

## Extract from University of Southampton's Safety Policy: 2005/06

### 17.4 Safety in the Laboratory

Laboratory areas are inherently dangerous places. Every individual in the laboratory is responsible for the safety of all workers who could be affected by his/ her own experiment.

#### 17.4.1 Clothing

- < All students must wear appropriate **safety clothing** (laboratory coats, gloves and safety glasses) in all laboratories where chemicals are used and where required by a particular Risk Assessment.
- < **Students are expected to provide their own laboratory coats.**
- < Along with the appropriate safety wear you should also consider your general apparel when working in laboratories. Shorts, short skirts and open footwear (eg sandals) are NOT appropriate clothing for working in a laboratory environment. You should wear long trousers or a skirt that covers the legs. (Clothing made from natural fibres are preferable to manmade fabrics, especially nylon.) Shoes that cover the feet completely must be worn.

#### 17.4.2 Chemicals

- < Before any student is allowed to use chemicals in any laboratory they must comply with any safety instructions given by an appropriate member of staff (Risk Assessment details will be provided in the briefing and documentation given to the class).
- < Certain chemical substances may also require a **COSHH Assessment**.
- < The COSHH Assessment (Control of Substances Hazardous to Health) is an assessment which is required by the University for certain categories of chemical substance and is additional to the requirements of the Risk Assessment. Any COSHH assessable materials which you encounter in practical classes will be accompanied by a set of much stricter rules which must be fully complied with whilst you are handling that substance. (eg. a COSHH assessment may stipulate that you are only allowed to use some particular substance when it is contained in a fume cupboard). In your third year you will be expected to complete COSHH Assessments for certain materials if required during individual project work. Full guidelines are included within the SOES Safety Policy.

#### 17.4.3 Electrical Equipment

- < All (mains supply) electrical equipment used in the SOES (regardless of ownership) must have an in-date electrical safety test. If electrical equipment does not work DO NOT attempt to repair it yourself. Report it to the person in charge of the class, or the person responsible for the room.

#### 17.4.4 Food

- < The consumption of food or drink is **STRICTLY FORBIDDEN** in **all** laboratories.

### 17.5 Security and Access to the SOES and the NOCS

Incidents of theft do occur from time to time so do not leave valuables lying around and look out for 'strangers' who appear to be behaving suspiciously. A simple, but polite, offer of help to direct such 'strangers' is often effective in deterring theft and helping genuine visitors to the School.

**Unauthorised persons** and students are not allowed access to workshops and specified laboratories and may not use any tools, office or other equipment wherever situated in the School. If any person has no justifiable reason for being in a particular area, or for using equipment, then this is considered a breach of safety policy.

**Undergraduate students** are **ONLY** permitted onto the quayside or pontoon when supervised by an appropriate member of staff or an appointed demonstrator.

**Access to the building outside normal working hours** (08.00-18.00) should be via the revolving door in the main entrance, and all persons must book in and out with security on Level 4. No unauthorised person will be admitted to the building when it is locked. Doors and windows should not be left open. Only third and fourth year students are permitted to work in the Labs after hours. **No access to the building is allowed between 23.00 and 06.00 hours.**

## **17.6 Safety during oceanography fieldwork and/or boatwork**

Fieldwork and boatwork are activities, which involve inherent special risks and hazards. These activities are an integral part of teaching in the School. A number of 1st year students and all 2nd year students will attend formal field courses. Some modules also include boat days and boat practical classes.

As indicated in the introduction, all of your activities undertaken in the field or on the boat will be subject to a written Risk Assessment prior to the start of the work. The member of staff involved will ensure that all of the appropriate safety precautions have been adopted and that you have been fully briefed regarding these precautions. The member of staff in charge of the activity is also responsible for ensuring that a School "field expedition memo" is completed before departure. This form is left with the Deputy Superintendent (room 561/14) and includes a list of ALL personnel involved in the fieldwork activity, how they may be contacted, and when they are due to return.

**While leaders will take every reasonable care concerning the safety of students on fieldwork or boatwork parties, the potential dangers make it imperative that everyone should cooperate by behaving responsibly in order to reduce the risk of accidents. Ultimately each individual should act in a reasonable manner in order to ensure the safety of themselves and all others who may be affected by their acts or omissions.**

If you suffer from any medical condition (including asthma, vertigo and agro phobia, diabetes, allergies or on medication) you must tell the leader **before** the start of the field course.

