This handbook provides general advice about safety and gives staff, students and visitors information about resources provided within the School of Earth and Environment and the Faculty. More specific facilities and advice on those resources can be obtained from the relevant supervisor, technical officer or manager.
HEALTH AND SAFETY MANUAL

General statement on health and safety management
The School of Earth and Environment fully endorses the Work Health and Safety Policy of the University of Western Australia. This health and safety manual supplements the central policy to provide and maintain healthy and safe working conditions, equipment and systems of work. We shall, so far as is reasonably practicable, ensure that no persons are put at risk from activities carried out under the auspices of the University.

Allocation of resources, information, instruction, training and supervision shall be provided as necessary to achieve this.

This manual and its associated systems of work shall be kept up to date to take account of changes in local activities and to promote a process of continuous improvement and full compliance with relevant health and safety and related legislation.

Operational health and safety management shall be continually monitored and reviewed at least quarterly by a Health and Safety Committee chaired by a member of senior management.

Reporting processes shall be developed and maintained to ensure that relevant information is made available to the local Health and Safety Committee.

A copy of this statement and manual shall be made publically available via the School of Earth and Environment website.

Endorsed by:

<table>
<thead>
<tr>
<th>Print Name:</th>
<th>Signature:</th>
<th>Date:</th>
</tr>
</thead>
</table>

Head of School
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1 **Purpose**

Persons who conduct a business or undertaking have the primary duty to ensure the health and safety of workers and other persons at the workplace. This requires the person to ensure that risks are eliminated so far as is reasonably practicable. If it is not possible to eliminate the hazard then minimise the risks as far as is reasonably practicable. This manual has been prepared to provide procedural guidance relating to the management of health and safety. It contains information which describes a framework for developing safe working practices and operation of a safe system of work. It also reminds workers of their personal responsibility to follow health and safety guidelines and to maintain an active safety awareness at all times.

2 **Scope**

The contents of this health and safety manual apply to all persons who are authorised to carry out activities in the area to which it applies under the auspices of the University of Western Australia. They are required to work in accordance with this manual and any associated system of working. Confirmation of receipt and understanding of the contents of this manual must be recorded.

3 **Introduction**

Successful management of health and safety can only be effectively achieved when the participation of workers at all levels is built into all its processes for identifying and controlling risk. Everyone has a responsibility to co-operate with their colleagues to achieve a safe and healthy workplace, and to take reasonable care of themselves and others.

Safety management can be considered as a step-wise process which builds a framework which encompasses all activities carried out in the workplace and which promotes self-checking, review and continual improvement. It addresses the safety management in the workplace, the use of resources and carrying out individual activities.

In the management of health and safety there are defined roles of nominated individuals. They assist the senior manager; help to resolve health and safety issues and also report to the local Health and Safety Committee. Definitions of these roles can be accessed via the RESPONSIBILITIES section of this manual.

4 **Definition of terms**

**Resources**

People, equipment and substances used within the workplace.

**Demonstrable competency**

In some circumstances it is not possible or is difficult to verify formal qualifications, particularly when they were obtained many years previously. Workers must have received appropriate information, induction, instructions and training, be fit for duty and be deemed competent to safely carry out the task. Demonstrated knowledge, skills, ability and experience can all be collectively considered as an alternative assessment of competency but that assessment must be recorded and filed for reference.
**Standard Operating Procedure (SOP)**

This is a document which helps to minimise risk by identifying hazards, providing guidance for use and recording user competency regarding the operation of potentially hazardous equipment. It includes pre-operational checks, guidance for use, post-use guidance and forbidden uses.

**Method statement**

This document contains the instructions for carrying out the job. It breaks the task down into discrete steps and includes who is responsible for each (i.e. operator, supervisor, manager). This document can account for safety aspects of the work by incorporating any control measures which have been identified in risk assessments. It can also be used independently as a stepwise instruction sheet to carrying out both one-off and routine tasks.

**MSDS**

Material Safety Data Sheet is an information sheet on the properties and hazards associated with chemical substances used in the workplace that contains essential information in the safe handling, storage and disposal of substances.

**Hazardous substances**

This includes chemicals which could be corrosive, known carcinogens or toxic. It also includes pathogens, solvents, gases and others. For further information regarding hazardous substances contact UWA Safety, Health and Wellbeing.

**Noise treatment plan**

A report that indicates areas around equipment and processes that exceed noise exposure levels and sets out a treatment plan to reduce noise by the implementation of engineering controls or the mandatory wearing of hearing protection.

## 5 \textbf{Legal requirements and implications}

A system of working which reflects the legal requirements placed on the University and simultaneously provides documentary evidence of compliance is a vital component of a Safe System of Work.

Day to day monitoring of compliance is the responsibility of all those with managerial responsibility. Managers and the local Health and Safety Committee should also use reports of injury, near misses and sickness linked to work to determine whether existing arrangements require modification in order to minimise recurrence. The effectiveness of local safety management should be co-ordinated via the Health and Safety Committee which calls for and reports on the outcome of regular inspections or self-auditing.


### 5.1 \textbf{Legislation}

#### 5.1.1 \textbf{Work Health and Safety Act 2013}

This is the principal legislation to which this manual relates. This legislation places higher level responsibilities upon certain individuals, particularly Officers. It refers to non-
transferable work health and safety duties related to specific roles and standards of care associated with all activities conducted within a workplace.

A person can have more than one duty and more than one person can have the same duty. Under these circumstances, each person must discharge the duty to the extent that they have the capacity to influence and control the matter. Duties imposed on a person to ensure health or safety requires the person to eliminate risks to health and safety, so far as is reasonably practicable, and if it is not reasonably practicable to eliminate, then to minimise those risks so far as is reasonably practicable.

