

Space Risk Assessment Form

Title of Risk Assessment P222 general lab safety assessment

Date of assessment 06/10/21

Department Physics

This risk assessment must be reviewed whenever a significant change or an accident occurs

Training Courses Required as Identified by Risk Assessment	Introduction to laboratory spaces	Electrical safety
	Introduction to chemicals (if used)	
	Lasers (introduction / advanced)	

Assessment carried out by R Edwards

Additional information The research in this laboratory covers a wide range of different measurements. Not everyone will use permanent magnets, but as they are present in the lab all users must be aware. The laser work is detailed in separate documents and all people who use the lab must have laser safety training.

<u>Hazards and how they may cause harm</u>	<u>Who may be at Risk?</u>	<u>Existing Control Measures</u>	<u>Current Risk Level</u> (VL,L,M,H,VH)	Where current risk is M, H or VH , what additional <u>Control Measures</u> are required?	Action required by whom & by when?	<u>Final Risk Level</u>
Use of laser systems	Laser operators and others in the lab	Some lasers are retina safe but the majority are class IV. Lasers are interlocked to the lab door. All users must wear appropriate PPE (suitable laser goggles). Keys for lasers are kept elsewhere in a locked box.	High	No users are allowed to use lasers until full training has happened and trainer is satisfied. Where possible, retina-safe lasers are used (IOS system). Experiments are designed in collaboration with supervisor.	Training by supervisor.	Moderate
Use of high voltages for generating ultrasound (EMATs, piezoelectric transducers)	All users	Check equipment before use. Ensure there is no voltage applied to the EMATs before handling. Ensure insulation is suitable.	Moderate	User training before someone uses any equipment.	Training by supervisor, or experienced student / PDRA.	Low
Risk of fire from use of electrical equipment	All users	Correct training given. Equipment tested regularly (PAT).	Very low			
Trip hazards from cables, samples, or equipment in the lab	All users	Minimising objects on the floor and tucking wires away as much as possible	Very low			
Dropping or back strain when carrying heavy items	All users, but primarily those doing NDT	Use correct carrying technique. Steel capped boots to be used where appropriate.	Low			

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Injuries from sharp items e.g. scalpels used when making EMATs	All users	Careful use of the scalpel. Sharp items must be kept covered when not in use – place blade first into a block of polystyrene.	Low			
Injuries from strong magnets which are present in the laboratory	All users	Take care when handling magnets. Don't bring them too close together. Don't bring magnetic tools too close to a magnet.	Low			
Back or eye problems from working at a computer	All users	Sit in the correct position. Take regular breaks. Ensure chair and desk are set up properly.	Very low			

Work should not be carried out until the assessment is completed to a suitable & sufficient level and all required control measures are in place.

Overall Final Risk Rating (Highest level in final column above)	Moderate
Additional Comments from Risk Assessor (e.g. funding or practical implications)	There are a number of different experiments done using the lasers – samples can range from mm-dimensions to large pieces of metal. For small samples an enclosure has been built for use with the IOS, but this is not possible for NDT measurements on large samples. Where possible, we use the IOS laser detector by preference as it is retina safe.

Any further actions required to allow work to commence	
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Approved By	RS Edwards	Position	Associate Professor (Reader)
Date	06/10/21		

Please print a copy, sign it and keep for your records

	Severity				
Likelihood	Superficial	Minor	Serious	Major	Extreme
Unlikely	Very low	Very low	Low	Low	Moderate
Possible	Very low	Low	Low	Moderate	High
Likely	Low	Low	Moderate	High	Very high
Very likely	Low	Moderate	High	Very high	Very high
Extremely likely	Moderate	High	Very high	Very high	Very high

Risk Level	
Very low	Acceptable risk - no action required
Low	Tolerable risk - further control measures not required, but status must be monitored
Moderate	Further control measures required to reduce risk as far as is reasonably practical
High	Urgent action required to allow activity to continue
Very high	Risk intolerable - activity must cease until the risk has been reduced

See '[Matrix for risk evaluation](#)' for further guidance.