### **17.6.1 Working Practices**

- < Students must observe all safety instructions given by party leaders, supervisors or crew. Anyone not conforming to the standards required may be dismissed from the field or from the vessel.
- < Appropriate protective clothing (for sun as well as cold) should be worn:
  1. A waterproof jacket (e.g. cagoule) and over trousers are essential and are required for all boatwork. Students who are not adequately equipped will not be allowed to participate in boatwork activities. Simple but effective 'foul weather' gear can be purchased locally for under £12-£15 (seek advice from Technical Superintendent or his deputy).
  2. Waterproof boots with non-slip soles should be worn, as decks (or pontoons) can be wet and slippery. Sports shoes are unsuitable. Steel toecap boots are recommended but not mandatory. Walking boots (as described in 17.6.2 below) usually give some protection to the toes and are acceptable for most boatwork activities.
  3. Warm clothing (as indicated below) is normally required since many of the boat activities occur over the winter and early spring months.
  4. The member of staff in charge of the activity may refuse to take persons who do not have the correct clothing.
- < Life jackets are provided on the SOES research launch and RIB and must be worn at all times.
- < **The Skipper of the vessel has absolute authority in all matters of safety**

## **17.7 Safety during geological field courses**

Some of the special risks and hazards associated with 'geological' field activities are due to working on coast exposures, in quarries, mines, river sections, and mountains. Severe or dangerous weather conditions may also be encountered at any season, especially on mountains or the coast.

If you suffer from any medical condition (including asthma, vertigo and agoraphobia, diabetes, allergies or on medication) you must tell the leader **before** the start of a field course.

#### **17.7.1 Personal Behaviour**

- < Observe all safety instructions given by party leaders or supervisors. Anyone not conforming to the standards required may be dismissed from the field course.
- < Stay with the party, except by clear arrangement with the leaders. Assemble where requested (e.g. outside a quarry) in order to receive specific instructions regarding likely hazards.
- < Observe instructions for reporting in after the completion of work.
- < Report any injury or illness.

#### **17.7.2 Clothing**

- < Wear adequate clothing and footwear for the types of weather and terrain likely to be encountered. Shirt, loose-fitting trousers, warm sweater, brightly coloured anorak with hood, are normally desirable in the UK. A woollen hat (in addition to the hood of an anorak) is useful in winter or on high ground. Gaiters and waterproof over-trousers are essential for wet weather. Jeans are generally unsuitable because they do not give sufficient protection when wet and are subjected to a cold wind, but are adequate if waterproof over-trousers are also worn.
- < Walking boots with rubber mountaineering soles are normally essential. Sports shoes are unsuitable for mountains, quarries and rough country. Wellingtons are generally best reserved for walking through shallow water, peat bogs and the like.
- < Leaders will refuse to allow ill-equipped persons on their field courses.

#### **17.7.3 Safety equipment and practice**

- < A safety helmet must be worn when visiting old quarries, cliffs, scree slopes, etc. or wherever there is a risk from falling objects. It is obligatory to do so when visiting working quarries, mines and building sites.
- < Wear safety goggles (or safety glasses with plastic lenses) for protection against flying splinters when hammering rocks or chisels.
- < Do not use one geological hammer as a chisel or hammer it with another; use only a soft steel chisel.
- < Avoid hammering near another person, or looking towards another person who is hammering.
- < Field courses are usually accompanied by a first aider, but students are required to bring their own first aid kit for personal use.

#### **17.7.4 Distress signal**

- < The international distress signal is 6 whistle blasts, torch flashes, shouts or waves of a bright coloured cloth with a gap of 1 minute between each repetition. Acknowledgement of this signal is by 3 whistle blasts.

#### **17.7.5 Precautions**

- < Take special care near the edges of cliffs and quarries, or any other steep or sheer faces, particularly in gusting winds.
- < Ensure that rocks above are safe before venturing below. Quarries with rock faces loosened by explosives are especially dangerous.
- < Avoid working under an unstable overhang.
- < Avoid loosening rocks on steep slopes.
- < Do not work directly above or below another person.
- < Never roll rocks down slopes or over cliffs for amusement.
- < Do not run down steep slopes.
- < Beware of landslides and mudflows occurring on clay cliffs and in clay-pits, or rockfalls from any cliffs.

#### **17.7.6 Quarries**

- < Avoid touching any machinery or equipment in quarries, mines or building sites.
- < Never pick up explosives or detonators from rock piles; if found, inform the management immediately.
- < Comply with safety rules, blast-warning procedures and any instructions given by officials.
- < Keep a sharp look-out for moving vehicles, etc.
- < Beware of sludge lagoons.