5.1.2 AS/NZS 4801: OHS Management System - Specification with Guidance for Use
This provides guidance through which the University seeks to:

- Implement, maintain and improve its Occupational Health and Safety Management System (OHSMS)
- Assure itself of its conformance with its stated Occupational Health and Safety policy.
- Demonstrate such conformance to others.
- Obtain certification of its OHSMS by an external organisation.
- Make a self-declaration of conformance with the Standard.

5.1.3 ISO31000: Risk Management Standard
This was used as a reference for guidance in the development of the UWA approach to safety management of hazards through the assessment and control of risk.

5.2 Record Keeping
Adequate record keeping is essential. The absence of such records could be regarded as not having fulfilled the required duty of care. Records also provide the means by which it is possible to demonstrate due diligence. Evidence of review, operation of local Health and Safety Committees and involvement by those responsible for directing work and activities are key factors in determining that a safety management system is pro-active, responsive and up-to-date.

The University uses AS/NZS 4801 OHSMS Standard as its means of planning, conducting and monitoring safety performance in all areas.

Key documents required for examination by auditors are:

<table>
<thead>
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<th>Document</th>
<th>Details</th>
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<tr>
<td>The UWA Safety and Health Risk Register</td>
<td>Refer to <a href="http://www.safety.uwa.edu.au/safety_management">www.safety.uwa.edu.au/safety_management</a> page and see ‘UWA Safety and Health Risk Register’ *</td>
</tr>
<tr>
<td>This Health and Safety Manual</td>
<td>This manual shall be the principal reference for safety management in the workplace. *</td>
</tr>
<tr>
<td>Standard Operating Procedures</td>
<td>Combined safety assessments and training record documents describing the safe use of hazardous equipment. *</td>
</tr>
<tr>
<td>Evidence of competency and training</td>
<td>Either by qualification or by experience and well established demonstrated knowledge that individuals are able to use resources and conduct work safely. Evidence of safety induction for all workers must be recorded. *</td>
</tr>
</tbody>
</table>
A prescribed process for the planning of tasks and activities

A documented process for planning of otherwise unassessed activities which may be such as to require documented description and specific risk assessment via a standardised process. **

Evidence of use of monitoring

This includes area safety inspection checklists, self-auditing and/or intra-University auditing to the adopted AS/NZS 4801 standard. **

Evidence of regular review

This includes health and safety committee meetings, reporting and implementation of improvements and an annual (or more regular if required) review of this Health and Safety Manual. **

* Assistance can be accessed via the UWA Safety, Health and Wellbeing website by provision of pro-forma documents.

** Sections of this manual are dedicated to these items

6 Responsibilities

Details of health and safety responsibilities for Deans, Heads of Schools, Directors of Centres or Sections, Supervisors, Health and Safety Representatives, School Safety Officers, Building Wardens, First Aid Officers, employees, students, contractors and visitors are available via the UWA Safety, Health and Wellbeing website.

Refer to http://www.safety.uwa.edu.au/policies/responsibility_and_accountability

6.1 Duty of Care and Due Diligence

Responsibilities extend beyond minimum compliance with statutory obligations. Every individual owes a duty-of-care to each other person they encounter in their activities. Health and safety legislation places specific responsibilities on individuals including the requirements of due diligence as shown in the following table:

<table>
<thead>
<tr>
<th>Duty holder</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A person conducting a business or undertaking:</td>
<td>Must ensure, so far as is reasonably practicable, that workers and other persons are not put at risk from work carried out as part of the business or undertaking.</td>
</tr>
<tr>
<td>Persons conducting a business or undertaking who:</td>
<td>Must ensure, so far as is reasonably practicable, that:</td>
</tr>
<tr>
<td>manage or control a workplace</td>
<td>the workplace, including entry and exit and anything arising from the workplace are without risks to health and safety</td>
</tr>
<tr>
<td>manage or control fixtures, fittings or plant at workplaces</td>
<td>the fixtures, fittings or plant are without risks to health and safety</td>
</tr>
<tr>
<td>design, manufacture, import, supply or install plant, substances or</td>
<td>the plant, substance or structure is without risks to health and safety</td>
</tr>
</tbody>
</table>
**Officers:**

Must exercise due diligence to ensure that the business or undertaking complies with the Work Health and Safety Act and Regulations. This includes taking reasonable steps to:

1. Acquire and keep up to date knowledge of work health and safety matters associated with the operations of the workplace.
2. Ensure that the organisation has and uses appropriate resources and processes to eliminate or minimise risks to health and safety.
3. Ensure appropriate processes for receiving and considering information on incidents, hazards and risks and responding in a timely way.
4. Ensure that the organisation implements processes for complying with any duty or obligation of the body under the Act (e.g. incident notification, consultation, notice compliance).
5. Verify the provision and use of resources.

---

### 6.2 Health and Safety Committee

School Health and Safety Committees have an advisory and coordinating role for the management of local health and safety matters. Membership of Faculty Health and Safety Committees is expected to include a management and worker representative from each School Health and Safety Committee. This promotes good communication and ensures that matters which are unresolved at School level are referred upwards.

Efficient information feedback processes are the key to promotion of continual improvement (the most fundamental aspect of the AS/NZS 4801 Standard). Whilst managers play crucial roles in health and safety management, their involvement in regular meetings of the local Health and Safety Committee creates a formal and efficient forum for reporting and managing safety in the workplaces. It also assists in meeting their responsibilities as “Officers” by demonstrating due diligence (see RESPONSIBILITIES; Duty of Care and Due Diligence). All parts of the University are required to address health and safety matters through effective consultation and representation. A Health and Safety Representative or five or more workers may request the creation of a Health and Safety Committee. The workplace must respond by establishing the committee within two months of the request. The workplace may establish a Health and Safety Committee at any time on their own initiative. A member cannot be held liable in criminal or civil proceedings because of any acts, or omissions, done honestly and reasonably, pursuant to their role as a member of the committee.

