

School of Environmental Sciences

SAFETY CODE OF PRACTICE**2010**

Head of School

Prof. Chris Frid

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School of Environmental Sciences

School Safety Policy

Statement by the Head of School

1. The Council of the University requires each School to have and to circulate an individual School Safety Policy.
2. The Head of School is committed to providing a safe and healthy working and learning environment for staff, students and visitors to the School. This recognises that Health and Safety activities are integral part of, research, teaching and the achievement of our objectives. Members of the School are the key resource in terms of achieving our academic aims and there is thus a positive benefit in ensuring their health and safety at work.
3. The Head of School has overall responsibility for Health and Safety in the School. On each site a Safety Coordinator will take day-to-day responsibility for safety. The School Safety Coordinator, site safety coordinators and the Head of School will form the Safety Committee together with union representatives and co-opted staff. The Safety Committee will meet every term. Feedback from the meetings will be given via the School Management Team. There will be an annual review of safety led by the Head of School.
4. Effective communication of safety information and instructions is deemed to be a priority in achieving a good working environment by way of achieving full participation of all members of the School. Formal channels of communication exist for this purpose but the value of informal contacts is acknowledged.
5. The School recognises the particular need for safety awareness and training in relation to its fieldwork activities, research and teaching. The School notes the provisions of fieldwork safety codes published by the Geological Society, Institute of Biology and the CVCP and is committed to communicating good practice outlined in these documents to all concerned.
6. Relevant legal requirements will be regarded as a minimum level of compliance.

Signed: Professor Chris Frid Date:

Head of School, Environmental Sciences

Signed copy of this statement is lodged in the School Safety Records and is available for inspection.

This document is designed to be read in the electronic version - there are active links that should be followed to further documentation that should be read and adhered to where appropriate.

Safety Legislation

Health and Safety at Work etc. Act 1974

This sets out main health and safety principles for both employers and employees.

To comply with the Act, the University, as an employer, must ensure, so far as is reasonably practicable, the health, safety and welfare at work of all employees by:

- providing and maintaining plant and safe systems of work.
- ensuring the safe use, handling, storage and transportation of articles and substances.
- providing adequate health and safety instruction, information and training.
- maintaining a safe place of work including safe access and egress.
- providing adequate welfare facilities.

The University also has to:

- ensure that its activities do not expose non-employees (e.g. students, contractors, etc.) to health and safety risks arising out of its activities.
- prepare a health and safety policy that details how it intends to manage safety and who will have specific health and safety responsibilities.
- recognise and consult with Trade Union safety representatives on all aspects of health and safety.
- when request is made by Trade Union safety representatives, establish a Safety Committee.
- ensure that if their premises are used by other parties then the premises are safe and maintained in good order.
- ensure that if they design, manufacture, import or supply any items or substances for use at work that these are safe to use and instructions are provided on how to use the items safely. Any equipment must be installed correctly and any testing that needs to be carried out to ensure that it is safe to use is carried out prior to use.

Employees also have duties too - they must:

- Take reasonable care for the health and safety of themselves and others who could be affected by their actions and omissions.
- Co-operate with their employer so that they comply with all their legal duties.
- Not interfere with or misuse anything that has been provided for health and safety reasons.

The Management of Health and Safety at Work Regulations 1999

A summary of the "Management" Regulations

Risk assessment Every employer must make a suitable and sufficient assessment of the risks to both employees and non-employees. The University must record this

information and review it on a regular basis.

Principles of prevention	The University must base their risk control measures on these principles.
Health and safety arrangements	<p>The University must have effective management systems in place including clear health and safety policies, designated roles and responsibilities and robust systems for monitoring and reviewing health and safety procedures and practices.</p> <p>Health surveillance must be provided in certain situations, e.g. where required by COSHH, or when:</p>
Health Surveillance	<ul style="list-style-type: none">a. there is an identifiable disease/condition related to the work; andb. valid techniques are available to detect the disease/condition; andc. there is a reasonable likelihood that the disease/condition may occur under the particular conditions of work; andd. surveillance is likely to further protect the health and safety of staff.
Health and safety assistance	The University must have available to them competent persons who can provide them with information on how to comply with health and safety legislation. The University's Safety Adviser's Office fulfils this role.
Procedures for serious and imminent danger	The University needs to establish procedures for emergency situations and state who is responsible for implementing the procedures.
Contacts with external services	As part of the emergency procedures, the University must have good communication with external emergency services, e.g. fire, ambulance, etc.
Information for employees	<p>The University must provide all staff with information on hazards in their workplace and measures they must take to protect themselves. This must include information on fire safety including those responsible for dealing with fire emergency situations. The employer must also ensure that if they employ a child that parents of that child are provided with information on hazards the child will be exposed to and control measures to be used to protect the child.</p> <p>In workplaces where two or more employers work, they must cooperate and coordinate on health and safety, informing each other of the hazards associated with their particular activities and what controls have been employed to reduce risk.</p>
Cooperation and coordination	
Persons working in host employers or self employed persons undertakings	The University must ensure that workers from another employer on University premises are provided with health and safety information about the area they are working in and the hazards and control measures employed in the area.