#### **17.7.7 Cliffs and cuttings**

- < Do not climb cliffs, rock faces or crags unless this has been approved as an essential part of the work.
- < Take great care when walking or climbing over slippery rocks below high-water mark on rocky shores.
- < More accidents to geologists, including fatalities, occur along rocky shorelines than anywhere else.
- < Beware of traffic when examining road cuttings.
- < Avoid hammering, and do not leave rock debris on the roadway or verges.
- < Railway and motorway cuttings are not open to geologists, unless special permission has been obtained from the appropriate authorities.

#### **17.7.8 Mines**

- < Do not enter old mine workings or cave systems unless it has been approved as an essential part of the work. Only do so then by arrangement, with proper lighting and headgear, and never alone.
- < Ensure that someone on the surface knows your location and expected time of return.
- < Be sure to report after returning.

#### **17.7.9 General behaviour**

- < All participants in geological field courses, or undertaking independent fieldwork, are expected to observe sensible standards of behaviour, to conduct themselves with consideration for others, particularly in hotels or other accommodation, and not to damage property in any way (e.g. by climbing over walls, leaving gates open, trampling crops).
- < Please do not disturb the environment more than is absolutely necessary.
- < Do not collect specimens unless required for serious study.
- < Do not hammer outcrops casually or indiscriminately.
- < Do not disturb living plants and animals.
- < Do not leave litter, including rock chippings.
- < Observe conservation requirements. Remember that public access is an acute problem in the countryside and especially in areas designated as National Parks.

### **17.8 Safety on Independent Non-Group Fieldwork**

- < It is School policy that geological fieldwork must not be undertaken alone and is subject to an appropriate risk assessment. During independent work you will be directed to be accompanied by another student or field assistant.
- < Geological fieldwork is an activity involving some inherent special risks and hazards, e.g. coast exposures, quarries, mines, river sections, and mountains. Severe or dangerous weather conditions may also be encountered at any season, especially on mountains or the coast.
- < *The potential dangers make it imperative that everyone should cooperate by behaving responsibly in order to reduce the risk of accidents. Each individual is responsible for his or her own safety.*
- < If you suffer from any medical condition (including asthma, vertigo and agro phobia, diabetes, allergies or on medication) you must tell your supervisor before the start of the fieldwork.
- < Each day you should inform an appropriate person or organisation (Police, Mountain Rescue Team, Coastguard etc.) of the area in which you will be working and your expected time of return. At the end of the day you should inform them that you have returned.

- < Your attention is particularly drawn to all the points of guidance and good practice described above in the section on Safety on Group Field Courses, which apply equally on independent fieldwork.
- < Students working independently should carry a whistle (to attract attention) and a first aid kit for personal use.

### **17.9 Safety during Geophysical Prospecting**

- < Only operate Geophysical equipment in a manner as instructed by the field course leaders and technician.
- < When levelling, particular care should be taken to avoid any overhead power lines.
- < When collecting survey data on roads, two people within the group must observe oncoming traffic and warn data collectors of any danger. All members of the party should wear fluorescent jackets at all times.
- < If there is a risk of lightning, geophysical fieldwork should cease and the individuals should move down from high ground. Sheltering under isolated trees is not advised.
- < Extreme care should be exercised in operating the Weight Drop. Only use the winding mechanism with the safety catch in place. If the weight becomes stuck DO NOT attempt to release it yourselves. Ask the technician or field course leaders to release it.
- < Exercise care when lifting geophysical equipment and laying out cables.
- < Observe correct procedures when using and moving current electrodes.

### **17.10 The Geologists' Association code for geological fieldwork**

A 'Code of Conduct' is essential if opportunities for fieldwork in the future are to be preserved. **To achieve this, the following general points should be observed.**

- < Obey the Country Code, and observe local byelaws. Remember to shut gates and leave no litter.
- < Always seek prior permission before entering private land.
- < Do not interfere with machinery.
- < Do not litter fields or roads with rock fragments, which might cause injury to livestock or be a hazard to pedestrians or vehicles.
- < Avoid undue disturbance to wildlife. Plants and animals may inadvertently be displaced or destroyed by careless actions.
- < Observe and record but not to hammer indiscriminately.
- < **Keep collecting to a minimum.** Avoid removing in situ fossils, rocks or minerals unless they are genuinely needed for serious study.
- < Never collect from walls or buildings. Take care not to undermine fences, walls, bridges or other structures.