Refer to [http://www.safety.uwa.edu.au/management/committees](http://www.safety.uwa.edu.au/management/committees) for further information relating to:

- Structure and representation
- Terms of reference
• meetings and reporting schedule
• pro-forma committee documents (agenda, minutes and annual report)

The flow of information between health and safety committee members and workers should be regular and timely. This demonstrates that the University is improving health and safety by addressing problems, which encourages workers to take an interest in their own health and safety and that of their colleagues. Minutes of meetings are to be distributed to all committee members and also to be made available to workers. Feedback meetings should be arranged to seek the views of workers affected by Health and Safety Committee decisions.

6.2.1 School health and safety committee

6.3 Resolution of Health and Safety Issues

It is important to address health and safety issues as soon as possible to minimise the risk of harm from hazards. The University has Notification and investigation processes which are provided to ensure that health and safety matters are reported, investigated and resolved effectively. These processes follow sequential, escalating steps for resolution of issues. WorkSafe WA can be notified if there is a risk of imminent and serious harm. Where a worker has a health and safety issue or problem that needs to be resolved the following steps shall be followed.

• Report the matter to Supervisor of the affected workplace for resolution.
• If not resolved, where there is a workplace Health and Safety Representative, the Supervisor shall advise and consult with the Health and Safety Representative with a view to developing a strategy for resolving the issue. Otherwise the Safety Officer for the area should be consulted.
• If the issue remains unresolved then the workplace Health and Safety Representative or Safety Officer shall refer the issue to the Head of School or Manager of the School, Unit or Centre for resolution.
• If the issue remains unresolved the workplace Health and Safety Representative or Safety Officer shall refer the issue to UWA Safety, Health and Wellbeing for resolution.
• If the issue remains unresolved then UWA Safety, Health and Wellbeing shall refer the issue to the University Safety Committee for resolution.

Further information:
• www.safety.uwa.edu.au/policies/resolving_safety&_health_issues
• www.safety.uwa.edu.au/incidents-injuries-emergency/notification

For further information regarding nomination, election and duration of position of employee Health and Safety Representatives contact UWA Safety, Health and Wellbeing for advice.

6.3.1 Notification of hazards

Every member of the School has a duty to report any situation they believe could constitute a hazard. Hazard and near-miss forms are available from the School Administration or at:
6.3.2 Incident and injury reporting

All injuries and accidents must be reported to your Supervisor, Health and Safety Representative, Safety Officer and Head of School. Incident Report Forms are available from the School Administration or at:

http://www.safety.uwa.edu.au/forms/incident

In the event of an accident, the medical report form and injury report form constitute legal documents which will be required for any workers compensation or insurance claim. They must filled in within 24 hours of the incident occurring.

All incidents and injuries will be investigated to establish cause and to ensure implementation of procedures to minimise any repeats.

For more information:


6.4 Delegation of authority to endorse safety related documents

Safety Management documentation often requires endorsement by the Head of School, the Director or equivalent as the manager who has overall responsibility for all tasks or activities carried out in or under the auspices of their workplace. This often places them in a difficult position when asked to endorse various activities in so far as they are not necessarily best qualified or experienced to make expert judgement regarding the content of associated health and safety documentation including assessment of risks.

A practical solution to this situation is to delegate signatory authority to a competent third party allowing them to sign by proxy (p.p.) whilst the Head of School still retains overall responsibility. The third party must be sufficiently conversant with the particular activities to make critical assessments on an objective and informed basis. Delegation of signatory authority must be in written form, stored for reference and reviewed regularly (e.g. every two years).

Documents which are used to propose work and analyse safety aspects are sometimes forwarded, for endorsement, to a committee or group with specific subject expertise in accordance with legal requirements. Whether the delegated signatory authority is to an individual or to an expert committee or group, the Head of School still has overall responsibility for the task or activity with the delegate in the role of an advisory resource. Such arrangements must be formally recorded.

For a more detailed examination of University policy on delegation of authority refer to:

Delegation definitions: http://www.delegations.uwa.edu.au/procedures/definitions
University delegations http://www.delegations.uwa.edu.au/university_delegations
(Select ‘Head of School’ under bands 5a and 5b)

7 Safe conduct

7.1 Required standards of behaviour

The following requirements meet the required standards of behaviour for all personnel in the workplace:
Particularly in potentially hazardous workplaces, never adopt a casual attitude, reckless behaviour or run in the area.

Always be conscious of potential hazards.

Ensure that personal clothing is suited to the working environment conditions, e.g. safety closed in footwear - bare feet, thongs and sandals are prohibited in the many workplaces including laboratories, workshops, kitchens and others. Similarly, complying with all uniform requirements will ensure that clothing is safe.

Use, store and maintain any protective clothing, devices and Personal Protective Equipment (PPE) which is appropriate to the type of tasks or activities giving due consideration to other adjacent work being carried out in the vicinity.

Always exercise care when opening and closing doors and entering or leaving the workplace.

Only handle, store or consume food or drink in suitable areas. Kitchen areas are designated as such and there are restrictions which apply to some areas such as workshops or laboratories.

Only store food or drink in refrigerators which are intended for that use.

Particularly in potentially hazardous workplaces, regard all substances as potentially hazardous unless there is definite information to the contrary and take additional care when carrying or moving them.

