

Department of Mathematical Sciences Safety Handbook

(SAFETY CODE OF PRACTICE)



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The custodian of this document is the Head of Department

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i Emergency’s

**Emergencies**

For emergency services (fire, ambulance or police) ring ×2222 from an internal phone, this will be answered by security control who will help direct the services. If no internal phone then use mobile phone and ring 999. When asked, state the address as ‘Department of Mathematical Sciences, Peach Street L69 7ZL’, University security control x43252 - Mathematical Sciences is building no 206.

**Fire**

When the fire bells ring, evacuate the building as quickly as possible using the nearest available fire exit and assemble in the area in front of the Augustus John well away from the building. Do not wait in the belief that it is a false alarm. Lecturer or tutor in charge should lead their students to safety. Lifts should not be used. Disabled people should have a buddy to assist in evacuation and/or use the Evac chairs situated on the first floor of each stairwell.

Disabled people may stay put during a drill if they are at increased risk of injury or uncomfortable being evacuated, It is the departement’s responsibility to evacuate disabled people not the fire service.

On discovering a fire, activate the nearest fire alarm point if not already done so automatically, call for assistance, evacuate the building. If possible call for the emergency services and only if it safe, close windows and switch off electrical equipment. Make sure all relevant information is passed to the fire officer at the assembly point.

Small fires can be put out using fire extinguishers located around the Dept of Mathematical Sciences. Only use carbon dioxide fire extinguishers for electrical fires. A smoking electrical appliance should be switched off at the mains. Do not take risks in attempting to put out fires.

Use the complete extinguisher, take care not to blow burning material all around the room.

Burning food/fat can be smothered with a fire blanket rather than use an extinguisher.

From the 31st October MFRS will no longer respond to all alarm activations. During “daytime” (i.e. 07.30 to 19.30) they will only come to our assistance if there is a real fire (or at least a very strong suspicion of a fire) in our buildings. This means that we have to manage false alarm activations. The University has decided that Security staff will carry out all investigations into non-fire alarm activations. At previous briefings it was suggested that staff may be involved in the investigation process. This is now not going to happen.

Building occupants will still have the following duties:

Fire Officer – the Fire Officer must make their way to the assembly point/alarm panel and collect information from the fire wardens and other staff about the alarm activation. They should also make note of the zone activation information on the fire alarm panel. Security staff have been asked to approach the Fire Officer for each building when they arrive on site to discuss the developing situation. The Fire Officer should still contact Security Control (2222) if they are told that there is a fire developing in the building and are still responsible for giving the signal to staff at the assembly point to return to the building when safe to do so. The Fire Officer should note that if Security are delayed in attending site, then they should liaise with Security control on a regular basis for updates on arrival time. If there is likely to be an extended delay then you may be asked to leave the premises.

Fire wardens – fire wardens will carry out their normal tasks and sweep their designated area for fire and encourage people to leave. They must go to the Fire Officer and report what they find.  They must then make their way to the assembly point if not already there.

All staff – to report any signs of fire to the Fire officer at the assembly point. If possible a call should be made directly to Security control on 2222. On an alarm activation (other than tests) staff are still expected to leave the building in a prompt fashion and make their way to the assembly point.

Other points to note

NB – MFRS will still attend all alarm activations that occur between the hours of 19.30 and 07.30 (“night time”) for one year.

Building occupants may be asked to wait for a few minutes at the assembly point once the alarm has been silenced and reset so that Security staff can check for reactivation. Staff must not re-enter the building until told to do so by the Fire Officer.

Fire wardens should report to Fire Officer for him to provide as complete a picture as possible to Security staff.

Fire bell tests take place each Wednesday at 15.00. Notices are placed at main entrances that it is taking place. A full fire evacuation exercise that is not announced in advance takes place annually.

Fire doors should not be propped or left open, if one is seen in this state, close it and report it to the Departmental Safety Coordinator or the Building manager. Some doors have Doorgards which close automatically when the alarm is sounded, these can be left open.

The University Code of Practice on Smoking (Revised August 2006) does not permit smoking to occur within the Mathematical Sciences. Smoking is, however, presently allowed outside of the Mathematical Sciences but not be so close to the building that those entering or leaving the Mathematical Sciences are able to breathe in smoke.

1. Policy Statement School of Physical Science

**Policy statement**

The policy of the School of Physical Science is to comply with the spirit as well as the letter of current health and safety legislation, approved codes of practice, authoritative guidance literature and the University of Liverpool Health and Safety Policy. We recognise that safety is a key area of management demanding control and application of modern management techniques. We seek the active support and co-operation of all our employees, students and contracted staff working within the School in the pursuit and maintenance of health and safety excellence that are exemplary in the scientific industries.

**Our vision** is to safeguard each other and those who work with us by operating an injury free and healthy workplace and to protect the safety of the students and public, while promoting a positive Health and Safety culture.

**We believe** that health and safety is paramount and that all unsafe acts, work-related injuries and illnesses are preventable.

**Delivery Strategy**

We will fulfil the Departments responsibilities for health and safety by:

* ensuring that hazards are identified, assessed and controls implemented to reduce the risk to ‘as low as reasonably practicable’;
* allocating adequate management attention, financial and human resources;
* providing training to staff, students and, where appropriate, contractors;
* setting targets for performance improvement, monitoring compliance, rewarding excellence and taking corrective action where necessary;
* ensuring employees, suppliers, contractors are competent to fulfil their duties;
* preparing annual health and safety action plans;
* communicating our commitment, targets and requirements clearly to staff and, where appropriate, our stakeholders;
* collaborating and working in partnership with higher educational establishment and industry to maintain and improve system safety;
* ensuring safe systems of work are provide at all times;
* ensuring safety audits are undertaken by management; and
* ensuring that working safely is a condition of employment.

**Your involvement**

The School of Physical Science is totally committed to our health and safety policy but success can only be achieved with everybody’s wholehearted commitment and effort. You can contribute by raising health and safety issues with your manager, by helping to resolve them and by your personal efforts towards health and safety in all your activities.

We all have an individual responsibility under the Health and Safety at Work, etc. Act 1974 to work safely and not to endanger others or ourselves by committing or condoning unsafe actions – please remember your personal responsibilities and encourage your colleagues to do likewise.

Being part of this process you can play a major part to improve the health and safety in the School of Physical Science and enable the School to operate an injury free and healthy workplace and to protect the safety of the students and public.

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| --- | --- | --- | --- |
| **Prof. Andy Cooper** | **……………………….** |  |  |
| **Head of School** |  |
|  |  |  |  |
| **Date:……………………..** |  |

1.2 Department of Mathematics Code of Practice.

The Department of Mathematics is committed to high standards of health and safety and recognises that the pursuit of excellence in this area is as important as the pursuit of excellence in its core activities. It acknowledges that if there is a conflict between safety and another aim, safety must not be sacrificed.

The Department of Mathematics is committed to continuous improvement in health and safety with the aim of eliminating the causes of injury and damage. It accepts that safety requirements specified in law set only minimum standards and it is constantly reviewing its own safety performance standards to achieve a continuously high standard of health and safety.

The Department of Mathematics is committed to providing the necessary financial resources to ensure that the standards of health and safety required are achieved and maintained.

The Department of Mathematics recognises that to achieve its aim it must provide the necessary health and safety framework. To this end the Department will, so far as is reasonably practicable, provide a suitable working environment, appropriate tools and equipment, provision of health and safety information and the necessary training, supervision and instruction for individuals to undertake their work safely.

The Department of Mathematics recognises that to achieve its aims in health and safety, all departmental members have to contribute. Successful health and safety management can only be effectively achieved through the concerted efforts and active participation of every staff member. Its success relies entirely on the contribution each individual makes towards health and safety.

The Head of Department will conduct an annual health and safety meeting.

 Prof. A.B.Movchan Head of Department

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2. Organisation for Health and Safety

2.1 Introduction

Mathematics is one of three Departments forming the School of Physical Science. The School being one of five institutes in the Faculty of Science and Engineering, the others being: the School of Engineering, the School of Electrical Engineering, Electronics and Computer Science, the School of Environmental Sciences and the Central Teaching Laboratories.

This section of the policy outlines the Health and Safety organisational structure of Mathematics and the principal accountabilities and responsibilities for the:

Head of School - Level 2 Management

Head of Department – Level 1 Management

Although the Vice Chancellor is accountable for the safe operation of our undertaking, he delegates a number of responsibilities and functions to his Management and their staff.

The University has a formal consultation process with employees’ representatives which take place through an agreed structure of health and safety committees. Local Health and Safety Representatives with the University are advised and consulted on any activities which are planned and which may affect the health and safety of those they represent. Their views are sought upon the adequacy and suitability of the arrangements.

Local Health and Safety Representatives also carry out inspections of their local workplace and may be invited to attend and assist in investigations of incidents, which have involved or may have affected staff.

