



PROCEDURES FOR THE HEALTH AND SAFETY OF STUDENTS UNDERTAKING STUDIES IN LABORATORIES, STUDIOS, WORKSHOPS OR CLINICAL ACTIVITIES

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1. BACKGROUND

A high level of duty of care is required of staff by statutory authorities and Monash University towards students, as students are considered to be 'in training' and, thus, under our supervision when undertaking classes with a practical component, eg laboratory, studio, workshop or clinical skills classes. The risks associated with these practical activities must be minimised so as to ensure the health and safety of students undertaking their studies at Monash University.

2. SCOPE OF PROCEDURES

These procedures apply to students undertaking laboratory, studio, workshop or clinical activities, including:

- undergraduate students who attend laboratory, studio, workshop or clinical classes or projects that involve practices, procedures or substances that could harm the health and safety of students or staff involved in the classes; and
- honours and postgraduate students undertaking research projects that involve practices, procedures or substances that could harm the health and safety of students or staff involved in the projects.

3. DEFINITIONS

3.1 UNDERGRADUATE STUDENTS

For the purposes of these procedures, undergraduate students are defined as students undertaking course work to complete a degree. This group does not include students undertaking research towards an honours or postgraduate (masters or doctor of philosophy) degree.

3.2 SUPERVISOR

The academic supervisor of undergraduate, honours or postgraduate students has a particular responsibility for safeguarding the occupational health and safety of students in their charge (Monash University Occupational Health & Safety Policy, <http://www.adm.monash.edu.au/ohse/documents/#policies>). The academic supervisor can delegate the supervision or training of a student to a suitably qualified and/or experienced person, as appropriate for the task. The academic supervisor of the student(s) is, however, responsible for ensuring that the student has received appropriate training and has gained sufficient competence to undertake the task.

3.3 HEAD OF ACADEMIC/ADMINISTRATIVE UNIT

For the purposes of these procedures, head of academic/administrative unit is used to denote the head of the area that is undertaking the activity. For academic areas, this term includes head of faculty, department, school, institute or centre. For administrative areas, the term includes head of division, branch, centre or unit.

4. OBJECTIVES

The objectives of these guidelines are to ensure, as far as practicable, that:

- students and staff of Monash University work or study in a healthy and safe environment during laboratory, studio, workshop or clinical classes or projects;

- students and staff of Monash University are aware of their health and safety responsibilities with regard to laboratory, studio, workshop or clinical classes or projects;
- risks to the health and safety of students and staff undertaking laboratory, studio, workshop or clinical classes or projects are reduced;
- consistently high health and safety standards are achieved in all laboratory, studio, workshop or clinical classes or projects at Monash University;
- the highest quality of teaching and research is achieved during laboratory, studio, workshop or clinical classes or projects undertaken by the staff and students of Monash University.

5. RESPONSIBILITIES

All staff involved in the conduct of laboratory, studio, workshop or clinical classes or projects should be familiar with the Monash University Occupational Health and Safety Policy (<http://www.adm.monash.edu.au/ohse/documents/#policies>). A summary of the important elements relevant to laboratory, studio, workshop or clinical classes or projects is provided below.

5.1 HEADS OF ACADEMIC/ADMINISTRATIVE UNITS

Heads of academic/administrative units have an overall responsibility to ensure that their respective supervisory staff have implemented and maintained occupational health and safety standards and practices in the teaching facilities, laboratories, studios and workshops under their control.

To achieve compliance, heads of academic/administrative units should:

- ensure that the staff in their unit are informed about, and follow these procedures;
- ensure that students receive the appropriate information, instruction and training necessary for them to perform classes safely;
- arrange for local occupational health and safety procedures to be developed, documented and issued to students as appropriate;
- ensure that the facilities and equipment provided for students are safe and suitable for the types of activities to be carried out;
- ensure that adequate financial provisions are made for occupational health and safety equipment and materials and the maintenance of occupational health and safety standards in classes;
- ensure that risk assessments of all laboratory, studio, workshop or clinical classes or projects are developed and documented and that appropriate risk controls are implemented and maintained;
- develop disciplinary procedures for students who do not comply with occupational health and safety instructions, policies and procedures.