Work shall only be carried out with the permission of a Supervisor.

Never undertake any work unless the potential hazards of the operation are known and appropriate safety control measures exist or have been implemented.

Any flame producing activity is not to commence until the immediate area has been cleared of dusts as many materials, which are non-flammable in a lump state, become volatile when in powdered form or as dust.

All safety equipment must be labelled and maintained in good working order in accordance with the manufacturer’s instructions.

Report to the supervisor, any requirement for maintenance which may have been overlooked.

Keep all fire-escape routes completely clear at all times.

Ensure that all safety equipment remains accessible to personnel at all times and never deposit items adjacent to which could hinder easy access.

Warning signs and barriers appropriate to the work being carried out are to be displayed at entrances to the workplace. If the work could be hazardous to other individuals then restricted access controls may be appropriate.


### 7.2 No smoking policy

The University is smoke free. Smoking is prohibited in, or at, all of the University’s buildings, properties and workplaces. The ban on smoking applies to staff, students, visitors and contractors. Under the University’s policy on smoking, the environment is to be free from tobacco advertising, promotion, sponsorship, sale, and both direct and indirect research funding from the tobacco industry. Accordingly, managers and supervisors shall promote and ensure compliance with the University policy on smoking. For further information refer to the UWA Safety, Health and Wellbeing website [www.safety.uwa.edu.au/health/uwa_is_smoke_free_2012](http://www.safety.uwa.edu.au/health/uwa_is_smoke_free_2012).
7.3 Electrical safety

Electrical equipment used on UWA property must be compliant and be visually inspected or electrically tested and tagged according to the electrical classification of the environment. Students and campus visitors are requested to have read and comply with the Electrical Safety Pamphlet which is located at http://www.safety.uwa.edu.au/topics/electrical-safety.

After the workplace has been determined as either electrically non-hostile or hostile, a regular inspection schedule can be developed. It is recommended that regular workplace safety inspections are synchronised with the checking periods which are required for electrical equipment.

Electrical equipment should not be brought in from home. All electrical equipment to be used in the School must have a current tag to ensure that it is ‘in test’. Any equipment that requires testing or is faulty or malfunctioning should be reported to the School Technical Manager on 6488 2225 as soon as possible, if the School Technical Manager is not available please contact FM, although a fee will apply.

Bar heaters are not permitted due to fire risk. Any other heater should have a 1 hour timer fitted by FM.

Circuit breaker protected power boards should be used for multiple connections to a power point. Piggy backing of power board on power board is not acceptable.

See also:
http://www.safety.uwa.edu.au/topics/electrical-safety

7.4 Purchasing

All materials and equipment acquired by the workplace or by individuals for use at work, must comply with the standards, codes and regulations prescribed by law and by University requirements. Only those that can be safely accommodated and used within the workplace should be obtained. Individuals who arrange the purchase of material or equipment must obtain all necessary information to enable the associated risk to be assessed in order to maintain legal compliance. They must also comply with the requirements of the purchasing procedures. Only authorised signatories shall approve acquisitions. Details of authorised individuals are available from Financial Services.

For further information see Material Safety Data Sheet (MSDS)

It is mandatory to be in possession of a Material Data Safety Sheet (MSDS) and to complete a risk assessment relating to use of all hazardous chemicals or substances.

Each lab is required to have a register of MSDS for all chemicals in that lab. MSDSs can be downloaded from Chemalert at:

http://www.safety.uwa.edu.au/topics/chemical/chemalert

Always read the MSDS for every chemical you plan to use. Many chemicals are known to be toxic; some are known carcinogens. Comparative toxicity varies enormously. The chemical supplier has a responsibility by law to provide this information upon request at the time of ordering. See your supervisor, safety officer or purchasing officer to obtain copies of these or any other information pertaining to the safe use and handling of chemicals.

Ordering chemicals (p. 23).
7.5 **Visitors and contractors**

Visitors or Contractors must report to a reception point at the workplace. The member of the workplace who the visitor or contractor wishes to see must be contacted and asked to attend and meet their visitor or contractor and accompany them in the workplace. In the case of restricted access worksites, the contractor may be granted permission to enter the area for the duration of the work unless any circumstances occur which affect the health and safety of other people in the area. The policy in relation to Visitor Safety is available via the UWA Safety, Health and Wellbeing website: www.safety.uwa.edu.au/policies/visitor_safety.

7.6 **Services and facilities**

The planning and undertaking of building, alteration and repair work, and the installation and maintenance of plant and equipment, by persons from outside the University needs to be adequately controlled to ensure the health and safety of others people present in the workplace. The University has a health and safety policy for contractors, which requires that safety is managed through cooperation between the stakeholders. The University is responsible for all persons working on its property and must therefore verify that safety management is satisfactory.

Contractors need to be UWA approved and/or have completed the UWA online safety induction.

7.7 **Children**

If children are brought onto University premises they must be under the immediate and close supervision of a parent or guardian at all times. Children are NOT permitted in hazardous areas such as laboratories, workshops, kitchens or any other area where the person in charge considers it to be inappropriate. For further information regarding the Children in the Workplace, including rights and responsibilities of parents refer to the policy on Children on the University Campus.