The Director of Facilities Management ensures that the provision of assets are safe and ‘fit for purpose’, and the completion of maintenance activities are undertaken in a safe manner.

2.2 Management control

Management control is affected through the health and Safety Strategic Committee taking accountability for aspects of Mathematics management risk control and delegating responsibility to managers.

At all levels of management control, individuals are accountable or responsible for meeting minimum prescribed conditions and standards. These conditions and standards specify:

* What must be achieved
* Why it must be achieved
* When it must be achieved by
* How it is to be achieved

2.3 Health and Safety strategic Committee

The principal role of the Health and Safety strategic Committee is to devise key strategic objectives and priorities for delivering the Health and Safety Policy.

2.4 Safety Accountabilities of Head of School – Level 2

Heads are responsible for ensuring, so far as reasonably practicable:

1. that the health and safety of staff, students and the general public are not adversely affected by the activities of their school/PS area, and that adequate resources are provided to achieve this;
2. that for each department/area of responsibility, a Departmental Safety Coordinator and Deputy Safety Coordinator are appointed in writing and duties formally delegated to them;
3. that risks to health and safety are assessed to a reasonable and consistent standard and that appropriate control measures and safe systems of work are used; where specific risks are not covered in a University or departmental code of practice (see (m) below) they should be assessed in writing, and a copy of this risk assessment sent to the Departmental Safety Coordinator;
4. that there is a local safety policy and code of practice setting out how health and safety is organised, which is given to all staff and research students, and reviewed if circumstances change, and at least every 5 years;
5. that the activities of the School/Institute/PS area and health and safety arrangements are monitored, and areas occupied are inspected formally at intervals not greater than six months; heads of non-academic units taking part in at least one monitoring and inspection exercise per year; individual offices requiring inspection only annually except when there have been problems in the recent past;
6. that there is an annual safety review, leading to an annual safety plan;
7. that proper fire precautions are observed, that fire evacuation exercises are carried out at least once a session in the first term, that alarm bells are tested once a week, and that a named individual and a named deputy are responsible for overseeing fire precautions;
8. that the arrangements exist for ensuring that all accidents where injury or damage might have occurred, are investigated with the aim of preventing recurrence and reported to the Safety Adviser;
9. that safe machinery and equipment and, where appropriate, any necessary safety appliances or protective equipment are used, and the electrical safety of appliances is checked at least every two years (except that departmental equipment permanently connected to supply points is checked at least every five years);
10. that there is effective communication and consultation concerning health and safety with all members of staff, and in particular with trade union safety representatives;
11. that advice is sought from within the University or from outside bodies when the need arises;
12. that hazards and defects outside the control of the department or unit are reported to the Director of Facilities Management or whoever is responsible for removing the hazard;
13. that all relevant information on health and safety hazards is provided to all persons, including contractors, maintenance staff and visiting researchers, who undertake work within the department or unit;
14. that suitable deputising arrangements are made to ensure that safety responsibilities are fulfilled when individuals are absent; and in practical departments, that alternate supervisors are available to supervise the safety of research students;
15. in academic departments, that an appreciation of appropriate safety aspects of the subject is part of the educational process, and there is effective communication with students on health and safety matters;
16. that safety training needs are identified and that staff and students are trained in safe practices relevant to their work; basic safety induction is given to new starters in their first week; and in practical departments a safety training record is kept;
17. that new staff, research students and honours year students with practical projects do not start practical work or fieldwork until they have signed an acknowledgement of the departmental safety code, and a risk assessment has been carried out for the work they are about to start; and
18. that all uses of hazardous substances are assessed in accordance with the Control of Substances Hazardous to Health Regulations, and that they are stored, used and disposed of in a safe manner.



2.5 Safety Accountabilities of Head of Department – Level 1

Level 1 Heads of academic departments are responsible for using their best efforts to ensure that the health and safety measures listed above are implemented in their departments so far as reasonably practicable. In particular, they are responsible for;

1. Managing devolved resources such that appropriate levels of health and safety are achieved;
2. Including health and safety in the line management and PDR of level 1 staff;
3. Leading the preparation of the annual safety review and annual safety plan for their department;
4. Taking part personally in safety monitoring and inspection of their department at least once a year, and meeting the departmental safety coordinator after each monitoring and inspection exercise to see how safety standards can be improved;

2.6 Safety Accountabilities of the Director of Facilities Management

The Director of Facilities Management is responsible for providing and maintaining assets that are “fit for purpose” and conform to legal requirements.

Health and safety responsibilities include:

1. implementing effective operational safety policies;
2. ensuring management of assets and systems complies with health and safety requirements; validating proposed changes to assets, operating practices or modifications to maintenance regimes;
3. ensuring health and safety requirements are met for all contracts and projects;
4. planning safe access and egress; and
5. assuring appointed contractors have management systems for effective control of health and safety.

2.7 Specific safety responsibilities of:

2.7.1 Schools Manager

The School Manager is responsible for ensuring, so far as reasonably practicable:

1. The risk management of School Events held with the Chemistry Department;
2. The stores with respect:
	* Waste management from the School;
	* Solvent waste collections and disposal for the University;
	* The safe storage and distribution of gas cylinders across the School;
3. Development and implementation of the Departmental Emergency and Business continuity plans; and;
4. Ensuring there is adequate finance, physical and human resources are made available for health and Safety needs.

2.7.2 Health and Safety Manager

The Health and Safety Manager is responsible for ensuring, so far as reasonably practicable:

1. providing competent health and safety advice to the Department overseeing the Departments health and safety regimes and performance of contractors; developing and directing safety, loss prevention strategies and systems to support safety objectives and obligations;
2. providing support to line managers in implementation, ensuring compliance with legislation and continuously improving performance of these areas;
3. advising the Department on compliance issues;
4. ensuring health and safety strategy requirements, plans and targets are included within the business plan and the Performance Management System;
5. developing, maintaining and directing a professional health and safety advisory, analysis and auditing service;
6. defining and directing the development of strategic health and safety management information systems and reports on performance;
7. assuring implementation and application of health and safety policies; and
8. monitoring and reviewing the effectiveness of management systems.

2.7.3 Finance Manager

The Finance Manager is responsible for ensuring, so far as reasonably practicable:

1. providing assistance to the School of Physical Science in the preparation of budgets to secure adequate financial, physical and human resources for the health and safety needs;
2. ensuring that funding is available to resource in accordance with the budget approved by the School of Physical Science;

2.7.4 Facilities Manager

The Facilities Manager is responsible for ensuring, so far as reasonably practicable:

1. Liaising with Facilities Management on behalf of the Department to ensure significant health and safety information is provided during construction work;
2. Liaising with the Department so construction work can be planned with minimum disturbance and risk to the Departments operations;
3. Monitor and review engineering controls and safety equipment within the Department;
4. Provide reassurance that contractors are working safely on site; and
5. Ensure work equipment provided in communal areas is suitable and sufficient and appropriate work equipment assessment undertaken.

2.7.5 First Aiders

The First Aider is responsible for ensuring, so far as reasonably practicable:

1. Carry out weekly checks of the First Aid boxes and ensure that they contain sufficient supplies;
2. Ensure that they keep their certificate up to date and attend for refresher training as and when required;
3. Administer only, treatment which they have been trained to do so; and
4. Liaise with Security and Emergency services as and when required.

2.7.6 Senior Fire Warden

The Senior Fire Warden is responsible for ensuring, so far as reasonably practicable:

1. Undertaken fire risk assessment, implement control and ensuring it is kept up to date;
2. Ensuring that weekly fire alarm tests are undertaken and results records in the fire precautions log book;
3. Organising the annual fire drill and annual fire refresher training for staff and record this information in the fire precautions log book and complete the fire drill report, sending a copy to the Safety Adviser’s Office;
4. Ensure any defects are recorded and reported to the Building Manager;
5. Liaise with Merseyside Fire and Rescue as appropriate;
6. Undertake six monthly review of fire doors, waste disposal locations, storage and fire arrangements in the Department;
7. Liaise with Facilities Management when proposed fire isolations are being planned; and
8. Liaising with the Departmental Safety Coordinator and ensure requirements of University Safety Circular 03/2 are monitored part of the six monthly inspections.

2.7.7 Fire Warden

The Fire Warden is responsible for ensuring, so far as reasonably practicable:

1. Without putting themselves at risk, encourage occupants to leave the building when the fire alarm sounds, to report any signs of fire in their area, and to report if anyone is at risk;
2. Check that the area assigned to you has been evacuated by looking into rooms but do not spend time going into rooms. If anyone refuses to leave, note the fact but do not waste time arguing;
3. If there are signs of fire in a room (e.g. smoke coming out around the door), note the fact but do not enter or open the door;
4. So far as reasonable practicable, ensure that all doors are shut;
5. Report all relevant information to the Building Senior Fire Warden at the assembly point. If there is reason to believe that anyone is trapped it is vitally important that this information is relayed to the senior Fire Warden as soon as possible;
6. Do not endanger yourself to carry out your duties but make known to the Senior Fire Warden or Deputy if you have been unable to carry out the check. If, when the fire alarm sounds, you are not in the area you are expected to check, do not go to that area – go straight to the assembly point.

