UNIVERSITY OF LEICESTER

STATEMENT ON SAFETY IN LABORATORIES

Contents

1. Authority and responsibility for safety 2
2. Definitions 3
3. Duties of Heads of Department 4
4. Departmental Safety Booklets 6
5. Postgraduate Research 8
   5.1 Head of Departments Duties
   5.2 Supervisors Duties
6. Supervision of Undergraduate Students 12

Appendix 1: General Laboratory Practice 13
Appendix 2: University Biological and Chemical Hazard Protection Rules 15
Appendix 3: The Acquisition, Storage and Disposal of Hazardous Materials 17
1. **AUTHORITY AND RESPONSIBILITY FOR SAFETY**

The University Rules and Code of Practice set out in this statement are subsidiary to the *Statement of Safety Policy* and *Statement of Organisation and Operating Arrangements* prepared by the University in compliance with the relevant sections of the Health and Safety at Work Act 1974.

Within this document, University rules are shown in ‘**bold**’ font, and the associated code of practice shown in ‘*italics*’.

All previous versions of this Statement are withdrawn. Heads of Departments are asked to destroy copies held in their Departments.
### 2. DEFINITIONS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td>Department or Function as defined in the University Calendar</td>
</tr>
<tr>
<td>Head of Department</td>
<td>Head of Department or Function as listed in the University Calendar</td>
</tr>
<tr>
<td>Member of Department</td>
<td>All persons involved in laboratory or related activities including academic, academic related, technical and research staff, research fellows, visitors, postgraduate students and, where appropriate, undergraduates, library, secretarial, maintenance, portering and cleaning staff.</td>
</tr>
<tr>
<td>Laboratory</td>
<td>Any room in use for scientific and/or technical work, including experimental areas, workshops, preparation rooms, ancillary rooms and storerooms.</td>
</tr>
<tr>
<td>Rules</td>
<td>Instructions that must be followed. (University Rules are approved by Council and Senate and apply throughout the University.)</td>
</tr>
<tr>
<td>Code of Practice</td>
<td>Good practice that must either be followed or be replaced by equivalent or better good practice.</td>
</tr>
<tr>
<td>Guidance Notes</td>
<td>Guidance which should be consulted when decisions relating to health and safety are made within Departments.</td>
</tr>
<tr>
<td>Hazardous Materials</td>
<td>Includes hazardous biological and chemical materials, but excludes materials hazardous solely by virtue of their radioactive properties.</td>
</tr>
</tbody>
</table>

n.b. The term "visitor" includes any person visiting or working in any Department of the University who is neither an employee of the University of Leicester nor a student of the University. The visit may last for any period of time, from a few minutes to several years.
3. **DUTIES OF HEADS OF DEPARTMENTS**

Heads of Departments must:

- specify in writing the duties of the Departmental Safety Officer (DSO), appointed in compliance with the University's Statement of Organisation and Operating Arrangements, with regard to health and safety in laboratories. The DSO must be given sufficient opportunities for updating of information on departmental laboratory hazards;

- establish and maintain a system of consultation sufficient to ensure that members of the Department are able to contribute effectively to the maintenance of health and safety in laboratories, as required by the University's Statement of Safety Policy (para 3.9)
  
  The system of consultation may well involve the setting up of a local safety committee in the Department, School, Faculty, College or Building. The Departmental Safety Officer should normally be a member of any Departmental safety committee. The Head of Department will be an *ex officio* member.

- if appropriate, appoint officers in accordance with the University Radiation Protection Rules;

- if appropriate, appoint officers as described in the University Code of Practice for the Protection of Persons Exposed to Laser Radiation in Research and Teaching;

- if appropriate, ensure compliance with the Genetically Modified Organisms (Contained Use) Regulations 2000, and the rules and guidance in the University publication Genetic Modification;

- if appropriate, ensure compliance with the Control of Substances Hazardous to Health (COSHH) Regulations 2002, and the Rules and Code of Practice in the University publications, Hazardous Biological Agents and COSHH Assessments;

- if appropriate, ensure compliance with the Anti-terrorism, Crime and Security Act 2001 (Modification) Order 2007 (2007/929), regarding the handling, use, storage and disposal of pathogens and toxins on the schedule 5 list

- publish documents setting out appropriate rules governing health and safety in laboratories. These will normally form part of a Departmental Safety Booklet (see section 4 below);

- ensure, by encouraging sufficient suitable members of the Department to put themselves forward for First Aid training, compliance with the Health and Safety (First Aid) Regulations 1981 and the University's First Aid Policy (in preparation)
• appoint senior members of staff to be Laboratory Safety Supervisors, to cover all aspects of health and safety (except for radiation protection and laser use), within their appointed areas. Sufficient Laboratory Safety Supervisors should be appointed to cover all laboratory areas. The underlying principle expressed in the University's Statement of Organisation and Operating Arrangements is that 'only those who have authority can have responsibility'. Therefore, Laboratory Safety Supervisors must also be given the authority necessary to carry out their duties effectively. Heads of Departments may choose to appoint Laboratory Safety Supervisors on the basis of research groups, laboratories, or other appropriate organisational structures.