7.8 **Safety off University premises**

Many activities take place off University premises, including field trips and supervision in isolated areas. Staff, students and others have a responsibility to identify foreseeable risks and take appropriate action. Activities such as field trips require adequate competent supervision, first aid equipment training, appropriate protective clothing, closed footwear, sufficient communications arrangements and availability of emergency equipment. Persons who are responsible for fieldwork shall familiarise themselves with the University guidelines. Staff who are responsible for the placement of students shall also familiarise themselves with the University guidelines on placement of students. For further information regarding field work in rural and remote areas refer to the UWA Safety, Health and Wellbeing website: www.safety.uwa.edu.au/policies/field_work

For Fieldwork procedures, please see Section 8.12 Fieldwork and offsite safety (p. 28)

7.9 **Use of computer workstations**

All workers must be aware of the hazards of repetitive work such as keyboard use or laboratory work and occupational overuse. Staff must take regular breaks and postural readjustments to avoid muscular strain, and report any symptoms to their supervisor. The UWA Safety, Health and Wellbeing team offers ergonomic assessments for all staff (including
staff with ‘working from home’ arrangements) and these can be booked by contacting the UWA Safety, Health and Wellbeing team.

The UWA Safety, Health and Wellbeing website offers further computer workstation ergonomic information at http://www.safety.uwa.edu.au/health-wellbeing/physical/ergonomics/workstation

### 7.10 Manual handling

All workers must be trained in the appropriate manual handling techniques for any hazardous manual tasks that they are required to perform in their jobs and not expose themselves or others to the risk of injury. Workers must be aware of, and utilise the mechanisms that exist within the workplace to:

- Identify hazardous manual tasks that exist,
- Assess the risks arising from the identified hazardous manual tasks that,
- Decide on the appropriate use of control measures.

If individuals feel that they are unable to undertake any manual handling task, because it is beyond their range of comfort and ability, they must seek assistance. In situations where individuals are required to perform new or unfamiliar manual tasks, supervisors should conduct a new risk assessment to identify any new potential hazards and implement and evaluate control strategies (i.e. mechanical solutions and/or training). Many injuries occur when workers undertake unfamiliar or non-routine tasks due to a lack of planning or risk assessment.

Where possible, mechanical handling equipment should be used (e.g. trolleys and fork lifts). All areas should develop and document a Manual Handling Risk Management Plan through consultation with Health and Safety Representatives and assistance from the Occupational Therapists in UWA Safety, Health and Wellbeing.

For information regarding the University Policy on Manual Handling refer to the UWA Safety, Health and Wellbeing website: www.safety.uwa.edu.au/policies/manual_handling

### 7.11 Housekeeping

The maintenance of high standards of housekeeping in workplaces helps to prevent injuries. General tidiness includes such considerations as:

- Keeping floors tidy and dry
- Removing rubbish daily
- Avoid creating trip hazards such as trailing leads
- Keep work surfaces and resources such as fume cupboards, tidy, clean and free from equipment and hazardous substances that are not in use.
- Keeping aisles, exits, fire extinguishers, first aid kits and electrical cabinets free from obstruction
- Keeping glassware and breakables off the floor
- Informing contractors of workplace hazards that exist such as flammable liquids or combustibles
- Avoid exposing cleaners to hazards
- If last to leave the workplace, make sure all equipment is turned off or left in a safe state and leave personal details with equipment/processes that need to be left running when unattended.
7.12 Use of social media

The separation which otherwise exists between personal and professional expression can become blurred. Comments which relate to individuals or workplace colleagues may endure over time making them highly visible. Interconnectivity between social media sites can result in unexpected distribution to a wider audience than in the off-line world. The inappropriate use of social media in either a professional or personal capacity, can violate the privacy, breach the security and harm the reputations of other employees, students and/or the University. Such activity may be determined as misconduct or serious misconduct, resulting in possible disciplinary action or termination of employment. Workplace health and safety legislation could also be contravened. For further information, refer to The University policy on social media. As a general rule: If it would normally be acceptable to express an opinion about something off-line, it is equally acceptable online. Express thoughts and opinions rationally, respectfully and appropriately.

7.13 Working alone

Individuals may occasionally be required to work alone on University premises. Under these circumstances there are special risks due to the lack of immediate assistance in the event of an accident or sudden illness. This guidance applies to working alone at any time but when planning after-hours working there are specific limitations on accessing workplaces and also on the types of work that may be undertaken.

Refer to “After-hours working” in this manual and also see http://www.safety.uwa.edu.au/health-wellbeing/physical/after-hours-working.

Health and safety legislation requires that if an employee is isolated from other persons because of the time, location or nature of the work then the employer must ensure that there is a means of communication available which will enable the employee to call for help in the event of an emergency and arrangements made to ensure regular contact. The maximum penalty for breaching this regulation is $25,000.

If you are required or intend to work alone you must have permission to do so from a Manager or Supervisor who has assessed risks associated with the planned activities, considered the availability of any potentially required support services and concluded that such working arrangements are acceptable. This may include addressing unattended reactions or experiments. In addition, disclosure and consideration of any medical conditions that may give rise to a dangerous or life threatening situation when working alone must be taken into account.

In all of the following cases, working alone is not permitted where:

- There is no readily accessible means of communication.
- Work which is remote or isolated from the assistance of others due to the location, nature or time.
- Operation or maintenance of hazardous equipment
- Handling of hazardous substances or use of large volumes of flammable solvents.
- Work which is too hazardous for a person to perform alone.
- Maintenance or adjustments on energised electrical or electronic systems.

Under the following circumstances, working alone is permissible:

- An authorised person is notified of the planned work, when it will commence and the expected completion time.
• Staff and students may work alone in office and other low risk environments.
• An easily accessible means of communication to gain assistance in an emergency is available.
• Undertake all required personal security measures e.g. lock doors, walk in well-lit areas.

The campus emergency number is 6488 2222. UWA Security (phone 6488 3020) offer a 24 hour escort service to vehicle or residences near the campus and also offer lectures on personal security. To request their assistance telephone 6488 3020 allow up to 20 minutes notice for the escorting service.