2.7.8 Departmental Safety Coordinators

The Departmental Safety Coordinator is responsible for ensuring, so far as reasonably practicable:

1. Being familiar with the University’s Health and Safety Policy, relevant University codes of practice and the local safety code;
2. Providing advice to members of the department on matters of occupational health and safety. In particular, advising level 1, level 2 or PS Heads as applicable on the formulation of departmental health and safety policy and procedures, and advising colleagues to ensure that risks of new activities are assessed at the planning stage;
3. Where immediate danger exists, e.g. a blocked exit or unguarded machinery, taking immediate action to remove the hazard or stop the process pending consultation with the head of Department;
4. Referring promptly to the level 1, level 2 or PS Head or University Safety Adviser any health and safety problems which cannot be, or are not being, resolved locally on a timescale commensurate with the risk;
5. Disseminating health and safety information to appropriate members of staff and students;
6. Ensuring that new members of staff and research students receive adequate induction with respect to health and safety matters; in practical departments keeping a safety training record;
7. Liaising with the Safety Adviser, Occupational Health Physician and other central advisers, as appropriate;
8. Conducting or coordinating systematic departmental monitoring and inspection twice a year and taking part in safety monitoring/ inspection in another department once a year;
9. Ensuring that accidents, including near miss incidents, are reported and investigated;
10. Checking that remedial action identified in departmental monitoring/inspection or in accident/incident investigation is carried through in reasonable time;
11. Preparing, with the level 1 Head, an annual review of health and safety, and an annual safety plan; and
12. Attending training for Departmental Safety Coordinators arranged by the University Safety Adviser.

2.8 Responsibilities of ALL employees

It shall be the duty of every employee while at work:

1. to take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions at work;
2. as regards any duty or requirement imposed on his employer or any other person by or under any of the relevant statutory provisions, to co-operate with him so far as is necessary to enable that duty or requirement to be performed or complied with;
3. not to interfere with or misuse things provided pursuant to certain provisions.**E+W+S+N.I.** No person shall intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety or welfare in pursuance of any of the relevant statutory provisions.
4. Every employee shall use any machinery, equipment, dangerous substance, transport equipment, means of production or safety device provided to him by his employer in accordance both with any training in the use of the equipment concerned which has been received by him and the instructions respecting that use which have been provided to him by the said employer in compliance with the requirements and prohibitions imposed upon that employer by or under the relevant statutory provisions.
5. Every employee shall inform his employer or any other employee of that employer with specific responsibility for the health and safety of his fellow employees:
* of any work situation which a person with the first-mentioned employee’s training and instruction would reasonably consider represented a serious and immediate danger to health and safety; and
* of any matter which a person with the first-mentioned employee’s training and instruction would reasonably consider represented a shortcoming in the employer’s protection arrangements for health and safety, in so far as that situation or matter either affects the health and safety of that first mentioned employee or arises out of or in connection with his own activities at work, and has not previously been reported to his employer or to any other employee of that employer in accordance with this paragraph.

3 Arrangements for Health and Safety

3.1 Policy and framework

We have developed this document to clearly define the requirements for:

* policy decisions and commitment to health, safety and environmental concerns;
* establishing organisational accountabilities and responsibilities for delivery of health, safety and environmental goals;
* planning and implementing our requirements for health and safety management;
* monitoring and measuring the performance of health and safety management;
* auditing the internal activities of the company and those of our suppliers;
* reviewing the performance of our activities and identifying further improvements;
* communicating this document to all employees and others; and
* regular communications between employee and students to gather information and suggestions to improve the policy and framework.

3.2 Planning for health, safety and the environment

The planning of health, safety and environmental requirements is an integral part of our business activities. Thorough planning will ensure that we:

* comply with statutory requirements and best practice;
* eliminate or reduce to a level that is as low as reasonably practicable health and safety risks and environmental impacts;
* allocate sufficient financial and competent human resources to our activities; and
* produce health, safety and environmental improvement programmes annually as a result of consultation between employees, safety representatives, inspection programme, and regularly monitor their progress.

3.3 Communication, Consultation and Co-operation

We recognises that communication is a two-way process that is vital to the success to the management of safety. By communicating with our employees and others, we make them aware of what our significant risks are and the measures we need to take to control them. Through feedback from this communication we understand the validity of our risk assessments, the effectiveness of our controls and improve our understanding of our risks.

3.4 Health and Safety Information

Health and Safety is communicated through the business via a number of formal mechanisms:

* Department Health and Safety Committee;
* Staff team briefings; and
* Safety alerts.

3.5 Consultation Health and Safety Committees

Consultation takes place between employees and Health and Safety Representatives who are elected to represent staff on health and safety matters and to communicate and consult with the staff they represent.

The management team, recognises, and actively supports the rights of the Trade Unions to appoint Health and Safety Representatives. Their appointment and function conforms to relevant statutory regulations, codes of practice and guidelines, including the Safety Representatives and Safety Committees Regulations.

Health and Safety Representatives are involved in the following activities:

* investigating potential hazards and dangerous occurrences in the workplace;
* attending and assisting with investigations into incidents involving members of staff, in order to determine causal factors;
* investigating complaints relating to the health, safety or welfare at work of any employee they may represent;
* commenting upon changes in work practices, training, equipment or processes when consulted by management;
* carrying out inspections of the areas in which the people they represent may work;
* representing employees in consultations at the workplace and with inspectors from the enforcing authorities;
* receiving and disseminating information;
* attending safety committees in their capacity as a Health and Safety Representative in connection with any of the above functions; and
* making representation to local management on matters arising from any of the above.

3.6 Health, Safety and Environmental Hazard Reporting

Employees are free to communicate any health, safety and environmental information and concerns through a variety of methods including:

* giving feedback during Safety Audits, Planned General Inspections, Safety Surveys and Safety Tours;
* approaching their managers for advice and guidance on health and safety matters;
* approaching Health and Safety Representatives for advice and guidance on health and safety matters; and
* approaching Health and Safety Manager for advice and guidance on health and safety matters.

3.7 Training

Training plays a key role in the Departments arrangements for ensuring and assuring the health and safety competence of its staff. We have procedures in place to ensure employee, where appropriate, students and contractors receive appropriate information, instruction and training to enable them to carry out their duties effectively and safely.

Suitable and sufficient training is a requirement of much of current legislation. Induction training is provided to all following appointment and is supplemented by additional instructions, training as appropriate.

When it is identified as an appropriate control measure, training is provided to individuals who are exposed to new or increased risks as a result of

* being transferred;
* given a change of responsibilities;
* the introduction of new work equipment;
* changes to existing equipment;
* the introduction of new technology; and
* the introduction of a new system of work or changes to an existing system.

As part of the PDR process managers undertake training needs analyse to ensure they correctly address the personal and professional development of their staff.

3.8 Occupational Health

The application of an occupational health regime is vitally important to ensure that employees remain free from conditions and activities that are detrimental to their overall well-being and remain sufficiently fit to fulfil their roles and duties.

The University Occupational Health Service provides:

* Fitness Assessment: assessments are carried out for employee or students who work or train with certain hazards or in specific specialties to ensure fitness for work or training and to identify any adjustments which will reduce risks to health.
* Health Surveillance: for some types of work, they monitor the health of staff and students, in accordance with legal obligations.
* First Aid: they train staff to provide first aid at work.
* Eye Testing: they provide eye tests for staff who work with computers.
* Travel advice: they provide equipment, advice and vaccinations for staff who work overseas. See their website for details.
* [Therapy Services](http://www.liv.ac.uk/occupationalhealth/services.htm): massage therapy, Aroma therapy, Chiropody, Physiotherapy, Counseling and Clinical Psychology services are available to staff and students.

3.9 Hazard identification, assessment and management

The Mathematics Department take a proactive attitude towards health, safety and other risk issues by performing risk assessments to identify potentially hazardous events and understand the implications of such events.

Assessing the risk from our activities improves our understanding of risks, their causes and the effectiveness of its controls. Outputs from the process inform our business decisions from a safety perspective and support our risk management objective to maintain risks to levels that are *‘as low as reasonably practicable’*.

It is widely recognized that there are two main approaches to assessing risk, both of which are used by the business.

* Quantified Risk Assessment, which produces an objective probability estimate based on known risk information applied to the circumstances being considered.
* Qualitative Risk Assessment, a risk assessment that produces a subjective probability estimate based on personal judgement and experience backed by generalised data on risk.