5.2 STAFF IN CHARGE OF LABORATORY, STUDIO, WORKSHOP OR CLINICAL CLASSES OR PROJECTS SHOULD:

- ensure that risk assessments of all laboratory, studio, workshop or clinical classes or projects are developed and documented and that these risk assessments are reviewed regularly;
- ensure that students receive the appropriate information, instruction and supervision necessary for them to carry out the classes or projects safely;

- arrange for students to be warned about particular hazards, and how to avoid, eliminate or minimise them;
- ensure that safe working practices are developed and maintained at all times by the staff and students undertaking laboratory, studio, workshop or clinical classes or projects;
- ensure that students under their control use safety equipment provided in a correct manner;
- actively practise and develop in the students, proper attitudes towards health and safety matters;
- ensure that a suitably qualified and/or experienced person is present in the class at all times;
- ensure that all students understand the disciplinary procedures that will be invoked for non-compliance with occupational health and safety instructions, policies and procedures;
- ensure that all incidents and 'near miss' incidents that occur are reported on the OHSE Hazard & Incident Report form (OHS 1/97; <http://www.adm.monash.edu.au/ohse/forms/hazard-incident-report.pdf>).

5.3 STAFF TEACHING IN LABORATORY, STUDIO, WORKSHOP OR CLINICAL CLASSES OR PROJECTS SHOULD:

- ensure that they are aware of their responsibilities with regard to the health and safety of the students and other staff members undertaking the laboratory, studio, workshop or clinical classes or projects;
- ensure that students receive the appropriate information, instruction and supervision necessary for them to carry out the classes or projects safely;
- ensure that safe working practices are developed and maintained at all times by the students undertaking the laboratory, studio, workshop or clinical classes or projects;
- ensure that good housekeeping standards are developed and maintained in the areas under their control;
- ensure that students under their control use safety equipment provided in a correct manner;
- actively practise and develop in the students proper attitudes towards occupational health and safety matters;
- ensure that all incidents and 'near miss' incidents that occur are reported on the OHSE Hazard & Incident Report form (OHS 1/97; <http://www.adm.monash.edu.au/ohse/forms/hazard-incident-report.pdf>).

5.4 SUPERVISORS AND SUBJECT COORDINATORS OF HONOURS AND POST GRADUATE STUDENTS SHOULD:

- actively practise and develop in their students proper attitudes towards occupational health and safety matters;
- control the risks associated with the work that they supervise using a documented risk management process;
- ensure that safe work practices are developed and maintained at all times;
- arrange for their staff and students to be instructed in safe and healthy work procedures;

- ensure that good housekeeping standards are developed and maintained in the areas under their control;
- ensure that staff and students under their control use safety equipment provided in a correct manner;
- ensure that all students understand the disciplinary procedures that will be invoked for non-compliance with occupational health and safety instructions, policies and procedures;
- ensure that all incidents, hazards and 'near miss' incidents that occur are reported on the OHSE Hazard & Incident Report form (OHS 1/97; <http://www.adm.monash.edu.au/ohse/forms/hazard-incident-report.pdf>).

5.5 STUDENTS

Each student must take reasonable care of their own health and safety and the health and safety of others by:

- taking action to avoid, eliminate or minimise hazards of which they are aware;
- complying with all occupational health and safety instructions, policies, and procedures including departmental safety manuals;
- making proper use of all safety devices and personal protective equipment;
- complying with the instructions given by emergency response personnel such as emergency wardens and first aiders;
- not willfully placing at risk the health and safety of any other person;
- seeking information or advice where necessary before carrying out new or unfamiliar work;
- maintaining dress standards appropriate for the work being done. Appropriate protective clothing and footwear must be worn at all times;
- only consuming or storing food and drink in areas designated for this purpose;
- being familiar with emergency and evacuation procedures and the location of, and if appropriately trained, in the use of, emergency equipment;
- reporting all incidents, hazards and 'near miss' incidents on the OHSE Hazard & Incident Report form (OHS 1/97; <http://www.adm.monash.edu.au/ohse/forms/hazard-incident-report.pdf>).

