



University of South Australia

School of Health Sciences

Student Safety Guide

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Why is OHS important?

Undergraduate students involved in research or practicals within scientific laboratories are exposed to a wide range of hazards. The University of South Australia recognizes that undergraduate students are in training and consequently, safe working practices must be adopted and taken seriously when undertaking laboratory activities. The University also recognizes that health and safety awareness is an important skill that students will take to their employer both as employees and as future supervisors.

Health and Safety induction of the student as well as supervision by the academic supervisor is necessary to ensure that students are not placed at risk, as well as ensuring compliance with the requirements of the Workplace Health and Safety Act, 1995 ([OCCUPATIONAL HEALTH, SAFETY AND WELFARE REGULATIONS 1995](#).)

What the University ensures

- Laboratories and equipment provided for teaching and research are safe and suitable for the types of work carried out;
- Students receive the appropriate information, instruction and training necessary for them to perform their work safely.
- Rules and procedures are prepared and enforced for students working in laboratories;
- Disciplinary procedures are developed for students who do not comply with occupational health and safety (OH&S) instructions and University policies and procedures.
- A comprehensive listing of essential OHSW policies and procedures can be accessed from the OHSW Services webpage.

<http://www.unisa.edu.au/ohsw/>

Evacuation Procedures

On hearing an alarm or becoming aware of an emergency, Floor/Area Wardens will direct all personnel inside buildings or on University grounds to evacuate.

Academic staff will ensure that all students are evacuated from teaching areas in an orderly manner.

Signage on the inside walls of every campus building identifies the nearest exit routes in an evacuation. It also identifies the appropriate assembly point for each building.

Trained first aid officers will provide emergency assistance where necessary.

Student responsibilities

Students are required to:

- Avoid, eliminate or minimise hazards of which they are aware;
- Comply with all occupational health and safety instructions, University policies and procedures including School or Centre OH&S manuals;
- Make proper use of all safety devices and personal protective equipment;
- Not willfully place at risk the health and safety of themselves or any other person;
- Seek information or advice where necessary, or when in doubt, before carrying out new or unfamiliar work (this includes operating unfamiliar equipment);
- Wear protective clothing and footwear, as prescribed by the School or Centre Workplace Health and Safety Officer and the supervisor or by the practical demonstrator;
- Comply with University policy that food or drink are not to be consumed within the laboratory;
- Be familiar with emergency and evacuation procedures, including the location and use of emergency equipment such as safety showers and eyewash facilities;
- Report any medical conditions or allergies that could put them at risk during the conduct of their research to their supervisor;
- Report and record all accidents and near miss incidents. The university has a form (<http://www.unisa.edu.au/ohsw/forms/docs/ohsw09.doc>) to document such an event and this should be filled out with the practical demonstrator. The demonstrator would then liaise with the course coordinator and School of Health Sciences OHS working group.

Responsibilities whilst practising techniques

- The demonstration and practice of techniques (such as electrophysical agents, manual and soft tissue techniques) is essential to teaching and learning within the program. Associated with the practice of these techniques are a variety of risks, contraindications, precautions and adverse reactions.
- During the teaching and practice of techniques you will be asked to perform and practice on each other. Lecturing staff will alert you to relevant contraindication and precautions prior to each practical session.
- It is your responsibility to ensure that you know and understand the contraindications, risks and benefits of techniques prior to allowing another student to practice the techniques on you.
- It is also your responsibility to ensure that you look after your own body and that you do NOT consent for someone to practice techniques on you if you are aware of any contraindication to do so or if you are uncomfortable with them doing so.
- Equally, it is YOUR responsibility to ensure that you screen for contraindications and precautions EVERY time you practice on a fellow student.
- It is important that as professionals you take responsibility for the health and safety of yourselves and your classmates in the same way that you would for your patients. While we only ask you to complete a written consent form once during the year, we expect you to seek verbal consent from you classmates EVERY time you perform a technique on them and not to perform any technique on your classmates without their express consent.

Emergency Procedures and who to contact

Emergency response – dial campus security 88888

In the case of an emergency and the building alarm sounds you must vacate the building and proceed to the designated assembly point. Please familiarise your self with signage located in the corridors of your building that show you where those points are.

Comprehensive documentation on emergency procedures including fire or bomb threat is available at [Campus Services](#).