Capabilities and training	The University must ensure that staff are provided with sufficient health and safety training to enable them to carry out their work safely. The University must also take into account the capabilities and limitations of staff when allocating work.
Employee duties	All staff should use equipment in accordance with any training or instruction given. They are also required to report to a more senior member of staff any work situation that is dangerous or where the safety measures are not adequate.
Temporary workers	The University has to provide relevant safety information to temporary workers, in particular any skills or qualifications that are required to do the work safely or any health surveillance needed before starting work.
New or expectant mothers	Once the University has been notified in writing by the person concerned, specific risk assessments have to be carried out for any woman who is a new or expectant mother.
Protection of young persons	Specific assessments have to be completed for all young person's that work at the University. There are certain situations where young person's should not be employed unless as part of training and supervised by a competent person.

Safety Information, Training & Responsibilities

Overall responsibility for providing the resources for Health & Safety and overseeing that it is properly managed is with the **Head of School, Prof. Chris Frid (SC78)**.

Safety organisation at School level (1) will be the responsibility of the **School Safety Coordinator, Mr. Chris Hunt**.

In addition there will be Building (**Gordon Stephenson – John Marsden, Roxby- Irene Cooper, Herdman– Chris Hunt and Nicholson- Carmel Pinnington**) Safety Coordinators who will be responsible for local implementation at this level (2). Irene Cooper will act as Deputy to Chris Hunt in his role as SSC.

New staff and PGs will receive safety induction training by the University – this should be considered to be mandatory and attendance will be monitored. For PGs there is usually a session for the start of the academic year in October and a repeat session in April for later arrivals. There will also be safety induction at School/building level – part of which will be to read this Code of Practice and to sign a form (Appendix 1) to say you have read the CoP and agree to work within it. The signed form should be returned to **Lindsay Davies, PA to Head of School**, who will monitor this requirement.

Safety training for specialised activities and hazardous equipment will be carried out and records made locally (at level2).

University Safety Circulars and Codes of Practices are available on the University Safety web pages: <http://www.liv.ac.uk/safety>. Selected information on Safety Circulars will be disseminated via email to appropriate School personnel by the SSC and DSCs.

Designated members of the academic staff are responsible for the conduct of **undergraduate practical classes** and are assisted where possible by demonstrators. The members of staff should not normally leave the class for more than a few minutes and a demonstrator should be left in charge. If the member of staff has to leave the building, arrangements should be made for a colleague to be available to deal with emergencies.

Students should be discouraged from leaving bags on the floor or in gangways where they may cause accidents.

Undergraduates may be given permission to work in a teaching laboratory outside scheduled sessions but within normal working hours. This permission can only be given by the member of academic staff responsible for the practical work, who must be satisfied that no significant hazards exist in the activities. The SSC/DSC can also allow access to teaching laboratories providing a written risk assessment has been submitted for the activities involved and no significant hazards exist.

Each **Research Unit** has a member of staff who is responsible for all Safety matters in the unit (Appendix 2). It is the responsibility of this member of staff to implement appropriate Safety management and COSHH procedures. Others using particular research facilities should be given Safety instruction at the commencement of their work and this should be recorded. Those supervising research facilities must satisfy themselves that people commencing experimental work are competent to do so. Users must not carry out procedures for which there is no Safety paperwork or any unauthorised experimental work.

Inspection & Monitoring

At 6 monthly intervals (normally May & November) all areas and activities of the School will be subject to a rigorous Safety Inspection. The Inspection Team will be composed of: the Head of School (at one year intervals), the School Safety Coordinator, the specific Safety Coordinator for the building under inspection, representatives from the University Safety Office (should they wish to attend), Safety Coordinators from other disciplines who are paired for Inspections and the PA to the Head of School who will record the Inspection. The Inspection Report is submitted to the University Safety Office and posted on the School web pages. **The Inspection Team have the powers to require immediate cessation of activities that are hazardous or unreported.** Safety paperwork may be requested from any person for any activity.

At induction new PGs will be required to submit a "Preliminary Assessment of Safety Requirements involved in PhD Studentship" form (Appendix 3). This form requires a signature from the Supervisor and also an acknowledgement that the University Safety Induction has been attended. Access card authorisation is withheld pending submission of this form.

Risk Assessments

The procedures for Risk Assessment are as outlined in Safety Circular 42/3.

[pdf](#) [word](#)

Basic risk assessment form

Many activities and substances will be covered by the University Codes of Practice (<http://www.liv.ac.uk/safety/>) which are in effect, Generic Risk Assessments. If written Risk Assessments are made in such circumstances the specific Codes should be referred to. These Codes detail procedures and precautions to be taken for the following:

- [Acrylamide](#)
- [Animal Allergens](#)
- [Animal Hazards](#)
- [Asbestos](#)
- [Carcinogens, Mutagens and Teratogens](#)
- [Confined spaces](#)
- [Fieldwork safety](#)
- [Hazardous or unusual activities](#)
- [Responsibilities of Supervisors towards Postgraduate and Undergraduate students](#)
- [Means of escape for disabled people](#)
- [Minibuses](#)
- [Smoking](#)
- [Stress](#)
- [Workshop safety](#)

And Generic Risk Assessments:

[Office Work Manual Handling](#) - Occasional lifting of medium loads

[Laptop computers](#)

[Contractor Safety](#)

If you are knowingly involved in activities related to these topics the relevant Code/Assessment should be read and adhered to.