6. UNDERGRADUATE STUDENTS

6.1 RISK MANAGEMENT IN LABORATORY, STUDIO, WORKSHOP OR CLINICAL CLASSES

6.1.1 Risk management process

6.1.1.1 A risk assessment of each laboratory, studio, workshop or clinical class or project that involves practices, procedures, equipment or substances that could harm the health and safety of students or staff involved in the classes must be carried out before commencing the class.

6.1.1.2 The risk assessment must be documented.

6.1.1.3 A risk control program to assist with this process and training in risk management is provided by OHSE (<http://www.adm.monash.edu.au/ohse/documents/others/risk-control-program.pdf>).

- 6.1.1.4 Risk assessments must be undertaken in consultation with the local safety officer and health and safety representative and/or submitted to the appropriate zone OHSE committee in sufficient time for a review to be conducted before the class is scheduled to commence.
- 6.1.1.5 Following the assessment of the risks likely to be found during the class, risk control measures must be adopted to minimise the risk associated with each hazard. The hierarchy of hazard controls, as described in the OHSE risk control program, must be used to determine the appropriate risk controls to be adopted.
- 6.1.1.6 Examples of risk control measures include:
- Use of small scale reactions;
 - Substitution of hazardous chemicals with less harmful compounds;
 - Provision of shields for apparatus under vacuum;
 - Immunization against known pathogens;
 - Use of fume cupboard or biosafety cabinet;
 - Provision of appropriate training in the skills required to undertake a task;
 - Provision of supervision at appropriate times;
 - Use of personal protective equipment.

6.1.2 **Availability of risk assessments**

- 6.1.2.1 Teaching staff must be familiar with the risk assessment before the laboratory, studio, workshop or clinical activities commence.
- 6.1.2.2 The risk assessment should be freely available to staff and students undertaking the class or project.

6.1.3 **Review of risk assessments**

- 6.1.3.1 The risk assessment of the laboratory, studio, workshop or clinical class or project should be reviewed:
- whenever new procedures and equipment are introduced;
 - following an incident or accident in the class;
 - before the class recurs in the following year;
 - at least, every five years.
- 6.1.3.2 The effectiveness of risk control measures must be reviewed and improved following any incidents that occur during a class and before the class recurs.

6.1.4 **Introduction of undergraduate students to the risk management process:**

- 6.1.4.1 Completed risk assessments for laboratory, studio, workshop or clinical classes or projects should be available to students.
- 6.1.4.2 Risk management exercises should be included in the curriculum.
- 6.1.4.3 In their final years, students would be expected to undertake the risk management process on a number of laboratory, studio, workshop or clinical classes or projects that they are undertaking.

6.2 INTRODUCING HEALTH & SAFETY TO UNDERGRADUATE STUDENTS

Health and safety concepts should be integrated at all levels of organisation of laboratory, studio or workshop classes. To achieve this aim, staff in charge of these classes should adopt those recommendations that are appropriate to a particular course of classes.

6.2.1 Introductory lecture

At the beginning of each subject with a laboratory, studio, workshop or clinical component, students should be introduced to the guidelines necessary to conduct the practical classes safely.

6.2.1.1 A short introductory talk should be scheduled before the practical component of the course commences.

6.2.1.2 The talk should include:

- a general introduction to the topic of health and safety outlining the departmental/school/unit safety policy;
- a summary of health and safety responsibilities with respect to students and staff;
- a general introduction to the risks that students are likely to encounter;
- policies and procedures relevant to the course of laboratory, studio, workshop or clinical classes;
- emergency procedures in the laboratory, studio or workshop;
- introductions to personnel who assist with emergency, first aid and safety procedures;
- procedures for the reporting of incidents and 'near miss' incidents which occur in practical classes.