Laboratory Safety Rules

- In an emergency and during practice evacuations, move quickly and carefully from the laboratory to the external stairwell or nearest emergency exit. Proceed to the designated assembly area and wait there until permission is given to re-enter the building. Never run in the laboratory or along corridors.
- Be aware of the position of exits from all work areas and from all levels of the building;
- Smoking is prohibited in all buildings at the University of South Australia
- Food and drink (including drinking from water bottles) must not be consumed in laboratories
- Unauthorised experimentation in the laboratories is strictly forbidden;
- All students must be aware of the conditions required for the safe handling of substances and specimens being handled;
- Be aware of the safety facilities of the laboratory, ie location of safety showers, eyewash stations, fire extinguishers and emergency exits;
- Working spaces are to be kept clean. Broken glass, sharps, and laboratory waste must be placed in the marked bins in the laboratory. No waste is to be left or placed in the sinks, and under no circumstance must waste be placed down the sink, unless authorised to do so. Certain chemicals which are miscible with water can go to sewer.
- Disposable gloves must be placed into yellow bins (Clinical waste bin) which are specifically marked for such;
- All spillages must be cleaned up immediately after they occur;
- Pipetting by mouth is strictly prohibited;
- Defective equipment or broken glassware must be reported to the laboratory manager;
- Radioactive sources (e.g. laser, UV radioactive substance or arc lamp) must only be used following the direction and supervision of the supervisor or laboratory manager or radiation safety officer.
- Sitting on laboratory benches is prohibited. Never run in the laboratory or along corridors.
- Exercise care when opening and closing doors to laboratory;
- Cover any open wounds e.g. cuts, dermatitis on hands;
- Always wash hands thoroughly before leaving the laboratory.

Laboratory Dress Code

- Hair and clothing should be appropriately styled to ensure maximum safety and comfort during the practical sessions. Therefore;
- Shoes must be covered, have low heels and grip soles. Thongs, open weave shoes, sandals etc are not appropriate footwear. **Students will not be allowed to work in laboratories unless wearing suitable footwear;**
- NO dangly jewellery
- Hair must be tied back for the duration of the laboratory workshop
- Non revealing clothing is appropriate attire
- For ease of movement and dignity you may want to consider wearing trousers
- Personal Protective Equipment (PPE) (gloves, goggles and gowns) is available and **MUST** be worn when handling any biological material. Students who come in contact with human blood or blood products are strongly advised to have a course of Hepatitis B immunization. (Note a full course of immunization is 3 doses at 1, 3 and 6 months).
- Effective hygiene practice, particularly washing of hands, is necessary after the handling of any biological material, removal of gloves and prior to leaving the laboratory.

Personal Protective Equipment (PPE)

Gloves are worn to provide a protective barrier and to prevent contamination of the hands. Gloves must be worn when handling biological samples including blood, urine and saliva. Disposable gloves must be placed into yellow bins (Clinical waste bin) which are specifically marked for such.

To prevent cross-contamination gloves must be removed when

- Handling writing equipment such as pens
- Using computer equipment
- Leaving the laboratory
- DO NOT re-use gloves- always get a new pair
- Remember you should always wash your hands before leaving the laboratory even if you have been wearing gloves

Splinting Practicals

Students will be required to adhere to all of the following protocols whilst undertaking splinting:

- Hair to be tied back
- Wearing covered shoes
- Keeping aisles free and putting bags under desks.
- Keeping power cords free of water in the water pans for splinting
- Handing over scissors with handles first
- Setting heat guns to face UP not horizontally where they can set fire to distant objects like hair and clothes

Disposal of waste

Working spaces are to be kept clean. Broken glass and sharps must be placed in yellow sharps containers. All other laboratory waste must be placed in the marked bins in the laboratory. Note paper should be recycled in special recycling bins provided. No waste is to be left or placed in the sinks, and under no circumstance must waste be placed down the sink, unless authorised to do so. Certain chemicals which are miscible with water can go to sewer.

Working with Sharps

There are several courses in the School of Health Sciences that may require students to handle sharps including scalpels and needles. Proper disposal of all sharps is essential in order to minimize personal injury and to avoid possible transmission of blood or fluid-borne diseases or infections from this source. For this reason there are set protocols that must be adhered to in handling and disposing of ALL sharps.

All needles and syringes should be discarded into the yellow sharps disposal containers as single units. No attempts should be made to retrieve any item once it has been deposited into the sharps disposal container.

All sharps containers should be replaced once they are $\frac{3}{4}$ filled. In the event you notice a sharps bin is full please make sure you notify the supervisor or practical demonstrator.