Following the satisfactory completion of the assessment process by competent persons the accepted hierarchy of controls is applied to remove or reduce the hazards to acceptable levels, in order to prevent harm to employees, students, visitors, contractors and members who may be affected by our operations.

The accepted hierarchy of controls is as follows:

1. eliminating the risk at source - by not performing the task, changing processes or making design improvements;
2. reducing the risk - by substituting a less harmful product or reducing the length or frequency of exposure;
3. isolating the risk. - by using barriers such as guards or fences to isolate the risk from individuals;
4. controlling the risk - by introducing management controls such as information, instruction, training and supervision, safe systems of work and permit to work systems, and engineering controls such as guarding and local exhaust ventilation; and
5. minimising the effects of the risk– as a last resort by issuing personal protective equipment.

We expect academics, supervisors and managers to promote a positive health and safety culture and encourage a disciplined approach to health and safety. Managers are responsible for maintaining records of their respective assessments and for ensuring the completion of ongoing formal reviews. Assessments should be reviewed at regular intervals, these intervals are determined by:

* the level of risk involved;
* when there has been a significant change in the matters to which it relates;
* when it is believed that the assessment is no longer valid; and
* after an accident, incident or near miss.

Information concerning the assessments and hazard control are made available to all relevant employees, students, and those that maybe effected my there undertakings.

3.10 Specific hazards and risks

3.10.1 Reporting accidents/incidents

Staff and students are advised in their induction that accidents/incidents, no matter how trivial they may appear to be, should be reported to the Departmental Safety Coordinator.

Accidents are logged using the electronic form available online at:

<https://www.liv.ac.uk/intranet/safety/Intranet_only_docs/Part%20A%20accident_form.htm>

3.10.2 Reporting building defects and damage

Building defects are reported on an individual basis to the Facilities Management Response Desk (×43000) by the Building Manager. Each fault is recorded in a log book held at the Building manager’s office. The Schools Facilities Manager, will provide any additional assistance.

3.10.3 Late working

Late working – defined as any time Monday to Friday 5:30pm - 8:30am, Saturday, Sunday and University closed days when Reception Desk staff are not present - is allowed in the Dept of Mathematical Sciences. All staff and students wishing to work late are required to have a valid ID card and pin used to activate/deactivate the alarm system. An “out of hours” log book is positioned at each entrance to the Dept. Staff and students are advised that they must sign in and out when working late. Contact the Security Control Room (×43252) on suspicion of anything untoward when working late.

3.10.4 Office work

Office work is relatively safe and accident rates are low.

The University has a duty of care to ensure that employees are able to work safely. Much of this is set out in the Workplace (Health, Safety and Welfare) Regulations 1992. These define the law relating to lighting, ventilation, temperature, etc. Problems with any of these should be brought to the attention of the Building manager or the Departmental Safety Coordinator at the earliest opportunity.

3.10.5 Display Screen Equipment (DSE)

Display Screen Equipment (DSE) assessments are carried out by the Departmental Safety Coordinator.

New DSE users are automatically assessed on arrival. Existing staff are reassessed on a regular basis and immediately on provision of new equipment or relocation to another workstation. DSE assessments reviews are carried out online at <https://www.liv.ac.uk/intranet/safety/dse2.swf>

Assessment is designed to ensure the user is not placed in a position of risk when using such equipment. The assessment also includes users of laptops who are advised of the increased prevalence of musculoskeletal disorders from their use.

3.10.6 Manual handling

Manual handling such as lifting boxes of photocopier paper can cause injury. Most loads are small and are unlikely to pose any risk. Staff are advised not to undertake heavy manual handling tasks themselves. The Departmental Safety Coordinator carries out a risk assessment in such cases to evaluate the risk involved and to propose a safe solution. Suitable equipment is made available so that the risk from lifting and transporting heavy loads is minimised.

3.10.7 Electricity

Electrical equipment is regularly tested for safety. A dated label is applied to such equipment and it is advised that equipment should not be used that is damaged or has no test label. Equipment that fails testing is removed from use. A log book of tested equipment is held by the Departmental Safety Coordinator.

The Departmental Safety Coordinator is notified of electrical equipment that is bought by staff (whether through the University or by grant) so that it can be tested at the next test date. Equipment may be brought in from outside but the Departmental Safety Coordinator must be informed so that it can also be tested at the next opportunity.

Electrical equipment should be switched off whenever it is not being used. Electrical heaters should be switched off when left unattended.

Drinks should not be left on desks where they could be accidentally knocked over onto electrical equipment and to avoid placing kettles of water next to floor socket boxes. Burns, scalding and electrocution can result!

Windows should be closed at night to avoid rain running into electrical sockets or equipment.

3.10.8 Working at height

It is advised not to store materials – especially heavy and bulky items - on high shelves. However, it may still be needed to access materials placed on high shelves, therefore step-stools are provided and a set of small step-ladders is available from the Departmental Safety Coordinator.

3.10.9 Slips, trips and falls

The Dept of Mathematical Sciences has marbled stairs; wooden and marbled floors. These can become slippery in wet weather. Staff are advised that they can reduce the chance of a slip or fall by wearing rubber soled shoes. If underfoot conditions are poor and a slip or fall likely staff are advised to take extra care. They are asked to inform the Building manager so that warning signs can be put up.

Stairs are a particular danger and staffs are advised to hold on to the handrail so that if a trip occurs any fall can be arrested easily and without danger and to “walk and not run” up or down them.

Falls can be reduced by minimising potential hazards. Tidying of loose cables and ensuring that floor standing equipment does not impede movement all help.

Staff are advised that they should concentrate on where they are walking – especially when talking to colleagues. They are advised that it is safer to stop and talk and then move.

Report any slip dangers such as leaking water, loose tiles and carpets, loose handrails and any slips, trips and falls to the Departmental Safety Coordinator so that further investigation/action can take place.

3.10.10 Waste and recycling

Waste generated by the Mathematical Sciences includes paper, cardboard, plastic, metal and glass.

Recycle bins are available for paper, tins and plastic bottles. The bins are not emptied on a daily basis, so smelly or food items which might encourage vermin and flies should be wrapped.

Shredders are available for confidential waste.

Cardboard should not be placed in waste paper bins but left in designated locations for recycling by the Facilities Management Department.

Glass is not allowed in the general recycle bins due to the possibility of breakage and danger to the cleaning staff. Requests for removal can be made to the Building Manager or wrapped in newspaper, and deposited in large external bins,

Computers and other electronic equipment for disposal are removed from use and stored securely ready for disposal in accordance with The Waste Electrical and Electronic Equipment WEE Regulations. If you wish to dispose of electrical equipment, contact the Departmental Safety Coordinator in the first instance.

3.10.11 Microwave Ovens

Microwave ovens pose a significant radiation hazard and are tested every two years by staff of the Radiation Protection Office. Those that fail the test procedure are immediately removed from use.

Microwaves should not be left unattended whilst cooking occurs; to take care as hot food and liquids can scald and burn; to watch out for packaging that may be combustible and catch fire when heated and that under no circumstances should they place metal items inside of them.

3.10.12 General housekeeping

Cleaning staff ensure that corridors, stairwells and other public areas of the Mathematical Sciences are kept clean and clear of rubbish. They are also responsible for removal of waste placed in recycle bins but not any bin in offices. They will not, however, take away large sacks of paper, cardboard boxes and other packing materials that are stacked outside doors. They will not remove broken chairs or old equipment either. Contact the Building manager if they need to dispose of such items.

Access to entrance/exit doors and fire exits must be left unimpeded and any such issue should be reported to the Departmental Safety Coordinator or the Building manager.

3.10.13 First aid

In the case of medical emergency a quick assessment has to be made. If an ambulance is needed ring ×2222 without delay. If the emergency is not life threatening but medical help is required then contact one of the following who have been trained as HSE at work first-aiders.

* Mr. Steve Downing (G14)
* Mr. Chris Marchant
* Michael Jones
* Mrs. Karen Hurst G33

If working late and a medical emergency occurs call the security control room on ×43252 for advice/help.

* First aid boxes are available at the following locations:
* Building Manager’s office (Ground of Maths building)
* Stats & Probability office (Maths building Room 202)
* Staff Common room (Maths Building Room 304)
* Photocopier room (Maths Building Room 417)
* Pure Maths office (Maths building Room 516)
* Theoretical physics main Office (Room 120)

3.10.14 Expectant mothers

Risk assessments are carried out by the Departmental Safety Coordinator/Deputy Safety Coordinator for any member of staff who is pregnant. Assessments are required for the mother on her return to work. Female staff must alert the University that they are pregnant, in writing, as soon as possible so that risk assessment can take place.

3.10.15 Disabled People

Disability Officer: Dr Damien Clancy.

Where a health and safety issue might arise from a disability such as means of escape in event of fire, a risk assessment and PEEP should be prepared. DSC, First Aiders, Evac team may need to be aware of disabled person’s location and type of disability.