The University Safety website, <http://www.liv.ac.uk/safety/> has guidance on [Bio safety](#) and UCEA Codes including:

[UCEA Code on fieldwork safety](#)

[UCEA Code on placement of students](#)

[UCEA Code on working overseas](#)

There is also an A-Z of Health & Safety matters from Abrasive Wheels, through Food Hygiene and Fireworks to Zoonosis and should be consulted as an important resource for all things related to Health & Safety.

The onus is on individuals to check that for any particular activity it is covered by Generic Risk Assessments or there is a Specific Risk Assessment in place.

For all new research projects a Risk Assessment must be prepared which identifies the Codes of Practice which apply and which assesses other risks associated with the project. There should be a

preliminary assessment of risks and subsequent submission of specific assessments as the project develops. Specific Risk Assessments are the responsibility of the Supervisor/Principal Investigator and although research students may be involved in the preparation of these they can only be authorised by Head of School, SSC, SC or Supervisor/PI.

At induction new PGs will be required to submit a Preliminary Risk Assessment which must be signed by the Supervisor and Out of Hours access will be denied pending submission of this form (see above).

All Risk Assessments should be submitted to the School Safety Coordinator.

COSHH Assessments

[SCR18](#)

This safety circular explains the requirements of the COSHH Regulations and how to carry out assessments. It sets out Standard Precautions for most laboratory work and includes forms for Specific Assessments.

Supervision of Research Students

Supervisors are responsible for the Risk Assessments of procedures used by their research students and other research workers. It is required that there is the nomination of a substitute supervisor in their absence and regular checking that students are working safely. Supervisors must authorise all Assessments (see above).

Research students must clear up properly at the end of their project. A completion certificate has to be signed by the student, primary supervisor and HoD or Director of Postgraduate Research confirming that the working place has been cleared and any samples are properly labelled and stored before the individual concerned can have their thesis accepted for examination.

Dealing with Accidents and Emergencies

It is important that in the event of an emergency the number you should ring from University phones is **2222** which is a dedicated emergency line to University Security. All University phones should show this number on a red label. On external pay phones or your own mobile you may have to ring 999. In the event of reaching emergency services via 999 from a pay phone/your own mobile/or by dialling 999 on a University phone you may be asked questions regarding location and access which you are unable to answer – which is why this should be avoided!

Fire Assembly Points

Specific details of emergency evacuation routes in particular buildings are in Appendix 4.

All persons should make themselves familiar with alternative escape routes in the event that the main routes are unavailable.

Herdman Building & Annexe	Away from building opposite main entrance
Nicholson Building & Hunter Suite	Away from building on path by POL
Gordon Stephenson Building	Garden area immediately opposite front entrance
Roxby Building	Grassy mound outside front entrance
Oliver Lodge (Geomagnetism)	Between Oliver Lodge and Chadwick

In all cases do not obstruct pathways and means of access that will be used by Emergency Services.

Fire Extinguishers

This link describes the type of Fire Extinguisher you will encounter and how to use them appropriately: [Fire extinguishers](#), [fire blankets](#).

Fire Drill Procedures

Fire bells are tested once a week at which time the alarm should sound for no more than 10 seconds. If the alarm should ring for longer than 10 seconds a full evacuation must be carried out. Faulty bells or situations where the alarm is inaudible should be reported to the Fire Officer. Full evacuations are held at least once a year, normally when the new students are present in October.

Fire Officers and Fire Wardens in the different buildings in the School are listed in Appendix 2.

Before a Fire Drill the Fire Officer should inform Security (43252) and the Fire Brigade (2964000) that the drill is about to take place. The School operates a Fire Warden system that is only formal during Fire Drills. e.g. it is impossible to manage cover at all times and all occasions. Fire Wardens will check that their particular areas are clear and then report to the Fire Officer at the Assembly Point. **It is not the role of Fire Wardens to attempt to fight any fires!** During a Fire Drill evacuation routes may be deliberately blocked so people are forced to use alternative means of escape. After the Fire Drill the Fire Officer should inform Security and the Fire Brigade that the drill has been completed. The evacuation will be timed and a written report submitted to the Safety Office.

Any student or member of staff with mobility problems must contact the Fire Officer (see Appendix 2) in every building they might use to arrange for a PEEP (Personal Emergency Evacuation Plan). EVAC chairs are located on both staircases of the Roxby building.

Instructions on the on-line reporting of accidents and incidents in the University.

What needs to be reported?

A report must be completed for every personal injury arising out of work and for every near miss incident which may have caused injury or serious damage. Any serious accident, e.g. a fatality or [major injury](#) or [serious incident/event](#) such as the failure of a pressure vessel must be reported to

the Safety Adviser's Office by telephone immediately and followed up with both parts of the online report.

Who makes the report?

[Part A](#) of the report form should be filled in by someone with supervisory responsibility for the area where the incident took place, in consultation with the individual concerned (where appropriate). The Safety Coordinator (SC) can also fill out the form.

Is anything else needed?

