designed, developed or manufactured within the University. Appropriate performance tests and examinations are to be carried out and all findings are to be documented. As far as is reasonably practicable the same principles should be applied to experimental and research equipment.

2. Risk assessments/safe operating procedures

Suitable and sufficient risk assessments and safe operating procedures to be produced, communicated, recorded, followed, observed and reviewed. All staff carrying out risk assessments must complete the [online eLearning risk assessment course](#) as a minimum prior to undertaking a risk assessment. During the early stages of development and manufacturing, some activities may require stricter controls until the process or equipment has been fully inspected, tested and approved for use.

3. 3D printing

Prior to ordering and using 3D printers ensure the following is complied with:

- The relevant authorisation and training has been given to order, install, operate and maintain the equipment.
- All safety legislation, requirements and manufacturer's instructions are being adhered to.
- All materials used are fit for use and necessary precautions are put in place prior to use.
- Maintenance on the equipment is carried out in accordance with manufacturer's instructions.
- Relevant enclosures and extraction are in place where required.

Once the equipment arrives and is put into use:

- Limit access to trained/authorised personnel.
- Reduce the amount of time spent near the printer while it is running.
- Ensure the trained personnel know about the hazards, controls and how to protect themselves by wearing the appropriate Personal Protective Equipment.
- Ensure the appropriate fire precautions are put in place.
- Ensure the equipment will be inspected/maintained and thoroughly examined at regular intervals in accordance with Health & Safety legislation.

4. Laser cutting, manufacture etc.

Prior to ordering and using this equipment ensure the following is complied with:

- The relevant authorisation and training has been given to order, install, operate and maintain the equipment.
- Authorisation from Property & Facilities is required to ensure that any electrical, ventilation and other necessary supplies and space are available. Also consider storage of materials, where will they be put, and any controls required.
- Dependent on laser type, may require to be included on the laser register and will require inspection by a specialist (note - inform [Health and Safety Office](#)).
- Necessary controls are in place along with necessary Personal Protective Equipment.
- Specialist training must be organised and undertaken prior to use of equipment. Following the training the risk assessments and safe systems of work produced and communicated.

Once the equipment arrives and is put into use:

- Limit access to trained/authorised personnel.
- Ensure the trained personnel know about the hazards, controls and how to protect themselves by wearing the appropriate Personal Protective Equipment.
- Ensure the appropriate fire precautions are put in place.
- Ensure the equipment will be inspected/maintained and thoroughly examined at regular intervals in accordance with Health & Safety legislation.

5. Materials used in design, development and manufacturing

Ensure all chemicals and materials are checked prior to ordering, including safety data sheets, to ensure that it is safe to use and necessary controls put in place to minimise exposure. Ask the relevant technicians in the area prior to ordering materials (spray paint, adhesive, chemicals, wood, modelling materials, etc.)

All hazardous chemicals to be put on the University Hazardous Database – access to this can be granted through the Health & Safety Office, please contact the [Health & Safety Office](#) directly.

Safe storage of chemicals is essential. Please make reference to the [Hazardous Substances Policy](#) (Safe Purchase, Storage and Disposal) and COSHH Policy.

Safe systems of work are to be put in place to minimise exposure and ill health. University staff may require health surveillance. Please refer to the [Health Surveillance Policy](#).

6. Specialist equipment

Any specialist equipment not covered above must be brought to the attention of Health & Safety prior to being ordered.

If unsure what needs to be done to control the risks, then contact the [Health and Safety Office](#).