3.1016 Welfare

Toilets are located as follows:

Theoretical Physics wing:

Ground Floor – Female Staff / Disabled

Ground Floor – Male Staff/Disabled

Ground Floor – Male Staff

Maths Wing

Basement – Male Staff/Students

Ground Floor – Disabled

Second Floor – Female Staff/Students

Second Floor – Disabled

Second Floor – Male Staff/Students

Third Floor – Male Staff/Students

Fourth Floor – Male Staff/Students

Fourth Floor – Female Staff/Students

Fifth Floor – Male Staff/Students

Fifth Floor – Female Staff/Students

Sixth Floor – Male Staff/Students

Sixth Floor – Female Staff/Students

Washing facilities are available in each toilet.

Drinking water is available in kitchenettes located on 3rd floor of the main maths building and in the kitchenettes located on the ground floor and 1st floor of the Theoretical physics wing. It is also available from taps labelled “mains water” or “drinking water” in the toilets.

3.10.17 Stress and Violence

Everyone faces stress. Stress can be good – a sense of satisfaction in being able to cope under pressure. However, everyone’s stress level is different and some become distressed as they find themselves unable to cope with demands being made of them. This can lead to a range of medical problems such as anxiety, panic attack, sleeping difficulties etc. It can also lead to anger, aggression and violence. Coping strategies to deal with the problem require the sufferer to identify the causes. These may require extensive discussions with supervisors and line managers. This may be difficult if they are the source of the stress in the first place. The University has a code of practice to ensure that the danger from stress is minimised. It is available at:

[*http://www.liv.ac.uk/safety/documents\_guidance/Codes%20of%20Practice/Stress\_Code\_of\_Practice\_final\_version\_June\_09.pdf*](http://www.liv.ac.uk/safety/documents_guidance/Codes%20of%20Practice/Stress_Code_of_Practice_final_version_June_09.pdf)

3.10.18 General Security

Access to the Mathematical Sciences is through the main entrance or swipe access doors opposite side to the main entrance of Theoretical Physics and access to Theoretical Physics through the swipe access door to the side of the metal gates or to the locked door opposite. Whilst there is a Building Manager it is possible for “undesirables” to enter the Dept and wander about. Staff, are advised that if they see someone acting suspiciously that they should alert the Building manager (×44085/ 7585) or the security control room (×43252). Only if they feel able to should they challenge them by asking questions such as “can I help you? Who are you looking for?”

If entering or exiting the building using one of the swipe card doors – especially after hours take care to ensure that no one is able to enter the building or attack as the doors are open.

Keep rooms locked when not in use and to lock valuables in cupboards or to keep them out of view.

3.10.19 Asbestos

An asbestos management survey has been undertaken for the Mathematical Sciences Department and subsequent an asbestos register for the information developed. The University Asbestos Manager activity monitors the information in the register and makes necessary arrangements to control any possible exposure to staff, students and visitors.

3.10.20 Legionella

Legionella is a bacterium that causes Legionnaires Disease – a form of pneumonia that is potentially fatal.

The main risk to staff in the Mathematical Sciences is in ‘little used’ hot and cold water outlets.

The systems are regularly flushed (by Facilities Management staff) with notices placed at entrances and emails sent out to warn staff and students not to use hot or cold water whilst flushing takes place.

Regular use of taps in toilets and the kitchenettes is sufficient to reduce the risk of legionella to safe levels.

3.10.21 Access

Authorised access is required in certain areas, if you’re not sure then check with DSC or Faculties Management.

In particular authorised access is required to any roof, lift control rooms, boiler basement, water tank room, electrical and network switch panels, and areas marked as an asbestos risk.

3.11 Controls

3.11.1 Health, Safety and Environmental Management System

Our Health, Safety and Environmental Management System has been designed to satisfy the requirements of current health and safety legislation, the University’s Codes of Practice LUL and industry best practice. The Health and Safety Manager has been formally appointed to act in the capacity of programme co-ordinator to advise and assist in the implementation and further development of our Health, Safety and Environmental Management System.

Managers at all levels may use the information contained in this document as a guide to fulfilling their roles. Managers are given training in the key processes and elements of our Health, Safety and Environmental Management System.

3.11.2 Asset Control

We have established controls that ensure all stages of the asset life cycle are managed with regard to health, safety and the environment. These meet the following criteria:

* clearly defining responsibilities, requirements and constraints;
* subjecting assets to risk and environmental impact assessment;
* planning taking into account, the provision, use, maintenance, replacement or withdrawal of the asset; and
* collecting and maintaining information for use during all stages of the asset life cycle;
* assessing at design or procurement stages items of machinery or plant, with regard to health, safety and environmental requirements prior to being introduced into the workplace. - this ensures that equipment is suitable for the task for which it is designed, hazards are identified and appropriate controls introduced and that adequate information, instruction, training and supervision is provided prior to staff using it;
* inspecting, examining and maintaining, machinery and equipment in accordance with requirements of legislation, including the Provision and Use of Work Equipment Regulations and the Lifting Operations and Lifting Equipment Regulations, and relevant standards;
* guarding machinery in accordance with statutory requirements and is inspected on a regular basis to ensure it is in place, secure and where fitted interlocking devices are operating; and
* implementing controls to cover hand over, commissioning, acceptance, use, decommissioning and disposal.

3.11.3 Operating and Maintenance

Controls are established to ensure we effectively manage the health, safety and environmental concerns associated with operating and maintaining an asset throughout its life cycle. These include:

* preparing annual asset safety and maintenance certificates for all assets - certifying that they have been adequately maintained, withdrawn, or have had restrictions put upon their use to safeguard safety;
* complying with statute;
* complying with established standards and procedures and developing safe operating and maintenance controls;
* Selecting competent supervisors and staff;
* preparing and providing programmes, records and reports associated with operating and maintaining assets; and
* monitoring, by means of inspection, audit and review programmes, records, reports and practices to identify change.

3.11.4 Supplier Management

The University controls the appointment, conduct and performance of suppliers with regard to health, safety and the environment by:

* Identifying suppliers at the tender or procurement stages, who are best able to provide their services whilst maintaining high levels of health, safety and environmental performance;
* defining and identifying the boundaries of reporting and control, including ensuring adequate channels for communications between all the parties throughout the life of a contract;
* co-ordinating and co-operating between departments involved in the letting of any contract;
* identifying and co-ordinating possible interfaces between staff and multiple groups of suppliers when working at the same location;
* identifying any performance improvement issues for each supplier throughout the life of a project or commission;
* assessing the suppliers activities in order to address the hazards presented by their works;
* requiring suppliers to submit risk assessments and method statements to address the hazards presented by their works;
* Identifying any adverse trends that may become apparent during any works;
* Identifying and controlling any concerns associated with suppliers or their sub-contractors competence;
* Monitoring and providing feedback on a supplier’s performance; and
* auditing and reviewing suppliers performances to demonstrate the effectiveness of the health, safety and environmental management systems.

3.11.5 The Safety of Visitors and Contractors

All visitors, and contractors attending or working on premises are required to sign the visitors book provided by the Building Manager, both on arrival and when leaving.

They are shown all relevant fire and safety notices and their attention is brought to the evacuation procedures and assembly points. They are advised of any site specific hazards and accompanied if needed.

3.11.6 Safety Improvement Programme

The safety improvement programme, which includes areas for improvement sets out specific safety improvement tasks and objectives. It is reviewed periodically at management and safety committee meetings.

3.11.7 Personal Protective Equipment

Following the identification and assessment (as required by the Personal Protective Equipment Regulations) of possible exposure to hazards that may not be adequately controlled by alternative and more preferred methods, the Department issue suitable personal protective equipment to staff as required.

They also ensure that adequate information, instruction and training and supervision is provided to any persons expected to use any items of personal protective equipment and that it is worn or used by staff in the appropriate manner and circumstances.

Managers also ensure that, following the issue items of personal protective equipment, they are maintained, cleaned and stored, and replaced in a timely manner.

3.11.8 First Aid

In accordance with the Health and Safety (First Aid) Regulations a risk assessment has been carried out, and appropriate first aid facilities and equipment have been provided and made available. Details are made available as to the location of first aid facilities and staff are advised that they should avail themselves of the facilities as required.

Sufficient numbers of competent First Aiders are available through the Department, in accordance with relevant legislation and the results of risk assessments.

A list detailing qualified First Aiders is displayed at the entrance to the Building and information held by the Building Managers. First aid boxes are checked on a regular basis and inspected as part of Planned General Inspections. The contents of first aid boxes are maintained in accordance with the requirements of the first aid risk assessment.

3.12 Incident Management

The Management of Health and Safety at Work Regulations requires every employer to establish and where necessary give effect to appropriate procedures to be followed in the event of serious and imminent danger to persons at work. Our arrangements for preparing for and dealing with emergency situations are outlined in sections 3.5.1 and 3.5.2 below.