An investigation of the underlying causes of the accident must be carried out and the findings and recommendations recorded on [Part B](#) of the form which should be emailed to the [Safety Adviser's Office](#). This should be led by the SC with the assistance of others as required. Injured persons who return to work on the same day should inform their Trade Union representatives. Where absence is longer, Schools should inform the Secretary of the Joint Union Committee on Health, Safety and Welfare.

Safety Coordinators are automatically informed of the incident/accident via the electronic submission. Submissions should be made within 10 working days of occurrence unless serious (see above).

Working outside normal hours

Normal working hours for practical purposes are defined as Monday to Friday, 0830 to 1730 – buildings will be unlocked and locked close to these times. Any person working outside these hours must ensure that there is at least one other competent person present. There is an Out of Hours Late Working Book sited inside the main entrance of every building – to comply with Fire Regulations this must be filled in when you enter and leave the building outside of normal hours. You must record your name, location and time of entry and leaving. If you are already in the building at 1730 it is necessary to attend the main entrance and sign in. If entering outside normal hours beware of “tailgating” intruders. If leaving after dark you are advised to depart in pairs (particularly females). The use of lifts outside normal hours is not recommended.

Issue of swipe cards (to gain out of hours access) to new research students will be withheld pending submission of a Preliminary Assessment of Safety Requirements involved in PhD Studentship form.

Electrical Testing

Periodic electrical safety checks are carried out in compliance with [SC5/6](#). Every electrical item should bear a test sticker - members of the School should not be using electrical equipment that does not bear a valid sticker. Electrical items are checked during the scheduled 6 monthly Safety Inspections – if you discover any items not bearing a valid sticker or new electrical items are brought into the School you should contact the appropriate Safety Coordinator who will arrange for their testing.

Checks are due as follows (see [SC5/6](#) for detail):

- Annual checks – regularly moved items such as audio -visual equipment and lamps.
- Two yearly checks - all other electrical apparatus connected by plug and socket.

Five yearly checks - apparatus permanently connected to supply points – will also normally include PCs.

Manual Handling

Manual handling is consistently one of the top two causes of injuries in the University. Manual handling is subject to [The Manual Handling Operations Regulations 1992](#) and derived from this is a University generic risk assessment:

Manual handling [pdf](#) [word](#)

Occasional lifting up to 15kg following guidance on safe methods is acceptable. A manual lifting assessment should be carried out for larger loads or awkward lifting. These assessments ought to be conducted by someone who has done the manual lifting course – in each building this will normally be the appropriate Safety Coordinator – who can also provide advice and literature on this matter.

Specific assessments may have been carried out for many tasks and Safety Coordinators should be consulted to see if this is the case when moving any items heavier than 15kg.

DSE assessment

All workstations have to meet minimum health and safety requirements. Where a workstation is used by someone identified as a "user", further assessment is needed. For full guidance on identifying users and carrying out assessments see [Safety Circular 43/4](#).

If you experience any health problems you think are associated with workstation use, tell your Safety Coordinator or supervisor so that an investigation of your workstation and working arrangements can be carried out.

School staff may be requested to complete a self assessment form - [Self Assessment](#). In this case if any problems are identified a formal assessment will be conducted by the appointed DSE assessors – Tim Fitzpatrick in the Herdman & Nicholson buildings and Bob Hunt in Roxby and Gordon Stephenson.

Users may request a full eyesight test – anyone experiencing eye problems should contact [Occupational Health](#).

Laboratory Safety

Laboratory Safety is subject to many local influences so is arranged here on a subject basis:
Herdman & Nicholson Laboratory Code of Practice

1. This Code of Practice shall apply to all laboratories used for chemical experiments. All laboratory work must be subject to a risk assessment which must be signed by the supervisor. Forms are available from the Safety Officer or Safety web site.
2. Rules applying to all personnel
 - (a) Safety spectacles must be worn.
 - (b) Rubber gloves must be worn when experimental conditions necessitate; i.e. when instructions

on laboratory experimental sheets so designate, or on the advice of the supervisor.

- (c) Students must provide their own laboratory coats, which must be worn at all times.
- (d) Food and drink must not be consumed in any laboratory.
- (e) No solutions must be pipette by mouth; for all such work pipette filler must be used.
- (f) Never use volatile materials outside a fume hood, or fume cupboard. All volatile corrosive acids and ammonia solutions must be used in a fume cupboard.
- (g) Always dispose of waste solvents in the appropriate plastic containers (**green** - halogenated, **red** - non-halogenated) - never down the sink. Sink disposal of aqueous solutions and acids must always be carried out using a large flow of water.
- (h) Solvent extractions carried out in a separating funnel can lead to an increase in pressure on shaking. Release any pressure at frequent intervals by inverting the funnel, with the stopper securely held, and opening the tap cautiously.
- (i) Smoking is not permitted in any laboratory.
- (j) All chemicals, which are specifically labelled 'poison' (red lettering), are stored in the 'poisons cupboard' and must be returned there after use and the cupboard locked. The key may be obtained from the person responsible for the laboratory.
- (k) Inflammable solvents must be stored in the solvent bins provided, or, in the solvent store on the ground floor.
- (l) Filter flasks, vacuum desiccators and dewars must be taped, or boxed, to guard against implosion.
- (m) GASES:

All gases in Nicholson are piped in from gas cylinders on the ground floor. If the gas alarm beeps (on the panels on floors 1 and 2), press the MUTE button and inform any member of academic or technical staff.