• regularly review, and revise as necessary, all Departmental laboratory safety publications;

• ensure the provision of health and safety information, instruction, and training for both new and continuing members of the Department;

• establish, publish, and implement rules and procedures governing;
  - General Laboratory Practice (see appendix 1);
  - Laboratory Practice with Hazardous Materials (see appendix 2);
  - Acquisition, Storage, and Disposal of Hazardous Materials (see appendix 3).

• ensure that the exposure of employees, students and visitors to substances hazardous to health is either prevented or, where this is not reasonably practicable, adequately controlled and that control measures and personal protective equipment, provided for this purpose are properly used; The COSHH Approved Code of Practice and guidance (Fifth Edition) ISBN 978 0 7176 2981 7 and the rules and guidance in the University documents “Hazardous Biological Agents” and “COSHH Assessments” should be followed.

• ensure that all engineering controls in use (e.g. fume cupboards, microbiological safety cabinets,) have been examined, tested and properly maintained; The examination, testing and proper maintenance of engineering controls may be the responsibility of The Estates Office or of an outside contractor. The responsibility for allowing use remains always with the Head of Department. The practice is encouraged of labelling, for example, fume cupboards as unsafe when they have failed, and/or are not working properly.

• arrange for any necessary monitoring and health surveillance to be carried out.
DEPARTMENTAL SAFETY BOOKLET

The Departmental Safety Booklet must be in a form appropriate to the needs of the Department and the nature of the activities being carried out in its laboratories. The Departmental Safety Booklet must be issued, together with appropriate Laboratory Safety Manual(s), to each member of the Department who will acknowledge by signature that they have received, read, and will work in accordance with the provisions of the Departmental Safety Booklet and Laboratory Safety Manual(s). No member of staff or visitor shall be allowed to work in a laboratory until they sign such an acknowledgement.

For guidance in drawing up rules, procedures and codes of practice, attention is drawn to University publications including Hazardous Chemicals, Genetic Modification, COSHH Assessments, Hazardous Biological Agents, Radiation Protection Rules, Safe Use of Flammable and Explosive Substances, and Waste Disposal. These documents can be obtained from the Safety Services Website: http://www.le.ac.uk/safety/documents/index.html

With regard to delegated duties in specific areas of activity (such as radiation protection, hazardous biological agents, genetic modification and laser protection) it is sufficient to state that the University Rules concerned are being followed.

Departmental Safety Booklets must include:

- a statement of commitment to comply with all relevant legislation, codes of practice and guidance which relate to the safe conduct of the activities of the department;

- a description of the means by which senior management monitors compliance with policy goals, safe systems of work and other safety procedures.

- a description of the management and safety management structures of the department;

- a clear definition of the duties and responsibilities of all committees, or individuals (identified by post e.g. Head of Department, Departmental Safety Officer etc.) who carry out functions related to safety;

- a list of names identifying the individuals filling the safety-related posts referred to above;

- a list of all relevant University Specialist Safety Advisers;
• **Departmental Safety Rules;**
  
  *This must include those governing:*
  
  - General Laboratory Practice (see appendix 1);
  - Laboratory Practice with Hazardous Materials (see appendix 2);
  - Acquisition, Storage, and Disposal of Hazardous Materials (see appendix 3);

• **a statement of arrangements for the provision of health and safety information, instruction, and training for members of the department (both new and continuing), indicating those responsible for such provision;**

  Such arrangements should clearly take account of the needs and standing of various groups. In the case of postgraduate students, for example, the Laboratory Safety Supervisor would normally be designated the person responsible. For new technical staff, the Chief Technician would normally perform this duty. Again, in all cases, those given duties must be given corresponding authority to enable them to carry out their duties effectively.

  
  Note that ’members of Department’ include all those categories of persons listed in section 2 above.