3.12.1 Emergency Preparedness

Emergency preparedness plans have been prepared which take into account the findings of the risk assessment process and address any foreseeable emergencies that could affect the business. In particular, the following areas have been addressed:

* fire;
* accident; and
* other emergency situations (e.g. bomb threat).

A key element of the emergency preparedness plans is the evacuation of all staff, students, visitors and contractors and any others who may be affected to a place of safety should an emergency situation arise.

We ensure that employees practise workplace evacuation regularly to ensure that they remain conversant with the correct procedures. In addition all non-resident staff, students, visitors and others have any evacuation or relevant emergency procedures explained to them on their first visit to the Building.

Managers and employees who are required to fulfil roles in the emergency preparedness plans are trained to ensure they are competent and can act safely when carrying out these duties.

The emergency preparedness plans include arrangements for communicating and co-operating with other members of the University and external authorities in the event of an incident.

Emergency preparedness plans are reviewed and if necessary revised at least annually and after every significant incident or exercise.

In addition to the above, we have devised and implemented procedures that ensure:

* Contingencies have been identified for use in the event of full or partial closure of the Department.
* Critical items and resources have been identified and recorded;

3.12.2 Incident Investigation and Reporting

We have procedures in place that ensure that:

* accidents, incidents and near misses are promptly, accurately and comprehensively reported in accordance with statutory requirements, in particular the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations;
* accidents, incidents and near misses will be thoroughly and effectively investigated and any suitable recommendations for preventative action are tracked to completion;
* remedial action is determined and carried out with regard to personal injuries and property damage; and
* lessons learned are circulated throughout the business.

Accident and incident statistics are collated and circulated throughout the University and are reviewed by the Departmental Safety Committee and the University Committee on Safety.

Trends are reviewed, in order to:

* take the necessary steps to modify systems of work in order to ensure the well-being of employees;
* reduce the frequency of all types of incidents.

3.13 Monitoring

We have established monitoring programmes to ensure that managers and staff consider health, safety and environmental performance in their respective research groups of areas of responsibility.

The systems, procedures and controls which have been produced in order to permit implementation of the Health, Safety and Environmental Management System include monitoring arrangements as a fundamental component part to enable:

* an established level of compliance with the Health, Safety and Environmental Management System arrangements;
* sub-standard conditions and practices to be identified;
* remedial actions to be progressed and promptly closed.

3.14 Auditing

A comprehensive programme of audits has been established to ensure that operations and activities are compliant with the required standards.

Health, Safety and Environmental Management System related audits are only conducted by auditors whose competence in their respective fields has been assessed and established.

Processes are applied to ensure that non-conformances are addressed and remedial actions or improvements are identified and implemented.

The Department has an external audit five yearly by the University Safety Advisers Office.

3.15 Review

All systems, procedures and controls which have been introduced in order to implement the Health, Safety and Environmental Management System are reviewed regularly for their overall suitability, adequacy and effectiveness including:

* how they perform against health, safety and environmental objectives;
* whether degrees of risk have been reduced to an acceptable level or to a legally prescribed standard;
* complying with health, safety and environmental policy and legislation;
* effectiveness of the system to support continuous improvement; and
* against changing working practices and environments.

The Head of Departments are committed to ensuring that all implications for health, safety and the environment are demonstrably reviewed and appropriately addressed in management decisions and that changes are approved and appropriately identified within our safety case and any other appropriate items of documentation.

Appendix one – key contacts

**Mathematical Science Department key contacts**

Head of Department (Mathematical Sciences)

Professor A. Movchan

Deputy Departmental Safety Coordinator

Mr. Dave Muskett

E: drm@liv.ac.uk

T: 0151 794 4744/mobile 7337

Departmental Safety Coordinator

Mr. Steve Downing

E: steved@liv.ac.uk

T: 0151 794 4734/mobile 7853

Building Manager

Mathematical Sciences Department

Mr Gerard Burke

T: 0151 7947 4085/mobile 7585

Senior Fire Warden Mr Steve Downing

Deputy Fire Warden Mr Dave Muskett

Fire Wardens

Prof P.Giblin pp Dr. Toby Hall’s return (5th floor, Maths building)

Dr. Jon Woolf (5th floor, Maths building)

Dr. Rachel Bearon (4th floor Maths building)

Dr. David Lewis (4th floor Maths building)

Dr. Corina Constantinescu (3rd floor Maths building)

Dr. Olivier Pamen (3rd floor Maths building)

Mr. Michael Jones (Ground floor Maths building/TP wing )

Dr. Damien Clancy (2nd floor Maths building)

Dr Yiqing Chen (2nd floor Maths building)

Mrs. Ingrid Harper (Theoretical physics wing)

Mr. Gerard Burke (1st floor Maths building)

Mr. Dave Muskett (Ground floor Maths building)

Mr. Stephen Jones (Theoretical physics wing)

Dr. Paul Rakow (1st floor Theoretical physics)

Dr. Thomas Teubner (1st floor Theoretical physics)

Mr. Steve Downing (Ground floor Theoretical physics)

First aiders

Mr. Chris Marchant

Dr. Michael Jones

 Mrs. Karen Hurst (G33)

An EVAC chair team

Mr. Dave Muskett

Mr. Steve Downing

Mr. Michael Jones

Mr. Chris Marchant

Mr. Gerard Burke

**School of Physical Science key contacts**

School Manager

Jo Arthur

Health and Safety Manager

Ken Jones

E; ken.jones@liverpool.ac.uk

T: 07812238350

Facilities Manager

Mr. Dave Muskett

E: drm@liv.ac.uk

T: 0151 794 4744/mobile 7337

**University Safety Adviser’s Office key contacts**

Safety Adviser

Mr. S. Dunkley

E: s.dunkley@liv.ac.uk

T: 0151 794 3244 /mobile 7709

Assistant Safety Adviser (Biological)

Miss. L .Andrews

E: l.andrews@liv.ac.uk

T: 0151 794 3042

Safety Advisers Office (Secretary):

Mrs. J. Goodwin

E: jane.goodwin@liv.ac.uk

T: 0151 794 3243

**Security**

Emergency - 2222

Non emergency control Room – 0151 794 3252

**Facilities Management key contacts**

Response Desk - 0151 793 0000 (used to report building faults and maintenance issues to Facilities Management)

Health and Safety Manager

Mr. S. Evans

E: stephen.evans@liv.ac.uk

T: 0151 794 3172 /mobile 7395

**Occupational Health (surveillance/monitoring)**

Dr. N. Wilson

E: n.l.wilson@liv.ac.uk

T: 0151 794 3235

**Radiation Safety, Advice and Training**

Radiation protection adviser

Dr. P. Cole

E: pcole@liv.ac.uk

T: 0151 794 3467

Appendix 2 – Risk assessment: office work (Revised May 2008)

1. **Introduction**

Office work is relatively safe, and accident rates are low. In fact, about half the accidents at work involving full-time office workers happen in corridors, stairs and other areas outside the office. This does not mean however that the office environment is devoid of hazards. To this end, this generic risk assessment has been prepared to provide you with information on the key office environment hazards and the controls necessary to reduce the risk of injury.

1. **Regulations**

The Workplace (Health Safety and Welfare Regulations should be applied - see Safety Circular SC45), especially in relation to adequate lighting, ventilation, temperature, space per person and keeping floors free of anything which could cause someone to slip, trip or fall. Deficiencies should be reported to Facilities Management response desk promptly. A poor environment is likely to lead to minor ailments and absenteeism, and those affected are likely to work at less than the optimum efficiency; so investment in a good working environment make economic sense apart from being required by safety legislation.

1. **General space**

Each person within an office should have sufficient space to be able to move to and from their desk or workstation without difficulty.



The workplace Regulations suggest that each person should have as a minimum 11 cubic metres of space. Care should be taken when applying this figure – if an office has a large amount of furniture and equipment, then this amount of space could be reduced without having an adverse effect on the person’s ability to move safely around the office. The principle should be that any reduction in this figure should not adversely affect the persons’ ability to carry out their tasks and to move around the office environment safely.

1. **Office layout**

The layout of office furniture and equipment should be such that people can move freely between desks and equipment without the possibility of colliding or tripping over items. There should be adequate space to open doors, filing cabinet drawers and cupboards without having to adopt awkward postures. Electrical equipment should be positioned to allow good access to the plug sockets and to any part that might need to be accessed for short terms repairs or future maintenance. Office furniture should be arranged to minimise the number of cables crossing the floor. Where it is unavoidable, cable treads should be used to anchor cables and minimise tripping risks. Care should be taken not to position items that block access to other items of tasks, e.g. putting items in front of windows making it difficult to open them.

Furniture should be positioned such that tripping hazards, trapping points and accidental collision with doors or shelving is avoided (see below).