Cylinders of compressed gases present a potentially very dangerous hazard in the laboratory.

Always follow the general rules listed below:

- (i) Make certain that the gas in the cylinders is the one, which you require.
Cylinders
- (ii) are labelled and colour coded; oxygen - black; nitrogen - grey with black top; argon blue; inflammable gases are red and have a left-hand thread. Nitrous acid and carbon dioxide cylinders are also black, but have their own individual fittings.
- (iii) Gas cylinders must only be transported using the trolleys provided.
- (iii) Gas cylinders must always be secured to a wall, bench or frame, and under no circumstances must they be left in a free-standing condition.
- (iv) Before connecting the regulator to an oxygen cylinder the cylinder must first be opened and closed sharply to remove any grease and dust from the valve seating.
- (v) Regulators should be connected tightly using the spanner provided with only manual strength - DO NOT HAMMER THE SPANNER. After connecting the regulator check carefully the cylinder valve. Check for leaks around the screw thread connecting the regulator to the cylinder using a weak detergent solution. If there is a leak notify a member of the technical staff. Listen carefully for leaks in case the gas is escaping from the stem of the valve. If this occurs close the cylinder valve and immediately notify a member of the technical staff.
- (vi) If it is carelessly used, acetylene presents a considerable hazard. When fitting the regulator for this gas, ensure that there is a flash-back arrester connected

to it. Care must be taken to follow absolutely the directions given in the instruction manual for the instrument from which the acetylene is being used. Remember, the cylinder must be kept upright at all times.

- (vii) The use of nitrous oxide/acetylene flames in atomic absorption spectrophotometry presents a potential explosion hazard, and it is mandatory always to start the nitrous oxide burner using an air/acetylene mixture before transferring to nitrous oxide, and similarly to transfer from nitrous oxide to air before extinguishing the flame.

UNDERGRADUATES MUST ONLY USE GAS CYLINDERS UNDER THE SUPERVISION OF A DEMONSTRATOR OR MEMBER OF STAFF.

- (n) The distillation of inflammable solvents must always be carried out in the designated fume cupboard provided in Room 216. Naked flames must not be used in the same fume cupboard. When using condensers ensure that the connecting tubing is wired onto both the condenser and the tap.
- (o) All accidents and fires must be reported immediately to the Safety Officer, the School Manager or to any member of the academic or technical staff, and the appropriate form completed.
- (p) Any person discharging a fire extinguisher must immediately report the fact to the Safety Officer or a member of the technical or academic staff.
- (q) If an accident occurs the golden rule is to obtain qualified medical treatment as soon as possible.

If you have an accident:

- (i) Tell someone else and, if necessary, ask them to obtain emergency help for you by dialling 2222 on any University telephone. Then ask them to inform a member of the technical or academic staff.
- (ii) Administer First Aid
- (iii) In the Nicholson Teaching Laboratory (room 113) a shower attachment for the sink is available.
In the Geochemistry Laboratory (room A4.13, Herdman Annexe) a shower attachment for the sink is available.
- (iv) There are first-aid cabinets in all of the laboratories. Familiarise yourself with their locations.

3. Rules applying specifically to undergraduate students

- (a) No experimental work may be performed by an undergraduate student unless in a laboratory under the direct supervision of a member of the academic staff or an officially designated demonstrator.
- (b) No undergraduate may work in the laboratories or in any other part of the department, after 17.30 hours unless special permission has been obtained from a member of the academic staff.

4. Rules applying specifically to postgraduate students, postdoctoral and research assistants

- (a) No postgraduate student may work in the laboratories after 17.30 hours or at the weekend, unless at least one other person is working in the laboratories.
- (b) Postgraduates working in the building after 17.30, or at weekends, must fill in the Late Working Book.
- (c) Unattended experiments outside normal working hours:
Any experimental apparatus left on overnight requires a permit, with the exception of permanent proprietary items such as fridges, ovens, spectrometers, etc..

Forms should be obtained from Anu Thompson or Chris Hunt: Yellow permit for long term operation, Pink permit valid for the duration of the experiment only. Forms should be placed in a plastic wallet and displayed where appropriate eg. on the fume cupboard window, on the apparatus itself, on the room door.

- (f) Research students are responsible for their own experiments, and for making certain they are in a safe condition when left for any period of time.

Roxby Laboratory Code of Practice

Before starting work in any of the Geography laboratories first consult Acting Lab Manager, Irene Cooper (905) and in her absence Alan Henderson

Everybody working in laboratories has a legal obligation to take reasonable care for the safety of himself/herself and of other persons who may be affected by his or her acts of omissions. In each laboratory area there is posted a set of local rules. These rules must be read and understood before any individual carries out work in the laboratory area.