• WorkSafe WA provide guidance regarding working alone and how it influences the risk of harm or injury at http://www.commerce.wa.gov.au/worksafe/content/safety_topics/Working_alone/index.htm

This information is also available at http://www.safety.uwa.edu.au/health-wellbeing/physical/alone.

### 7.14 After-hours working

An important consideration when working outside of normal working hours is the times of day when maximum internal and external support services are available in the event of an incident, injury or illness. Such services include First Aid Officers, the Medical Centre, Facilities Management, Building Operations, external emergency services and UWA Safety, Health and Wellbeing.

In all workplaces, if you are required or intend to work outside of normal working hours, you must have permission to do so from a Manager or Supervisor who has assessed risks associated with the planned activities, considered the availability of any potentially required support services and concluded that such working arrangements are acceptable. In hazardous workplaces, where the type of work, the resources used and the risks to the health and safety of workers is significant, the periods of normal use should be restricted to 8:00 am - 5:00 pm on weekdays only.

Persons wishing to work outside normal hours may be required to provide a work plan that clearly defines the proposed task and limitations on that task outside normal working hours. They may need to fill in a log of arrival and departure times and advise Security on (+61 8) 6488 3020 or the appropriate number for laboratories not on the main University campus. If accessing the workplace after hours:

• Ensure that the doors of buildings are securely closed and locked after entering and exiting.
• Ensure that the doors to internal areas are secured on leaving.
• Ensure familiarity with health and safety rules and emergency contact numbers (these should already be displayed in the workplace.
• Do not give anyone else security codes, keys or access cards.
• Do not provide access to buildings to unauthorised persons as Security is instructed to remove them if they cannot demonstrate current authorisation.
• Report to University Security any breaches of security or suspicious behaviour.

Some work is too hazardous to be undertaken alone or after hours. This includes any activities involving:

• Hydrofluoric acid.
• Explosive and potentially unstable substances.
• Disposal of hazardous substances.
• Naked flames associated with flammable solvents.
• Low-temperature environments (e.g. cool rooms, freezers).
• High-powered, fast-moving machinery or equipment.
• Heights or confined spaces.
• Significant quantities of molten metals.
• Other hazards or activities as identified by the Manager or Supervisor.

Only competent persons may operate inherently hazardous equipment. A documented risk assessment must be made and/or adequate control measures must be implemented. Work by undergraduate students may only be performed if directly supervised by a staff member or approved nominee.

A minimum of two persons must be present to ensure that appropriate action and support is provided in the event of an incident or injury. The second person must be competent to obtain any assistance required and to make the area safe. If having a minimum of two people present is not possible, there are specific limitations on what types of work may be conducted. Refer to “Working alone“ in this manual and also http://www.safety.uwa.edu.au/health-wellbeing/physical/alone.

A breach of any of these conditions may result in after-hours access being cancelled. This information is also available at www.safety.uwa.edu.au/health-wellbeing/physical/after-hours-working.
8 Local rules

8.1 Safety inductions

All persons shall complete safety inductions before undertaking any tasks or activities in the workplace.

The School requires completion of the following as soon as practicable:

1. Building and laboratory inductions
2. UWA Online Health and Safety Induction

Further information on safety induction processes is provided at the following locations


Induction does not infer competency or permission to commence work. Persons shall only carry out work using resources which they are deemed competent to use and shall do so only with permission of the area supervisor. A record of completed inductions shall be included in the individual’s training records.

8.2 Competency and training

Workers shall only carry out work using resources which they are deemed competent to use. Competency can only be judged through assessment by a Supervisor. Hazardous equipment shall only be used by operators where their competence to do so can be verified via written records based on qualification and/or ‘demonstrable competence’ (see definitions). The need for specialist training shall be identified by managers and supervisors and all such requirements must be escalated via workplace line management. Individuals shall not be expected to undertake any activities for which they are not deemed competent.

8.3 Management and permission to work in the area

Managers and supervisors have control of and are responsible for workplaces and are authorised to give permission to do work. Permission to carry out work in a workplace may only be granted to individuals for whom their competency to do so can be demonstrated. Records of that competence must exist and be available for inspection. A combination of endorsement of documented methods, appropriate supervision (to be established and reviewed on a case by case basis) and verbal consent may be sufficient as a basis for granting permission to work provided it can be demonstrated that the individuals who carry out work meet the following criteria for ‘demonstrable competency’ (see definitions).

8.4 Local access restrictions

8.4.1 School buildings

In order to gain after-hours access to the UWA School Buildings it is necessary to obtain a UWA Identification Card from the Student Administration located in the Social Sciences building.

UWA Identification Cards enable access only to the specific buildings or areas which are programmed by Administration staff. After-hours access must be approved by a Supervisor in writing and cleared with senior technical staff (Mike Smirk or Bill Wilson).
UWA Identification Cards must be worn on Campus at all times as Security will be remove personal without this authorized identification.

Report lost or stolen cards either to Security or the School’s administration office immediately.

See also:
• After-hours working
• Working alone

See also:
• After-hours working
• Working alone

8.5 Workplace monitoring

All workplaces shall carry out periodic monitoring to ensure that good health and safety standards are being maintained. Workplaces should be inspected on an annual basis as a minimum. This can be achieved via several approaches which are provided via the Safety, Health and Wellbeing website. Checklists are available for a variety of area types. Inspections should also be carried out following changes to the area such as new projects, personnel, plant, equipment, procedures or refurbishment. Other monitoring processes include the Traffic Light System and the UWA Internal Audit programme which evaluates the performance of the occupational health and safety management system against the AS/NZS4801 OHSMS Standard. Workplace monitoring is usually coordinated by the workplace Health and Safety Committee.