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Chair too close to shelving** | **Restricted access to filing cabinet** | **Likely collision when door opened** | **Likely collision when door opened** |

**S**taff should also be aware of trapping points between chairs on wheels/arm rests and desks with side drawers.

1. **Office Environment**

The office should provide a comfortable working environment including an adequate amount of lighting for the tasks carried out and reasonable levels of temperature and humidity. Where possible to suit their personal needs, e.g. adjusting the heating by turning off radiators, using portable heaters or fans or using a table lamp to increase light levels. At least one window in an office should be openable to allow fresh air to enter the room.

Lighting codes recommend the following lighting levels (lux) for various tasks:

Filing copying 300

Writing, typing, reading data processing 500

Technical drawing 750

CAD workstations 500

Conference/meeting rooms 500

Reception desks 300

The temperature in an office should not be below 16 degrees C for any length of time. Similarly, if office temperatures exceed 30 degrees C then this should be seen as an unacceptable working environment. Each office should have access to a thermometer to allow temperatures to be monitored.

Humidity levels should be between 40 and 70% relative humidity (RH). Levels above or below these figures can result in uncomfortable working conditions.

Lighting, temperature and humidity levels can be measured by the Safety Adviser’s Office.

1. **Storage**

Each workplace should have designated storage areas for office equipment, books, files, paperwork and other office items such that the main thoroughfares are kept clear. They should not be stored on the floor, even temporarily, as people could trip or slip on them. Cupboard tops should also not be used as a convenient storage solution, particularly not for heavy items.

Any shelving unit provided for storing items should be fixed firmly to the walls. Shelves that rest on wall mounted brackets should be securely fixed to the brackets and not just left to rest on the supporting arms. When using shelves, make sure they are not overloaded. Shelving units should normally be marked with the maximum weight of items that can be stored on each shelf. Loose shelving/bracket arrangements may not have the weights specified – in these cases the user should take note of any bowing in the shelf. In these instances the amount of items on the shelf should be reduced.

Store books, files, and other items in a vertical position – this will make it easier to retrieve them and will reduce the chances of items being dragged off the shelf accidentally. If the shelving units are open-ended, use book-ends or similar to prevent items falling. Avoid storing items two deep as the front item can be easily knocked off when attempting to retrieve the items behind. This applies particularly with fragile decorative items, e.g. glass or china vases which ideally should be stored at lower levels away from other items.

Always store the heavier items on shelves between chest and knee height. Infrequently used items or light items should be stored on the high and low shelves. Ensure that filing cabinets are evenly loaded. Do not leave a filing cabinet with drawers open as they could topple over.

1. **Workstation Design**

Workstations must be suitable for both the person and for the job done, i.e. must be arranged so that each task can be carried out safely and comfortably. Materials and frequently used equipment or controls should be within easy reach without undue bending or stretching.

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Seating should where possible provide support for the lower back, and a footrest should be provided for any worker who cannot comfortable place his or her feet on the floor. Workstations should provide for special needs of individuals, including those with disabilities. The worker should be seated at a suitable height in relation to the work surface.

1. **Display Screen Equipment (DSE)**

DSE workstations must have a separate written assessment. DSE encompasses microfiche readers as well as visual display units. Safety Circular SC43 provides more detail on how to carry out an assessment and an assessment form. The key issues are:



* Adjust your chair to find a comfortable position
* Keep your forearms horizontal
* Make sure you have enough workspace for the task you carry out
* Play around with the arrangement of your equipment until you find something that suits your needs.
* Use a documents holder if you refer to documents constantly.
* Arrange your desk so that screen glare is avoided.
* Make sure there is sufficient space under the desk to move freely.
* Avoid excessive pressure on the backs of your legs – use a footrest if necessary.

Keying in – adjust the keyboard position to a position that suits you, ensuring there is a space in front of the keyboard and this can be useful to rest the hands and wrists when not typing. Try to keep wrists straight and use a soft touch – do not overstretch your fingers when typing.

Using a mouse – the mouse should be close to you and the wrist should be straight. Do not overstretch when using the mouse. Try to support your arm on the desk and grip the mouse lightly. Use a light touch when pressing buttons or using roller balls.

Reading the screen – Make sure the brightness and contrast is suitable for you and takes into account the office lighting. Make sure that the character size is sufficiently large and that there is no flicker on the screen.

Posture and breaks – ensure you take regular breaks away from your workstation. Change your posture as much as you can – do light stretching exercises to keep the body from remaining in the same position for too long.

1. **Manual Handling**

Office staff will be frequently involved in handling items in the office but in most cases these will not pose a significant risk. Most items will be relatively small and easy to handle. All members of staff should read the booklet “What you should know about manual handling” and the generic risk assessment “Occasional manual handling of medium loads” – these documents will cover the risks associated with a variety of office items up to about 15kg. Where items are large (desks), have an awkward shape (large monitors), or are likely to be too heavy to carry (photocopying machines) then an assessment should be conducted before anything is moved. A manual handling risk assessment and guidance is available on the safety website.

1. **Electrical Equipment**

Office electrical equipment should be checked for safety at least every 2 years and a dated test label applied. It is recommended that staff carry out regular visual checks on their equipment to see if there is any obvious damage to cables and plugs. Staff should not use electrical equipment that is damaged, does not have a test label on it or is out of date. Office staff should not attempt to carry out electrical repairs themselves but should use the services of a competent electrician.

So far as is possible, electrical equipment should be turned off at the end of the working day, particularly computer monitors which have been known to catch fire due to overheating.

Water and electricity don’t mix – take care if you have a drink at your desk. Make sure it is placed in a position where it is unlikely to get accidentally knocked.

See Safety Circular SC5 for further details.

1. **Office Machinery**

A wide variety of equipment will be used in the office but most will pose very little risk if used correctly. Some items of office equipment (e.g. guillotines, scissors, hole punches, etc) have the potential for cutting and penetration injuries so care should be taken not to become distracted when using them. Larger electrical items (photocopiers, faxes, printers, etc.) should be safe to use if the operating instructions are followed correctly and they are electrically tested at suitable intervals. Items such as shredders have been known to catch dangling items such as id badges on chains. Staff should ensure that items such as these (including ties and necklaces) are not close to the top of the shredder when in use.

If equipment is provided with safety guards these must always be in place when the machine is operated. Under no circumstances may such a machine be used without its guards.

Staff should not attempt to carry out repairs on electrical equipment.

1. **Hazardous substances**

Use of hazardous substances in the office is minimal. For use of small quantities of Tippex or cleaning fluids, it is sufficient to read and follow the instructions on the container. However, larger quantities of solvent cleaners should only be used where ventilation is very good. If there is any doubt, the advice of the Departmental Safety Coordinator should be sought in the first place. Copiers and printers can sometimes release small amounts of ozone, but this could only reach an unacceptable atmospheric concentration in the case of intensive use in a small room with no ventilation. No copier or printer in the University has been found to produce an ozone concentration of even 10% of the exposure limit. Laser printers contain ozone filters which should be changed after the number of copies recommended by the manufacturer.

1. **Smoking**

From the 1st July 2007, smoking is not permitted in any office or workplace. For full details, see the University’s Code of Practice on Smoking.

1. **Fire**

Staff should be aware of the fire drill and all alternative fire exits. There should be a fire drill and fire safety training every year. Fire exits must be kept clear of obstruction. Self-closing fire-resisting doors must not be wedged or propped open. The amount of combustible material should be minimised as far as possible to reduce the fire load. In particular loose paper should be kept inside metal cupboards or cabinets so far as is possible.

Staff should not use candles, incense burners or any other similar items that introduces a naked flame into the office environment.

For more detailed guidance on Fire Safety management, see Safety Circular SC03.

1. **Working at height**

In some office environments, space restrictions and lack of storage space has resulted in high level shelving being fitted. If you have storage areas that you cannot reach from floor level, a step stool or set of steps should be made available to allow access to stored items. No member of staff should have to stand on a chair, table or other piece of office furniture to access items that are out of reach.

1. **Damage**

All damaged furniture should be removed from service immediately and either replaced or repaired. Foam-filled furniture is generally covered with fire resisting material, but where the cover is damaged or worn and the foam is visible the item should be upholstered or disposed of.

1. **Waste Disposal and Recycling**

Staff should take care not to put any sharp items into the general waste bins. Numerous accident reports have been received by the Safety Advisers Office detailing how office cleaning staff have been injured when emptying the bins. Ideally, items such as broken glass, tins, skewers, etc. should be taken directly to an outside “Biffa” bin. Alternatively, items should be wrapped up in newspaper and secured before disposing of.

Paper and cardboard should not be stored is corridors and stairwells but should be kept in the office until a time for collection has been arranged.