6.2.1.3 Emergency evacuation information that may be useful for inclusion in such an introductory lecture has been included in Appendix 1.

6.2.1.4 This introductory lecture must be given at the beginning of each semester and/or whenever new students commence the course.

6.2.2 Each laboratory, studio, workshop or clinical class

- 6.2.2.1 Before **each** class that includes practices, procedures or substances that may pose some degree of risk to students, specific issues relating to health and safety in **that** class should be brought to the attention of students by the lecturer, demonstrator-in-charge or the technical coordinator.
- 6.2.2.2 It may be possible to discuss the risks likely to be encountered in a series of laboratory, studio, workshop or clinical classes if the risks associated with all classes in the series are similar.
- 6.2.2.3 The safety issues discussed should include:
- an outline of the risks involved in the laboratory, studio, workshop or clinical class and the procedures that must be followed to minimise those risks;
 - the appropriate personal protective equipment to be worn;
 - training in the correct use of equipment and apparatus;
 - waste disposal procedures.
- 6.2.2.4 Students should be encouraged to report any existing medical conditions or allergies that could put them at risk during the conduct of the class to the staff in charge.

6.3 NOTES/MANUALS

- 6.3.1 A section on safety should be included in all notes or manuals for undergraduate laboratory, studio, workshop or clinical classes.
- 6.3.2 Students should provide evidence that they have read the safety section by:
- answering a safety quiz; or
 - completing an interactive computer quiz; or
 - by signing a tear-off section and returning it to the practical class coordinator.
- 6.3.3 The safety section should include:
- An overview of safety responsibilities, eg departmental/school/unit safety policy;
 - General safety information and instructions, eg:
 - wearing of laboratory coats, shoes and eye protection
 - eating in laboratories
 - safe use of equipment, etc
 - Emergency procedures;
 - First aid procedures;
 - Safe work practices, eg cleaning of spills, no mouth pipetting.
- 6.3.4 In the notes or manual relating to each class or project that involves practices, procedures or substances that could harm the health and safety of students or staff involved in the classes, the precautions to be taken should be detailed explicitly in the instructions.

7. HONOURS AND POSTGRADUATE STUDENTS

7.1 INDUCTION IN HEALTH & SAFETY

7.1.1 Induction program requirements

- 7.1.1.1 Each department/school/unit must ensure that honours and postgraduate students attend a health and safety induction program on commencement of their studies.
- 7.1.1.2 The induction program should be carried out as soon as possible after the student commences their studies and attendance must be compulsory.
- 7.1.1.3 It is essential that the induction includes the safe work practices for any practical skills required for the studies. Practical safety instruction must be given **before** laboratory, field, studio, workshop or clinical activities commence.
- 7.1.1.4 Students whose research and/or course work is solely computer and office-based may only need to complete the general health and safety induction.
- 7.1.1.5 The induction program is normally organised by the honours or postgraduate coordinator in conjunction with the departmental/school/unit safety officer. Training can be provided by the supervisor, the safety officer, OHSE staff, departmental experts in the fields or outside providers.

7.1.2 Content of induction program

The induction program should include general health and safety policies and procedures as well as specific safety skills for the techniques required for the research project.

7.1.2.1 General health and safety induction

- 7.1.2.1.1 The general health and safety induction should include information about:
 - Monash University and /or departmental health and safety policy;
 - health and safety management at Monash University;
 - departmental/school/unit safety management, eg safety officers, zone committee members, health & safety representative;
 - OHS responsibilities, eg with regard to wearing of personal protective equipment, complying with health & safety instructions given by supervisor, emergency personnel and first aiders;
 - emergency procedures;
 - fire safety;
 - resolution procedures;
 - issue Incident reporting procedures;
 - personal protective equipment (as appropriate);

- guidelines for the use of computers;
- personal safety;
- working after hours, in the field, off-campus, etc

7.1.2.1.2 The supervisor or safety officer must ensure that each student is shown (as appropriate):

- the manual emergency alarm or red emergency phone closest to their place of study;
- the location of the nearest first aider and first aid kit;
- the emergency isolating switch(es) for their laboratory or place of study;
- the nearest fire extinguisher and fire blanket;
- other emergency facilities where relevant, eg safety showers, emergency eye wash, etc.