Accidents and incidents

- Report all injuries and illnesses to the supervisor/lab manager.
- First aid will be administered by trained first aid officers
- All accidents must be reported to the supervisor/lab manager, including cuts and bruises and recorded on the appropriate form in consultation with the supervisor (<http://www.unisa.edu.au/ohsw/forms/docs/ohsw09.doc>). Non injury causing incidents such as spills, electrical shorts etc must also be reported

Handling broken glass

- Place broken glassware in the bin provided making sure all fragments are carefully cleaned up using a dustpan and brush.
- Do not pick up glass with your fingers as this will increase the risk of cuts and exposure to chemical and biological contaminants.
- Broken glass should never be placed in the garbage bags in wire frames since it can cut through the liner and injure cleaning staff.

First Aid Officer Chart

<i>Location</i>	<i>First Aid Officer</i>	<i>Extension Number</i>	<i>First Aid Kit location</i>
BJ1	TBA	22097	BJ1-42
BJ2	Seanagh O'Loughlin	22308	BJ2-04
P6, C7, C8	Ziggy Gniadek	22491	P6-20, C7-14, C8-40, C8-61
P7	Jim Townsend	21459	P7-15, P7-36

First Aid

- Eye injuries, whether caused by chemicals or mechanical injury or splash with biological material are always serious. The treatment requires immediate and prolonged flushing with water (20 minutes minimum) at the eyewash station. Medical advice should be obtained for an eye injury. MSDS should accompany student if necessary to seek medical treatment.
- In the event of chemical or biological spills on skin, thoroughly wash the affected area with copious quantities of water. Notify supervisor/lab manager immediately. Consult Material Safety Data Sheet (MSDS) to determine appropriate first aid. MSDS should accompany student if necessary to seek medical treatment.
- In the event of a sharps injuries it is vital to notify supervisor/lab manager immediately. Wash the wound and encourage bleeding. Seek medical treatment.
- If you are feeling unwell or dizzy when participating in an experiment, stop immediately, sit down and notify supervisor/lab manager.

Material Safety Data Sheets (MSDS)

Material Safety Data Sheets (MSDS) provide information about substances and their associated hazards including:

- chemical and physical properties of a substance
- health hazard information – acute and chronic health effects
- first aid including advice to doctor
- precautions for use
- safe handling information – storage & transport, spills & disposal

MSDS can be accessed via Chemwatch MSDS Database or the MSDS folders located in laboratories.

Working with Radiation

For detailed information please refer to Appendix 1.

Treatment for Fainting

- Do not leave the casualty
- Call for someone to help
- Lay the casualty on ground in the recovery position
- Observe airway and breathing

If casualty is not breathing, call Security on ext 88888 for an ambulance then begin CPR.

If casualty is breathing, but not responding after a further 2 – 3 minutes in the recovery position, call security for an ambulance.

If the casualty is responding, leave them lying with elevated legs and loosen any tight clothing at the waist and neck. They should regain consciousness rapidly. They may need a blanket.

CPR - Cardiopulmonary Resuscitation

1. With casualty in the recovery position, check airway for any obstruction
2. Turn casualty onto their back
3. Gently tilt head backwards and open the mouth
4. Give 2 initial breaths
5. Check for signs of life
6. Give 30 compressions
7. Tilt head and lift chin
8. Give 2 breaths
9. Give further 30 compressions.
10. Continue compressions and breaths in this pattern until help arrives
11. If casualty shows signs of life, turn them into the recovery position and continue to monitor their breathing

Electrical safety & hazards

All electrical devices used in a lab setting present a potential danger of injury due to electric shock, fires due to poorly installed or maintained systems and fires due to sparks serving as an ignition source for flammable or combustible materials.

General electrical safety tips

- Disconnect power before checking electrical equipment
- Ensure cables are in good condition and free from breaks in the insulation
- Inspect plugs for defects and check that item has a current testing tag attached
- Ensure all equipment is dry and clean before use
- All persons should be properly trained to use electrical equipment and machinery safely and should be made aware of all potential hazards
- Make sure electrical cables and cords are kept clear of walkways and traffic areas
- Avoid excessive use of double adaptors and extension leads
- Isolate electrical equipment from water supplies and flammable vapours

Electrical Shock

- Check for danger – immediately switch off electricity at the power point and remove plug
- DO NOT TOUCH THE VICTIM WHILE POWER IS ON.
- Call Security on ext 88888 to notify Ambulance Service
- See First Aid section for Cardiopulmonary Resuscitation procedure.

Manual Handling

Manual handling involves any activity which requires the use of force to lift, pull, push, carry or move any object.

It also involves reaching, twisting, bending and working in awkward postures which may lead to strain and injury.