**Appendix 3 – Risk assessment: Occasional Manual Handling of Medium Loads**

Almost everyone handles lifts or moves equipment from time to time. Loads which are not particularly heavy can cause injury if not handled safely. These injuries can be painful and/or disabling and therefore all lifting should be done with care. This assessment applies to the handling by men or by women of compact loads (not more than 400 rnm/16 inches across) of up to 15 kg, handled up to 10 times per week. For comparison, a box of copier paper weighs about 13 kg.

THIS ASSESSMENT DOES NOT SAY THAT ANY OCCASIONAL HANDLING OF UP TO 15 KG IS ALWAYS SAFE. However, the risk of such occasional handling is low **provided** that there are no special risks in the load or the environment; that stretching, twisting, bending the back or other unsafe movements are avoided; and that handling is not done by particularly susceptible individuals.

**The Load**

The load should be stable, easily graspable with both hands, and it should be possible to see over it. If it is sharp, hot or otherwise potentially damaging, special assessment will be required. Moderately heavy loads should so far as possible be stored and placed at a convenient height, i.e. between knee and shoulder level.

**The Working Environment**

The following environmental conditions should so far as possible be avoided, and if they apply, special assessment will be required:

* Space constraints preventing good posture
* Uneven, slippery or unstable floors
* Extremes of temperature, humidity or air movement
* Poor lighting conditions

**Manual Handling Technique**

Everyone should be given literature on manual handling approved by the Safety Adviser (currently the booklet, "Safe Manual Handling"). Loads should be lifted, carried and lowered as close to the trunk as possible. The principle "bend your knees not your back” should be followed. Where the load is not symmetrical, the centre of gravity of the load should be kept as close as possible to the trunk. For example a typewriter should be lifted with the carriage (not the keyboard) close to the body.

**Personal Factors**

People who have back problems or other conditions affecting their ability to handle loads should tell their supervisor or Departmental Safety Coordinator. The Occupational Health Physician is happy to advise in such cases. Pregnant women are welcome to contact the Occupational Health Physician about possible risks. Anyone experiencing back pain or other symptoms arising out of manual handling at work should consult the Occupational Health Physician before doing any further manual handling, and also report the incident to the Departmental Safety Coordinator, who should, after investigation, complete an Accident/Incident Report.

**Appendix 4 – Working with portable (Laptop) DSE Generic Risk Assessment**

1. **Introduction**

An increasing number of people now have access to what is known as portable DSE (Display Screen Equipment). Portable DSE includes devices such as laptop and notebook computers and whilst the chances of significant injury at work when using this type of equipment is small, there are some important issues that need to be understood before use is made of the equipment. This generic risk assessment has been produced to provide users of portable DSE with a guide to the main hazards and what control measures can be implemented to reduce the risk of injury.

1. **Scope**

Specific regulations exist for work with display screen equipment. The Health and Safety (Display screen equipment) Regulations 1992 (and amendments) provide information on the risks involved when using DSE and details precautions that should be followed before its use. This includes specific requirements for those designated as “Users” and provides minimum requirements for workstations. These regulations state that portable DSE is subject to the DSE Regulations only when it is in “prolonged use”. In practical terms this means that: -

1. If you use portable DSE instead of standard desktop DSE for prolonged periods then account must be taken of the minimum workstation requirements listed in the Regulations. If portable DSE is only used for short periods mainly as a supplement to main desktop DSE then the minimum requirements will not apply to the portable DSE (NB – it is worth remembering that although these specific regulations may not apply, general health and safety legislation does. It is advisable therefore that the standards below are adhered to where possible).
2. If you use portable DSE for prolonged periods then you are likely to be designated as a “User”. The employer is obliged to carry out certain tasks to ensure your safety when using this equipment. If you have already been designated as a “User” because of your work with desktop DSE, then switching to portable DSE (either fully or partially), particularly if you continue to use desktop DSE, is unlikely to affect your “User” status.
3. **Self Assessment**

If you use portable DSE for prolonged periods then you will be expected to carry out a self-assessment of the activities undertaken. As a first step, you should contact your Departmental DSE Assessor or Departmental Safety Coordinator who should be able to provide you with general guidance and advice on what precautions to take. It is recommended that you read the booklet - “Working with VDUs” – which also provides useful guidance on the general risks and precautions associated with DSE work. Further advice can also be obtained from the Safety Adviser’s office.

The following guidance should be applied each time the portable DSE is set up.

1. **Portable DSE Controls**
	1. **Equipment selection**

Look for a low weight portable DSE. Keep accessories to a minimum.

Choose portable DSE with as large a screen as possible.

Ensure the screen is free from flicker and that the brightness and contrast controls are easy to use.

Use lightweight cases to carry equipment – avoid cases that have manufacturer brands on the outside.

Choose portable DSE that can be used with docking stations and that have a facility to attach pointing devices.

Ensure the equipment has friction pads on its underside to reduce sliding.

* 1. **Using portable DSE**

Where possible, try to adhere to the general guidance for fixed DSE equipment, i.e.: -

* choose a suitable flat surface to work on. Avoid using equipment in non-ideal locations, e.g. on knees, in cars, on low level tables, etc as this encourages poor posture.
* try to work on surfaces similar in height to normal office workstations.
* where possible choose chairs that provide sufficient support to the back and encourage good general posture.
* Ensure there is adequate lighting for the tasks. Where possible, minimise disability glare by careful positioning.

In addition:-

* Use docking stations as far as possible.
* Only use portable equipment when away from your main office or when docking stations are unavailable.
* Avoid carrying or using portable DSE in circumstances where theft is likely.
* Do not leave equipment on view in vehicles.
* Only carry equipment that is likely to be needed. Consider a suitable backpack to reduce strain on the arms.
	1. **Breaks**

Portable DSE should not be used for extended periods without adequate breaks. Portable DSE users normally require a greater number of breaks away from their equipment to compensate for poorer working environments.

* 1. **Eyes and eyesight**

If you are a designated “User” then you are entitled to eye and eyesight tests. Whilst the use of portable DSE is unlikely to affect this entitlement, it is worth remembering that this fact should be relayed to those who carry out any tests as viewing distances could be shorter that those for standard desktop DSE.

* 1. **Provision of training**

If you are a “User” you are entitled to adequate training in the use of portable DSE. Your DSE Assessor should be able to provide basic guidelines on the use of portable DSE. Further training can be obtained from the Safety Adviser’s office.

* 1. **Provision of information**

This generic risk assessment should provide users of portable DSE with adequate information to allow them to work safely. Additional information on DSE use is available from your DSE Assessor or Departmental safety coordinator. If you have been designated as a User then you should have already received a copy of the “Working with VDUs” (Visual display units) document. Additional information on the use of portable DSE can be found in the DSE Regulations mentioned in section 2. A copy can be borrowed from the Safety Advisers Office.

* 1. **Reporting health problems**

Any health problems associated with the use of portable DSE should be reported immediately. In the first instance you should speak to your DSE Assessor or Departmental Safety Co-ordinator. Alternatively you can contact the Safety Adviser’s office will carry out a further assessment of the workstation and working arrangements. You can also contact the Occupational Health Department who will also provide guidance on the use of DSE equipment.

1. **Useful guidance**

Health and Safety (Display screen Equipment) Regulations 1992 as amended by the Health and Safety (Miscellaneous Amendments) Regulations 2002 – Guidance on Regulations: ISBN 0 7176 2582 6

Working with VDUs – free HSE leaflet

The Law on VDUs – An easy guide ISBN 0 7176 2602 4

**Appendix 5 – First aid kits**

The suppliers recommended are Kays Medical and Lewis’s Medical Supplies.  For details follow this link on the Procurement website:

<https://www.liv.ac.uk/intranet/procurement/suppliers_guide/category/first_aid.htm>

The recommended contents of the first aid boxes:

* The HSE leaflet *Basic advice on first aid at work*
* 20 individually wrapped, assorted sterile hypoallergenic plasters
* Two sterile eye pads
* Four individually wrapped, sterile triangular bandages
* Six safety pins
* Two large, sterile, individually wrapped unmedicated wound dressings
* Six medium-sized, sterile, individually wrapped unmedicated wound dressings
* A pair of disposable, non-latex gloves

**Appendix 6 Fire Risk Assessment**

See http://pcwww.liv.ac.uk/~steved/fireriskassessment\_maths.pdf

**Appendix 7** – Receipt of safety mathematic safety code of practice

**✂.........................**

FULL NAME:

**✂.........................**

SERVICE AREA: ID NO:

NORMAL PLACE OF WORK:

**✂.........................**

I acknowledge receipt of the Mathematics Safety Code of practice

ISSUED BY: POSITION:

(print)

RECEIVED BY: POSITION:

**✂.........................**

(print)

Signature:

DATE:

**✂.........................**

This Health & Safety document supersedes any previous Health and Safety Document you may have received.

Upon completion this receipt should be carefully removed and returned to:

School of Physical Science

Chemistry Department

**✂.........................**

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