Control of substances hazardous to health (COSHH) regulations came into force from 1st October 1989. It is the responsibility of the academic member of staff in charge to assess each use of any hazardous substance. Guidance on carrying out COSHH assessments is contained in appendix (4) SCR18. Information on how to carry out COSHH assessments and on the University standard precautions and requirements for specific assessments is posted in each laboratory and on the safety notice board on the 9th floor corridor. . The HSE web site <http://www.coshh-essentials.org.uk/> is of help for those preparing Specific Assessments .

VWR and Fisher data sheets and other information helpful with assessments is available in hard copy and <http://www.hse.gov.uk/pubns> Postgraduates and research workers must keep records of the assessments with experimental notes before commencing any work using such substances. A copy must also be given to Irene Cooper which will be kept with safety files.

Much of the work of a University is highly specialised and only those people actually engaged in it have a reasonable knowledge of the hazards that may be involved. It is the duty of the University to provide safe and proper equipment and methods of work but safety cannot be guaranteed unless each individual is prepared to share this responsibility and do everything in his or her power to prevent injury.

Please observe the following:

- a) Use safe procedures at all times by following local laboratory rules appendix.
- b) Use protective equipment on all necessary occasions. Training in the correct use of personal protective equipment will be given to all new users.
- c) Report accidents and potentially dangerous occurrences to the HOS or his representative, e.g. the SC, and co-operate fully in investigations which are carried out to prevent recurrence;
- d) Report unsafe or unhealthy working conditions to their supervisor or the Safety Officer;
- e) When working outside the University, pay attention to local safety precautions and ensure that those who may be affected by hazards arising from their work are kept informed.
- f) Hazardous waste such as broken glassware, low level radioactive substances generated in the course of lab work should be disposed of in accordance with the University Safety Code [SC48](#) . The technician responsible for each laboratory area will ensure these safe procedures are followed.

- g) Access to the roof from the 901 is prohibited without specific prior permission by a member of the laboratory staff. For access to the higher roof level a "permit to work" is in operation ask Irene Cooper for further details

No one may undertake laboratory work without first consulting the Acting Laboratory Manager or her deputy, or in the case of work involving radioactive substances in room 912a, the Departmental Radiation Protection Officer (Dr. Barbara Mauz room 515). For work in OSL Laboratory permission and training must be sought from Dr. Barbara Mauz and Prof. Andreas Lang. Local Rules for 912a(Radiometric Lab) and 701b (OSL Lab) are displayed in the rooms and must be read prior to commencing work. A training record is kept in OSL lab.

Specific permission will be required for work undertaken outside normal hours. Postgraduate students and other research staff may work outside of 8.30 am-5.30pm so long as the activity they undertake has been risk assessed and is of low risk e.g. packing and measuring samples on magnetic equipment or the xrf.

Postgraduate students and any other member of staff or visitor must sign the "out of hour's book" on the porter's desk when in the building outside of normal working hours as stated above. Work involving chemicals or of a hazardous nature will not be permitted. Undergraduate students are not allowed to work in laboratories after 5.00 p.m. or weekends or any other time unsupervised.

The following Technicians are responsible for the maintenance, cleanliness and safe operation of the department's laboratories as follows:

8th & 9th floor physical laboratories	-	Mrs I Cooper
& 9th floor balance and fridge room	-	Mrs I Cooper
9th floor Alpha/Palaeoecology Laboratory	-	Mrs. I. Cooper
9th floor Clean chemical Laboratory	-	Mrs. I. Cooper
8th floor Magnetics Laboratory	-	
8 th floor Microscope Room	-	Mrs. I. Cooper
7 th floor OSL Laboratory	-	Mrs.S.Packman/Dr B. Mauz
4th floor Lab. Space	-	Mr. A. Henderson
4th floor Met Room	-	Mr. A. Henderson

Always follow any "local" rules in individual laboratories.

Radiation Protection Officer for Geography is Dr. B Mauz (442850) who must be consulted before commencing any work in Alpha Laboratories (912a). And for work in OSL Lab. Dr Mauz or Prof Lang must be consulted, as these are controlled light rooms access for anyone is only by prior arrangement.

Compressed Gas Cylinders.

Detailed guidance on the safe handling of compressed gas cylinders is contained in section 8 of the University Code of Practice on physical hazards. However no one should attempt to disconnect or turn on the compressed gas cylinders without previous training from the SC (or deputy Alan Henderson).

Cylinders of acetylene and nitrous oxide are housed in the gas cylinder cupboard in room 911 (Wet Chem Lab.) and piped to AA Spectrometer in 911. Calor gas is used with the flame photometer and also stored in the same cupboard in room 911. Compressed air is stored in ground floor under stair store for use with field equipment.

Cylinder of Helium is located next to Bruker S2 Ranger XRF in 805; it is secured to the wall and has flexible piping connection to the machine.

Nitrogen is housed in cupboard in 701a and piped to instrument in 701b rm 3 (OSL Lab). Compressed is also stored and used in this room.