The departmental safety booklet must have, as a supplement, any relevant Laboratory Safety Manual

Laboratory safety manuals should be produced as required (for specific hazards not covered in the Departmental Safety Booklet). Each manual should be drawn up after consulting relevant sources of information, and should:

• **Make reference to the specific University Safety Rules that apply**
• **Describe safe working practices with respect to hazardous techniques and the use of hazardous materials**
• **Offer advice on planning experiments**
• **Specify the action to be taken in the event of accidents including spillages**
5. **POSTGRADUATE RESEARCH**

5.1 **Head of Department Duties**

With reference to postgraduate students intending to register for a Higher Degree based on research carried out in laboratories/workshops, all Heads of Departments must:

- ensure that suitable and sufficient risk assessments are made of all relevant aspects of the research students' work;

- record those instances where risk assessment forms have been completed or where COSHH records and/or hazard data have been consulted;

- record steps taken to eliminate or minimise the risk of exposure to substances hazardous to health;

- require intended postgraduate students to read, and acknowledge in writing that they understand, the Rules and Codes of Practice laid down by the:
  - Laboratory Safety guidance as approved by Senate and Council;
  - Departmental Safety Booklet;

*Normally, the course of any student who wilfully ignores rules and procedures for safety which have been either agreed by Senate and Council and/or set out in the relevant Departmental Safety Booklet will be terminated.*

- ensure that postgraduate students can read safety Regulations, operating instructions for instruments and protocols for experiments written in English;

*Where a student lacks the necessary skill, the student must seek training in English. Heads of Departments must be satisfied that postgraduate students have the necessary skills in English to undertake experimental research safely.*

- ensure that postgraduate students have the necessary background experience and training in relation to experimental techniques and benchwork;

*Where experience and skill is lacking, this should be recorded on the registration form. The necessary training should then be given, and recorded.*

- ensure that research students are provided with information, instruction, training and supervision so as to ensure, so far as is reasonably practicable, the health and safety of research students studying in laboratories under their control;

- require postgraduate students to demonstrate understanding of the procedures involved in planning experiments, when such experiments involve the use of substances hazardous to health (as defined in the Control of Substances Hazardous to Health (COSHH) Regulations);

*The student should understand any control measures required (as identified by the risk assessment).*
• ensure that postgraduate students are made aware of the new skills and techniques required in the planned experimental work together with details of the materials/substances likely to be used in the research;

• provide sufficient suitable personal protective clothing and equipment as is appropriate in the circumstances, taking into account the risks identified in the risk assessment, and the relevant statutory provisions.

• record that students have undergone health surveillance if required. The recommendation and the conclusions of the health surveillance should be recorded in a health record, made and maintained in accordance with the requirements of the COSHH Regulations.

• ensure students are supplied with laboratory notebooks and that experimental and benchwork which is planned and which has been undertaken is recorded; Records should state details of experiments, particularly with respect to amounts of substances and the extent to which experiments are conducted under extreme conditions, e.g. high temperatures and pressures. Where no protocol is available, a new and agreed protocol must be set down in postgraduate student laboratory notebooks. Postgraduate students should not undertake experiments using hazardous substances without first agreeing protocols with academic members of staff advising them about their research.

The practice is encouraged whereby laboratory notebooks remain in the Department. This is particularly the case where research students have, during the course of their registration, used hazardous chemical, biological or radioactive substances.

• maintain records in the laboratory notebooks, which may be inspected at any time by Heads of Departments, Safety Services staff, officers of the University of Leicester, and officers of the Health & Safety Executive;

• make arrangements for the supervision of research students by qualified and experienced staff. The University's legal duty to supervise students (postgraduate and undergraduate) is delegated to Heads of Departments, and thence to those immediately responsible - the 'supervisors'. The duty cannot be discharged by relying solely on the student's status or competence, nor is it ever sufficient to rely on the assumption that postgraduate students ought to know what they are doing.

• draw to the attention of postgraduate research students the need for establishing close working relationships with their academic supervisor(s) and other academic advisers and with the relevant Laboratory Safety Supervisor(s)

• must require postgraduate students to discuss at least once per week their progress in research with their academic supervisor(s) or delegated deputy;
• must require postgraduate students to agree with their academic supervisor(s) and the relevant Laboratory Safety Supervisor(s) the protocols and procedures for experiments to be undertaken, with particular reference to experiments which involve biologically and chemically hazardous materials;

• must ensure that satisfactory arrangements have been made for a postgraduate student who intends to carry out experimental work in laboratories away from and not part of the University of Leicester. Heads of Departments must satisfy themselves that in undertaking experimental work as a visitor to other laboratories (e.g. civil service, government and industrial) postgraduate students are not put at risk from chemical and biological hazards and that the safety practices in those laboratories are in line with good professional practice. Guidance on this can be found within the Fieldwork guidance on the Safety Services Website.