7.1.2.2 Specific health and safety induction

7.1.2.2.1 The supervisor of each student is responsible for ensuring that the student receives specific training as appropriate for the research to be undertaken. The training may include attendance at:

- internal Monash University courses organised by groups such as OHSE and the Animal Welfare Committee;
- courses provided by outside organisations, eg 4 wheel drive training;
- in-house training provided by the supervisor or departmental technical staff, eg in the use of laboratory/studio equipment specific to the area or project.

7.1.2.2.2 Each student should be provided with the health and safety policies, procedures, guidelines, information sheets and hazard alerts that are relevant to the field of research.

7.1.2.2.3 The departmental/school/unit safety officer will be able to provide advice on the courses and documentation available.

7.1.2.2.4 Examples of types of training that may be required include:

- risk management
- general laboratory safety
- use, storage and handling of dangerous goods and hazardous substances;
- use and handling of liquid nitrogen
- radiation safety
- biosafety
- animal welfare and handling
- use of specialised equipment, eg centrifuges, autoclaves, HPLC, workshop/studio machinery

- use of personal protective equipment and clothing
- specific procedures and techniques for hazardous activities/reaction/processes
- waste management
- field safety
- vehicle safety
- water and boat safety
- 4 wheel drive training
- first aid

7.1.3 Documentation of induction program

Each department must maintain records of the induction program attended by each student. This record should include the courses attended, a summary of the content of the courses or training and confirmation of the attendance of the student. Each department should also maintain records of the in-house training given to each student in specific laboratory skills and in the use of specialised equipment, eg centrifuges, autoclaves, HPLC, workshop/studio machinery.

7.1.3.1 An example of a format to maintain training records is provided at <http://www.adm.monash.edu.au/ohse/documents/others/training-records.pdf>.

7.1.4 Follow-up to induction

The induction program should be seen as the first step in the development of skills by the student. Following the induction program, the supervisor must ensure that the student demonstrates proficiency at the skill(s) required before allowing them to complete the tasks without supervision. Changes to established procedures should be verified with the supervisor.

7.2 RISK MANAGEMENT PROCESS

The general points regarding risk management outlined in section 5.3.1 also apply to this section.

Risk management of student research projects that involve practices, procedures or substances that could harm the health and safety of students or staff involved in the projects may need to be undertaken at two levels, depending on the nature of the research carried out.

7.2.1 Level 1: Overall risk assessment of research project

7.2.1.1 Before commencing their research, each honours or postgraduate student must undertake a risk assessment of the research project, in conjunction with their supervisor.

7.2.1.2 The departmental/school/unit safety officer and health and safety representative should be consulted during the risk management process.

7.2.1.3 If it is necessary to include medical information in the risk assessment, it should be included in a generic form, rather than detailed specifically.

7.2.1.4 The risk assessment must be documented and must be freely available to all staff and students who work in the area.

7.2.2 **Level 2: Assessment of daily experimental work**

Depending on the nature of the research, risk management may also need to be carried out on a daily basis and/or for each experiment or process, as described below.

7.2.2.1 Risk categories are determined for the range of common activities carried out in a particular area of research. The categories define the types of activities considered to be of minimal, low or high risk. Risk control procedures that are appropriate for the level of risk must then be determined.

7.2.2.2 Examples of types of categories that might be used:

Category I: Minimal risk, eg

- use of non-contaminated soil or water;
- use of non-toxic, non-allergenic plant material;
- use of small amounts of non-toxic, non-flammable, non-corrosive, non-oxidising chemicals.

Category II: Low risk, eg

- small-scale use of more hazardous chemicals;
- use of non-flammable, non-toxic gases in non-pressurised, standard equipment;
- simple procedures with small animals not involving sharps;
- use of low risk equipment or machinery;
- use of low levels of radioactivity in appropriate facilities;
- use of Class 2 lasers.