Compressed air line is used in OSL - it is important it should never be directed at the body, see code of practice for Physical Hazards

http://www.liv.ac.uk/safety/documents_guidance/Codes%20of%20Practice/physical_hazards_September_2005.pdf

Cryogenic Substances

Members of staff handling such substances (i.e. liquid nitrogen) must refer to Section 9 of the University Code of Practice on physical hazards (link above)

In particular:

- i) Handling should be done with large insulated gloves that can be shaken off in case of spillages
- ii) Moving liquid nitrogen up and down the building in a lift should be done by calling the lift from the arrival point, (a second person will be needed to guard the open lift.) Since the lift may be intercepted on another floor a notice should be attached to the Dewar containing the liquid nitrogen. DO NOT ENTER THIS LIFT. These notices are available from Irene Cooper.

Special arrangements will be required for transport of liquid nitrogen to and from the department.

A small amount of liquid nitrogen is used in low temperature susceptibility measurement in the Magnetics Laboratory.

Some general rules and information for your laboratory safety

DO NOT bring food and drink into the laboratory Pathogens and dangerous chemicals can be picked up when food is put down

DO NOT pipette by mouth

DO NOT leave solutions where they can be knocked over

DO NOT carry out hazardous operations when you are alone in the lab Undergraduates must not work alone in the laboratories

DO NOT empty soil and chemicals down the sink Technician will advise

DO NOT use any equipment without being trained and instructed in safe and correct use and being aware of any risks or hazards involved The Acting lab manager and other lab.technicians and staff will provide appropriate training. A Safety Training Record must be kept

DO ensure that the chemicals you are using and the procedures being followed have been assessed under COSHH. Use of hydrofluoric acid Technician in charge of lab will give further information which is also available from DSC

requires a “specific” assessment

DO wear a lab. coat at all times when working in the laboratories You will not be allowed to work in laboratories without a lab. coat. Undergrads & postgrads must provide their own

It will save your clothes and give you some protection

All personal protective equipment must be worn in accordance with the COSHH assessment

DO label all solutions and samples

No harmful solutions such as acids are to be left on bench

DO make sure you know where fire exits and fire extinguishers are

Ask Lab Technician or SO

DO report all accidents to DSO.

DO Dispose of samples and broken glass correctly

DO mop up any spillages as they occur.

A pool of acid and water look the same

Spillages of hydrofluoric acid must be neutralised with calcium hydroxide first

Office Safety

Many office activities such as manual handling and electrical safety are covered in other generic assessments – there is, however, also a specific generic assessment in place - [Office Work](#).

Workshop Facilities

It is the responsibility of the relevant workshop supervisor (see Appendix 2) to ensure that all equipment is fitted with the appropriate safety equipment and that users are fully trained in the safe use of equipment. A register of training should be kept locally. The use of workshop facilities without permission of the supervisor is strictly forbidden. A specific risk assessment of all workshop equipment is required. There is a Code of Practice on [Workshop safety](#) – all workshop users should read and adhere to this.

Work Equipment

There is a Safety circular [SCR15/3](#) covering Work Equipment Regulations. The Provision and the Use of Work Equipment Regulations (PUWER) requires that:

- (a) Equipment must be suitable for its conditions of use
- (b) It must be adequately maintained
- (c) Only those who have been given instruction and training may use it
- (d) Written instructions must be given where appropriate and manufacturers written instructions must be passed to all users
- (e) Guards and controls must be adequate

All potentially hazardous equipment should be assessed using the Equipment Safety Checklist in SCR15/3.

Records of training will be kept locally.

First Aid

By implication, if First Aid is administered there should be an Accident/Incident report submitted (see under 8 Dealing with Accidents and Emergencies). Contents of First Aid Cabinets are checked during the 6 monthly Safety Inspection - however, any use or deficiencies should be reported to the appropriate Safety Coordinator. Items should not be removed from First Aid Cabinets except for the purposes of First Aid.

First Aid cabinets/boxes are located as follows:

Roxby

Room 905 9th Floor Physical Lab
Room 805 8th Floor Physical Teaching Lab
Room 701 OSL Lab
Room 702 Photocopier
Room 401 Teaching Lab
1st Floor corridor next to telephone

Please inform Irene Cooper or Alan Henderson for replenishment.

At the time of writing there are 13 qualified First Aiders in Geography mainly for the purposes of First Aid on fieldwork. Suzanne Yee and Irene Cooper are trained for the purposes of First Aid at Work.

Gordon Stephenson

Room 2.05, Porter's Lodge
Please inform John Marsden for replenishment.
John Marsden is the trained First Aider in Civic Design.

Herdman & Annexe

Behind Porter's desk
Room AG03 Geophysics Lab
Room AG05 Rock Deformation Lab
Room AG07 Rock Deformation Workshop
Room A217 Drawing Office
Room A309 Isotopes Lab (to be relocated)
Room A413 Geochemistry
Please inform Chris Hunt for replenishment

Hunter Suite

EB1 Corridor
Room EG3 Lecture Room

Please inform Chris Hunt for replenishment

Nicholson

Room 101 Teaching Suite

Corridor outside Room 117
Corridor outside Room 215
Room 309 Break room

Please inform Chris Hunt or Carmel Pinnington for replenishment

Geomagnetism

Main Lab

Please inform Robin Aspey for replenishment.

At the time of writing there are 33 qualified First Aiders in Earth & Ocean Sciences.