• make appropriate arrangements for foreseeable absences of supervisory staff so as to ensure, so far as is reasonably practicable, that supervision of research students is effectively maintained. When a supervisor is absent from the University, another member of staff should be available to be consulted with particular reference to matters of safety and to approve protocols and procedures for experiments using hazardous substances;

An academic supervisor or a Laboratory Safety Supervisor may be away from the University for various reasons which include ill health, attendance at a conference, holidays etc. The member of staff is responsible for informing the Head of Department.

5.2 Supervisors Duties

With reference to postgraduate students intending to register for a Higher Degree based on research carried out in laboratories/workshops, all Supervisors must:

• ensure that the project is properly assessed for:
  • compliance with existing departmental procedures;
  • general risks to health and safety under the Management of Health & Safety at Work Regulations, or other regulation such as the COSHH Regulations and the Manual Handling Regulations;
  • compliance with University rules (e.g. relating to radiation, micro-organisms or genetic modification).

• ensure that any precautions which are necessary are agreed between the supervisor and student.
  In all but the simplest and most straightforward circumstances they should be written.
• carry out regular checks to ensure that the students are actually following agreed procedures.

• ensure it is been made clear to students that:
  • alterations in method must be documented and discussed rather than casually introduced without the supervisor's knowledge;
  • students also have legal responsibilities not to endanger themselves and others by their acts or omissions.
6. **SUPERVISION OF UNDERGRADUATE STUDENTS**

Heads of Departments must ensure that, where a course of undergraduate study includes practical work in a laboratory;

- **suitable and sufficient risk assessments are made of all relevant aspects of the work.**
  
  Risk assessment may be generic or specific. To qualify as 'sufficient' and 'suitable', however, assessments must take into account the materials, equipment, location and procedures involved in each experiment. The objective is to ensure, so far as is reasonably practicable, that the whole of the experimental process is evaluated for its potential to cause danger, that appropriate precautions are built into the process at each relevant stage and risks are adequately controlled.

- **sufficient, suitably qualified staff exercise adequate supervision.**
  
  The numbers of staff employed, including demonstrators, should take into account the nature of the laboratory work, the numbers of undergraduate students involved and their relevant experience.

- **information, instruction, training and supervision is provided so as to ensure, so far as is reasonably practicable, the health and safety of students taking the course.**
  
  Information and instruction should emphasise, in particular, the reciprocal duty owed by each student to the University:
  
  - to take reasonable care of their own health and safety and of any other person (e.g. fellow students) who may be affected by their acts or omissions;
  
  - not to do anything that might prevent the University fulfilling its duties to students and employees in respect of health and safety.

- **sufficient suitable personal protective clothing and equipment as is appropriate in the circumstances is used, taking into account the risks identified by the risk assessment, and the requirements of the relevant statutory provisions.**
APPENDIX 1: General Laboratory Practice

Rules and procedures concerning general laboratory practice shall be specified in the Departmental Safety Booklet. This should include rules regarding:

- **the control of access to laboratories;**
  The practice of issuing identity badges to all members of a Department is encouraged. Identity badges should be issued to visitors carrying out experimental work, and should specify the name of the host Department. Special attention should be given to the possible hazards posed by the activities of maintenance workers, contractors and others not normally at work in laboratories. The University's permit-to-work system and/or the safe system of work documented in the University's Contractors' General Code of Safe Practice and associated forms UL(C)1 and UL(C)2 should be implemented.

- **the registration of visitors and visiting workers;**
  Registration should be with the Departmental Safety Officer or other appropriate member of the Department. Heads of Departments must ensure that the attention of visitors is drawn to the Rules and Codes of Practice set down in this document, the Departmental Safety Booklet(s) and appropriate University guidance documents. Heads of Departments must ensure that the names, affiliations and intended lengths of stay of visitors to Departments are recorded if they plan to undertake experimental work. When a visitor undertakes experimental work, the details and protocols of the experiments must be risk assessed and recorded.

- **unattended running of apparatus, equipment and experiments;**
  The running of unattended experiments should be risk assessed, and appropriate control measures implemented. A written authorisation system may be required. Appropriate information on experiments should be provided, along with contact details of relevant personnel, so that out-of-hours emergencies can be dealt with as safely as possible.