8.5.1 Workplace Inspections

The aim of workplace inspections is to identify hazards and implement measures to eradicate problems for the protection of staff and students. Where appropriate, records will be maintained and reviewed.

<table>
<thead>
<tr>
<th>Type of inspection</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal checks by staff member and supervisors</td>
<td>Daily</td>
</tr>
<tr>
<td>Formal inspection by School Supervisor and OH&amp;S representative</td>
<td>Regular</td>
</tr>
<tr>
<td>Inspection of Hazardous Environment</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Formal inspection of laboratory and workplace area by Manager/Supervisor and one other independent Manager/Supervisor</td>
<td>Annual</td>
</tr>
</tbody>
</table>
8.6 **Standard Operating Procedures (SOP) for hazardous equipment**

All hazardous equipment in the workplace is to be risk assessed by creation of SOPs. These single page reference documents are to be displayed such that they may be referred to at the location of use of the equipment.

Hazardous equipment may only be used by competent operators. Individuals will be trained to use hazardous equipment and will sign a copy of the SOP which will be stored in their training records once they are deemed to be competent operators by a supervisor or manager.

For further information regarding SOPs refer to Section 9.2 Assessing hazards associated with resources (p. 30).

8.7 **Laboratories and workshops**

Safety in laboratories is the responsibility of the individual as well as the laboratory Supervisor. Staff and students should ensure that they are aware and informed of the safety considerations related to each laboratory procedure they undertake.

All laboratory procedures may only be carried out after consultation with and approval from the laboratory supervisor, and undertaking appropriate training. Records for approval and training should be stored in the laboratory's safety file.

**DO**

- Wear Personal Protective Equipment (PPE) - a lab coat, gloves, safety glasses, hearing protection, respiration mask, protective facial shield
- Wear closed shoes with non-slip soles - thongs and sandals are unacceptable
- Tie back long hair and tuck in loose clothing
- Cover wounds with Band-Aids or other dressings before handling chemicals
- Be aware of potential hazards
- Familiarise yourself with the location of safety equipment - first aid kit, fire extinguisher, fire blanket, safety shower, eye wash station, spill kit
- Follow Safe Operating Procedures (SOPs) for hazardous equipment
- Keep fume hood sashes closed where practicable
- Wipe down work benches after use and keep them free of clutter
- Wash and dry glassware after use and return tidily to shelves
- Wash hands and remove lab coats before leaving the laboratory

**DO NOT**

- Store, handle or consume food or drink in laboratories
- Run in the laboratory or along corridors in a laboratory area
- Use equipment you are unfamiliar with without permission and induction from the laboratory supervisor
- Undertake procedures without first identifying potential hazards and implementing appropriate precautionary measures following consultation with and approval from the lab supervisor
- Pipette substances by mouth
- Sniff at unknown substances
- Follow all guidelines for the safe storage of chemicals
- Impede air flow in fume hoods
8.7.1 Gas cylinders

Some procedures require the use of gas cylinders. If you require the use of a compressed, liquefied or dissolved gas cylinder, you will need to consult the Australian safety guidelines for gas cylinder storage, as detailed in reference document AS 4332 -The Storage and Handling of Gases in Cylinders (https://ablis.business.gov.au/WA/pages/0c41a47d-1619-406f-b32d-37b3afadac1a.aspx).

Note: Fires and explosions from flammable gas leaks are often caused by poor connections. If a leak is ignited the risk of explosion is more dangerous than the flame. The cylinder valve should be turned off before putting out the flame. If the flame is put out first the gas can create an explosive atmosphere.

Classification of gases

Compressed, liquefied or dissolved gases are categorised as Class 2 dangerous goods and sub-categorised as:

- Class 2.1 Flammable gases identified by a red dangerous goods diamond (e.g. Butane)
- Class 2.2 Non-flammable and non-toxic gases identified by a green dangerous goods diamond (e.g. Helium)
- Class 2.3 Poisonous gases identified by a white dangerous goods diamond (e.g. Ammonia)

In instances where the gas presents multiple hazards, additional diamond shaped warning signs indicate the subsidiary risks. For example, Chlorine Class 2.3 (toxicity) and Class 5a (oxidising agent)

Movement of gas cylinders

The majority of incidents involving gas cylinders occur while moving them from one location to another. Only trained personnel are permitted to move cylinders.

To reduce the potential for an incident when moving cylinders:

- Use a gas cylinder truck or other suitable trolley for gas cylinder transportation
  - NEVER drag or roll a gas cylinder on its side
  - NEVER lift a cylinder by the cap or valve
- Securely fasten the cylinder to the truck/trolley using a strap or chain
- Close the gas cylinder’s valve, disconnecting and removing associated regulators and distribution equipment
- Do not use stairways.

Storage of gas cylinders

The following precautions shall be observed for minor storage and handling of gas cylinders (minor is formally defined – contact UWA Safety, Health and Wellbeing for advice).

- Cylinders of compressed and liquefied gases must be turned off at the cylinder valve when not in use
- Gas cylinders are to be kept away from artificial sources of heat, i.e. radiators, boilers or steam pipes
- Gas cylinders shall be provided with adequate ventilation at all times
- Classes of gas cylinders shall be segregated within the store, but need not be separated
• Outdoor storage of Class 2 cylinders shall be separated from other dangerous goods by 3 metres
• They shall not be less than 1 metre from any door, window, air vent or duct
• All gas cylinders are to be secured in the upright position by chain or other means to prevent falling

Indoor storage of gas cylinders should be avoided wherever possible. However where it is not reasonable to have an outdoor cylinder and reticulation system, the indoor storage / use of gas cylinders shall incorporate a risk management approach.