Category III: Significant risk, eg

- large scale chemical reactions (>1 L);
- use of chemicals that are strongly corrosive, irritant, allergenic, pyrophoric, explosive, highly toxic, etc;
- work with organisms that are highly infectious to humans;
- use of unscreened human blood or bodily fluids;
- some work with large animals;
- use of high levels of radioactivity;
- use of >Class 2 lasers
- work on large machines.

- 7.2.2.3 When commencing the practical activities for the day or for a specific experiment or process, the student must determine the category of the experiment to be carried out and the appropriate risk controls, using the departmental/school/unit guidelines. This assessment will normally be based on departmental and university guidelines, published information (eg material safety data sheets) and consultations with the supervisor and more experienced staff and students.
- 7.2.2.4 The category of the experiment and the appropriate risk controls are entered into the student's notebook or experimental record.
- 7.2.2.5 For honours students, it may be necessary for all daily risk assessments to be countersigned by the supervisor. For more experienced postgraduate students, only experiments rated as significant risk may need to be countersigned to ensure that appropriate controls are in place.
- 7.2.2.6 This process will ensure that research students can continue with developing experimental work without compromising their own safety and that of their laboratory, field or studio companions.

8. APPENDIX 1

Emergency Evacuation Information for Lecturers/Tutors/Demonstrators

**Please read and familiarise yourself with this information
Check the locations of exits before commencing your class**

The building you are in is fitted with an emergency warning and intercommunication system (EWIS). The system is intended to give occupants early warning that an emergency exists thereby enabling them to leave the building and go to a safe area.

When the emergency warning system is activated, an **ALERT** signal (a BEEP BEEP tone) is broadcast over speakers throughout the whole building. After a preset time, (3 to 5 minutes in most buildings) the alert signal will be replaced by an **EVACUATE** signal (a WHOOPING tone). The same speakers are also used for public address announcements.

If the **ALERT** tone sounds

- Stop the class and tell students to prepare to leave the building.
- Switch off equipment and secure materials and valuables.
- Listen for announcements over the Public Address System.

If the **EVACUATE** tone sounds

- Tell the students to gather personal belongings.
- Announce the need to evacuate and ask them to follow you out.
- Leave the building by the nearest available **EXIT**, usually indicated by a **GREEN** light.
- Go to the assembly area designated for the building. For the locations of exits and the assembly areas, refer to the Emergency Floor Plans and the Emergency Procedures Notices which are posted on the walls of most buildings
- ***Do not leave the assembly area or try to re-enter the building until the all clear has been given. It is the responsibility of the lecturer/tutor to ensure that their class is evacuated and to maintain control of the students during the emergency until released by the emergency personnel.***

Emergency wardens

A number of University employees have been trained as emergency wardens. They can be identified by their yellow or orange floor warden caps that feature the University logo. If wardens are present, follow their instructions. Similarly, follow any instructions from Emergency Services personnel who may be in attendance, eg. Fire Brigade or the Police.

On becoming aware of an emergency

If you become aware of an emergency but the building's warning system is not sounding:

- For fire, activate the nearest red break glass alarm. This will initiate the building's emergency warning system and automatically call the Fire Brigade.
- If there is no break glass alarm nearby, use an internal telephone to **dial 333**. This will put you in contact with Security staff. **Dial 333 for any emergency.**
- Red emergency hot-line telephones (**Red-E-Phones**)
If the building you are in (at Clayton or Caulfield) is fitted with Red-E-Phones, lift any Red-E-Phone handset to call Security for assistance or to report an emergency. Give details of the type of emergency and your location, then follow the procedures outlined in *If the Alert tone sounds* and *If the Evacuate tone sounds*.

Routine tests

Contractors and University emergency staff test the EWIS systems at least monthly. All tests are preceded by an announcement over the public address system. The alarm tones will sound briefly and the tests will conclude with an announcement. Please continue with normal activities during these tests.