Every laboratory should identify, assess and control risks associated with manual handling tasks and training all staff in correct lifting techniques and safe work practices.

Field work – off campus activities

The University of South Australia Fieldwork Health and Safety Procedure does not apply to work experience programs carried out on facilities that are not owned or managed by the University. However the above stated procedure does include the following relevant information:

- OHS&W Act (1986) imposes obligations to ensure that third parties (students, visitors, volunteers etc.) are ensured of, and responsible for, health and safety. Sections of the Act emphasise and restate the common law duty of care and impose various fines. A breach of the duty of care may also give rise to a civil action claiming damages for negligence.
- The legal framework as it relates to occupational health and safety is important to consider when organising field activities and further information is available from the OHSW Services.
- Employees, students and volunteers involved in field activities shall be consulted in relation to the activity and provided with information on particular hazardous work activities or conditions.
- Field work hazards and safety issues are reconfirmed to students by their designated Filed Trip Leader prior to the commencement of all field trips.
- Planning shall be carried out with consideration for the foreseeable hazards involving participant exposure. Field activity planning shall be completed using OHSW Procedure – Hazard Management and appropriate controls developed to minimise risk to participants.
- Comprehensive risk management plans exist for all Outdoor Education field activities. Students receive first hand experience on compiling Risk Assessment Plans for Outdoor Education field trips that they will undertake as part of their course.
- Safety aspects of Outdoor Education field work and theoretical understanding of hazard & risk in outdoor pursuits is covered in the course lecture series.
- University By-law 7.1 allows for the removal of a student who is disrupting a class, and may be applied during any University field activity. Schools must make it clear to students that this option is available to the field supervisor, particularly where there is a disruption which affects the health and safety of the student or others.
- For complete details on the above policy – see '[Fieldwork Health and Safety Procedures](#)'.

Appendix 1.

Working with Radiation

Radiation Guidelines

- The South Australian Radiation Protection and Control Act, 1982, and the Ionising Radiation Regulations, 2000, govern all use of ionising radiation in South Australia.
- Legislation requires that the ALARA principle (As Low As Reasonably Achievable) is adhered to at all times.
- The University has adopted dose constraint for staff and students working with ionising radiation, of 1 mSv per year, which is the dose limit for a member of the public. (The current effective dose limits for radiation workers is 20 mSv per year).
- Personal radiation monitors (Luxels) are issued to all students working with x-ray machines and sealed sources. (See the Medical Radiation Luxel policy)
- Undergraduate students working with radiation at the University must be under continuous supervision of a licensed radiation worker. This licensed person is responsible for the safe use of ionising radiation.
- When students are using radiation sources and equipment at hospitals they are required to read and follow the radiation safety manual of the department that they are working in. At all times, the University requirements are the minimum standards that must be followed. Students must always be supervised by a holder of a radiation license.

The UniSA School of Health Science Radiation safety Officer is Mr Tim Sawyer; room BJ1-24, phone number 83022509.

Pregnancy

- The National Health and Medical research Council (NHMRC) recommends a dose limit of 1 mSv per year to the foetus, which is treated as a separate individual from the mother. This is the same as for a member of the general public.
- Pregnancy should not prevent you from continuing in your undergraduate program, provided safe work practices are employed whilst working with ionising radiation. Undergraduate medical radiation students generally receive less than 0.05 mSv per year.
- There are some restrictions to clinical rostering which may need to be considered to ensure exposure remains at extremely low levels. The following areas are recommended to be avoided during pregnancy:

Diagnostic Radiography:

- Fluoroscopy and angiography in a suite without permanent protection such as a control booth.
- Mobile image intensifier radiography, for example theatre work.

Radiation Therapy:

- Brachytherapy (due to risk of incident with radiation sources and use of fluoroscopy without permanent protection)
- Unsealed source therapies such as I¹³¹

Nuclear Medicine:

- Hot lab work
- It is recommended that patient contact is limited

If you are pregnant please inform Tim Sawyer, the School of Health Sciences Radiation Safety Officer, where your particular situation will be assessed. It may be deemed prudent to inform the clinical course co-ordinator and hospital clinical supervisor. This will be discussed with you and will only take effect with your permission.

Further Reading:

UniSA, Medical Radiation Luxel Policy

UniSA, Occupational Health, Safety & Welfare website:

<http://www.unisa.edu.au/ohsw/>

UniSA Ionising Radiation Safety Manual, 2004 International Commission on Radiological Protection (ICRP) Publication 60, 1990 Recommendations of the ICRP.