- **lone working;**
  Senate has decided that work of a potentially hazardous nature should only be conducted if at least one other person is within hailing distance. Anyone unsure of a technique should not use such techniques out of normal hours. For further information consult the University guidance on Lone working at: [http://www.le.ac.uk/safety/documents/pdfs/loneworking.pdf](http://www.le.ac.uk/safety/documents/pdfs/loneworking.pdf)
• appropriate protective clothing and devices to be worn in laboratories;
  Protective clothing and devices must not be taken into areas where food and drink are consumed.

• the consumption of food and drink and the application of cosmetics in laboratories are prohibited.
  Departments may wish to designate specific areas where food and drink may be consumed.
APPENDIX 2: University Biological and Chemical Hazard Protection Rules

Rules and procedures concerning biological and chemical hazards shall be specified in the Departmental Safety Booklet. This should include rules regarding:

- the completion of risk assessments that satisfy the requirements of the COSHH Regulations;
  The University’s publication **COSHH Assessments** should be referred to and the appropriate University forms used.

- the completion of risk assessments that satisfy the requirements of the Genetic Modification (Contained Use) Regulations;
  The University’s publication **Genetic Modification** should be referred to and the appropriate University forms used.

- compliance with the Anti-terrorism, Crime and Security Act 2001 (Modification) Order 2007 (2007/929), regarding the handling, use, storage and disposal of pathogens and toxins on the schedule 5 list
  (see [http://www.le.ac.uk/safety/documents/pdfs/schedule5list.pdf](http://www.le.ac.uk/safety/documents/pdfs/schedule5list.pdf))

- conditions under which members of Departments may work unaccompanied, and under which members of the Department may conduct experiments using hazardous materials outside normal working hours;
  Normally no work with hazardous materials should be carried out unless within sight and/or sound of another person.
  Suitable risk assessments must be carried out for lone/out-of-hours working and relevant control measures implemented. A written authorisation system may well be necessary.
  Normal working hours are 7.00 am to 6.30 pm, Monday to Friday, excluding public holidays and University closures.

- the assessment of the suitability of a laboratory and of equipment or apparatus for hazardous experiments;

- conditions under which experiments involving hazardous materials can be carried out by postgraduates, by visitors and by undergraduates;
  With specific reference to visitors, Heads of Departments must be satisfied either that the experimental work to be undertaken is supervised, or that the visitor has the necessary experimental skills and training to carry out the experiments unsupervised.
• the special need for information, instruction and training with respect to experiments involving hazardous materials;

• the categories of materials which may not be used by particular individuals or groups of workers, particularly undergraduates;
APPENDIX 3: The Acquisition, Storage and Disposal of Hazardous Materials

Rules regarding the acquisition, storage and disposal of hazardous materials should be included in the Departmental Safety Booklet. This should include rules regarding:

- the processing of orders for hazardous materials through a defined person or office.

- the need for a signature/countersignature by the Laboratory Safety Supervisors on all orders for hazardous materials;
  
  *Laboratory Safety Supervisors should be satisfied that staff are aware of how to handle, store and dispose of any hazardous material before ordering, or before approving an order.*

- the control of risks associated with human carcinogens, mutagens and teratogens;
  
  *See the University publication, Carcinogens*

- the need for all issues of hazardous materials to be against a signature, accepting responsibility for safe use, handling, storage and disposal;

- the need to comply with the Anti-terrorism, Crime and Security Act 2001 (Modification) Order 2007 (2007/929), regarding the handling, use, storage and disposal of pathogens and toxins on the schedule 5 list
  
  *see [http://www.le.ac.uk/safety/documents/pdfs/schedule5list.pdf](http://www.le.ac.uk/safety/documents/pdfs/schedule5list.pdf)*

- the recording of all hazardous materials arriving in a Department, whether as the result of orders, samples, gifts or brought in by a member of the Department or a visitor;
  
  *Departments must also be concerned with any hazardous materials produced as the result of their research or other activities.*

- the secure and safe storage of stocks of hazardous materials;

- the transport of hazardous materials;

- the routine procedures for the safe disposal of hazardous materials by the Department;
  
  *Responsibility for all disposals rests with Departments. Departments are encouraged to dispose of, rather than accumulate, stocks of hazardous materials. Disposal of unwanted hazardous materials may only be carried out in accordance with the arrangements currently agreed by the Laboratory Management Group, details of which may be obtained from the Safety Services office.*
Heads of Departments must ensure that details of materials/substances brought into the University by visitors are recorded. Heads of Departments must agree with visitors the responsibility for disposal of these materials. Heads of Departments must agree in writing with visitors the responsibility for safe transit and disposal of any material taken away from the University. If the material is to be left on the University site, the visitor must agree in writing to meet any cost of disposal.

- the approval of non-routine methods of disposal of hazardous materials and the recording of such disposals