Large First Aid field kits are available from Chris Hunt for Earth & Ocean Sciences and from Irene Cooper for Geography in support of undergraduate field classes. Qualified First Aiders involved in fieldwork are expected to carry their own field kits stocked to their level of expertise and appropriate for the expected field conditions. There is a limited supply of items for personal kits available from Chris Hunt.

Ideally every staff member (including PG demonstrators and technical staff) on a field class should be a fully qualified First Aider. If this is not possible there should at least be a proportionate number of First Aiders in relation to the class size - this will vary with class size and field conditions – the School Safety Coordinator should be consulted for advice.

Fieldwork

Community visits from Civic Design/Human Geography is considered as fieldwork. A specific risk assessment form exists for this type of fieldwork - [Community visits risk assessment form](#). When carrying out community visits theft, vandalism and violent crime can be a problem in both remote and urban areas. Hazards to staff and students, particularly those working alone need to be considered carefully and appropriate precautions taken. Local crime rates, social and political factors should be considered and local police, social workers etc consulted if necessary.

Subjects carrying out such work should ensure that risks are assessed and appropriate precautions taken. Those undertaking the visit should always inform either a colleague or the School office of the areas/addresses being visited. A [model visit procedure](#) has been prepared which can be used by Schools as a basis for their own procedures.

The risk assessment should identify which of the following precautions should be used:

- carrying out pre-visit appointments and checks;
- making visits in pairs or with companion in earshot;
- using security locks on vehicles, buildings, stores etc;
- carrying anti-theft devices and alarms;
- carrying personal alarms (preferable linked to a central control system);
- carrying radios or mobile phones;
- using monitoring and reporting systems;
- training in interpersonal communication skills; and
- ensuring regular, planned reporting back.

All other types of fieldwork are subject to the [Fieldwork Code of Practice](#) and the [UCEA Code on fieldwork safety](#). Every instance of fieldwork requires the submission of a [Fieldwork risk assessment form](#) to the School Safety Coordinator.

Those involved in organising undergraduate fieldwork should refer to:

Appendix 7. Field classes under the auspices of the School of Environmental Sciences – General Safety Principles.

Organisers of overseas fieldwork should also be aware of the new British Standard BS8848: Specification for the provision of visits, fieldwork, expeditions and adventurous activities outside the UK. We should be working towards compliance with this standard as good practice but are not obliged to follow it.

The different subject disciplines in the School each have their own Codes for field safety relating to the type of fieldwork carried out. There is obviously duplication of basic fieldwork principles in these Codes – therefore you should only read those specific to your activities:

Appendix 8. Geography fieldwork

Appendix 9. Geology fieldwork

Appendix 10. Geophysics fieldwork

Appendix 11. Safety on Sea Practical (Oceanography)

Appendix 12. Standing Orders

Appendix 13. Small Boat Safety

Appendix 14. Intertidal Safety Procedures

Driving & Vehicles

Anybody likely to use minibuses as part of their School activity should refer to the University's [Minibus Code of Practice](#). Anyone wishing to drive a vehicle on University business should consult Chris Hunt who will require a copy of your licence and the completion of a form for insurance purposes. Drivers should normally have held a full licence for over a year, not be under 25 and report their driving status annually to Chris Hunt. Additionally there is a document (Appendix 6. Use of School vehicle and hired vehicles) which should be read by anyone intending to use the School vehicle and should be consulted for the conditions of use. Anyone driving any vehicle containing students especially minibuses is expected to have at least 10 years driving experience of minibuses or have undertaken a BSM minibus driving assessment. When driving a hire vehicle with more than 9 seats it is necessary to display a Section 19 Permit – this is available from Paula Houghton. Chris Hunt manages the use of the School van (a small Fiesta) – all other vehicles are by hire arrangement via Paula Houghton. Hire vehicles will normally be on the Hire Company's insurance and they will require a copy of your licence. In exceptional circumstances the University insurance will cover hire vehicles (e.g. for overseas trips).

Smoking Policy

Signs required by law should now be displayed in all University buildings. The University is under a legal duty to ensure that the workplace is smoke-free, and it looks to colleagues to observe and to enforce this rule. Staff and students are asked not to smoke near entrances into buildings and should stand a reasonable distance away (about 5m) from the entrance (and from any windows) to allow

non-smokers to enter buildings without having to walk through smoke. The University has a [Code of Practice on Smoking](#).

Children on Premises

Staff should only bring their own children into work if they can guarantee that they will be supervised at all times. Staff in the School should not be asked to look after children of other staff members as they may not be able to provide close supervision at all times. No child should be allowed to enter high hazards areas such as laboratories without the express permission of the Head of School. See [Children](#) for more details.

Facilities for the Disabled

Toilets with access for the disabled are in the following locations:

Ground Floor – Gordon Stephenson Building

Between lifts on First Floor – Roxby

Off the foyer, Ground Floor - Nicholson

An audit of facilities for the disabled in Earth & Ocean Sciences is available as Appendix 5.

Stress

Stress is an adverse reaction to excessive pressure. It is said to be the second-largest work-related health problem in the EU, after back pain, affecting 28% of employees.

Employers have a legal duty, so far as is reasonably practicable, to ensure that employees are not made ill by their work. This includes identifying and removing causes of stress, recognising stress problems and responding to them.

There is a [University Code of Practice on stress](#)