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### Precautions for specific gases

**Oxygen**
- Do not use grease/oil on oxygen cylinders or pipework
- Do not use as a substitute for compressed air

**Acetylene**
- Use only approved regulating valves
- Avoid pipe fittings containing 65% copper (can cause formation of explosive acetylides)
- Explosive range of acetylene in air 2%-82% acetylene V/V

**Nitrous Oxide**
- Similar to those of oxygen

**Propane**
- Explosive range in air 2%-10% V/V, in oxygen 2%-93% propane V/V.

**Hydrogen**
- Explosive range in air 4%-75% hydrogen V/V

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### 8.7.2 Chemical safety

All substances should be regarded as dangerous unless there is definite information to the contrary.

It is the responsibility of any personnel ordering any chemical to use, store and dispose of all that chemical in a safe manner. All chemicals must be accounted for at the conclusion of a project. An annual chemical stocktake is conducted in line with University procedure.

Extra care should be taken when working with carcinogens, toxins and embryotoxins, cryogenics, herbicides/pesticides, peroxidizables, organic and shock sensitive, cyanides, acid fluoride chemicals and gas cylinders. Refer to the Material Safety Data Sheets and the UWA Chemical Safety Procedures.

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### Material Safety Data Sheet (MSDS)

It is mandatory to be in possession of a Material Data Safety Sheet (MSDS) and to complete a risk assessment relating to use of all hazardous chemicals or substances.

Each lab is required to have a register of MSDS for all chemicals in that lab. MSDSs can be downloaded from Chemalert at:

http://www.safety.uwa.edu.au/topics/chemical/chemalert

Always read the MSDS for every chemical you plan to use. Many chemicals are known to be toxic; some are known carcinogens. Comparative toxicity varies enormously. The chemical
supplier has a responsibility by law to provide this information upon request at the time of ordering. See your supervisor, safety officer or purchasing officer to obtain copies of these or any other information pertaining to the safe use and handling of chemicals.

Ordering chemicals

It is advisable to always work with the smallest possible amounts of chemicals. This should be taken into consideration when ordering.

Ordering should be done via the online requisition form. For students, the requisition form must be signed off by the supervisor. Controlled substances require an extra level of signoff which will be arranged by the purchasing officer. See Poison Permits and Protocols (p. 25) for further information.

The University Safety, Health and Wellbeing website provides further detail on chemical safety. See http://www.safety.uwa.edu.au/topics/chemical.

Storage and transportation of chemicals

All chemicals must be handled with care. Inform yourself of safety instructions relating to the use, handling and first aid procedures for the chemicals being used. Information is provided on the Material Safety Data Sheets.

Dangerous Goods should be segregated and stored according to class. Flammables (Dangerous Goods class 3) must be stored in a spark proof refrigerator or freezer, not a domestic fridge/freezer. Chemical storage refrigerators should never be used to store food or drink.

Safety carriers are to be utilised for transporting glass or plastic bottles with a capacity of two litres or greater.

Use an appropriate carrier container: a sturdy bucket with suitable packing material may be an acceptable carrier.

Reactive substances should not be carried together.

Fume-cupboards are not to be used for the storage of chemicals unless specifically required.

Spills

All spills must be cleaned up immediately and thoroughly. Make sure that you are aware of the correct method for cleaning up various chemical spills. Training can be provided upon request. Most laboratories have a spill kit or a supply of vermiculite, which is a safe absorbent to deal with all spillages.

Disposal

Hazardous substances must be disposed of in accordance with University policy, statutory and MSDS requirements. Areas must provide suitable waste disposal containers and are responsible for their removal by an approved waste disposal contractor (refer to the Chemical Safety Procedures). Use the correct containers provided to dispose of glass, sharps, metal, paper, infectious, OGTR, AQIS waste etc. Regularly check disposals against licence requirements.

Chemical waste is not to be disposed of via sinks, drains or stormwater channels unless using neutralisation processes approved by the WA Water Corporation.
Fume-cupboards are to be used for removing gases, dusts, mists, vapour and fumes from laboratory operations. Always use a fume-cupboard when mixing chemicals. On completion of the operation all equipment and chemicals must be removed from the fume-cupboard.

**Labelling Chemicals**

All containers of decanted chemicals, reagents, etc. must be fully labelled. Hazardous chemicals must include all details of hazards (toxicity, flammability). Non-hazardous and waste chemical receptacles must also be labelled correctly. Procedures are online at:

http://www.safety.uwa.edu.au/about_chemical_safety/labelling_chemicals

Templates are available online at http://www.safety.uwa.edu.au/topics/chemical/labelling and from the School Technical Team.

**Chemical Risk Assessment**

Prior to commencing any procedure involving hazardous chemicals, a chemical risk assessment must be carried out with your relevant supervisor. Information on how to complete an assessment is at:

http://www.safety.uwa.edu.au/about_chemical_safety/chemical_risk_assessment

For further information regarding risk assessments see Section 9 Risk management.

**Poison Permits and Protocols**

Poisons are controlled under state legislation which refers to national standards. In Western Australia the Poisons Regulations and associated licensing and permit systems are administered by the Pharmaceutical Services section of the Health Department of Western Australia. The Poisons Regulations impose varying controls and availability of poisons depending on the hazards and risks associated with their possession, use and supply. This legislation also stipulates requirements for packaging, labelling and security of storage.

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<thead>
<tr>
<th>Schedule</th>
<th>Type of Substance</th>
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<tbody>
<tr>
<td>2</td>
<td>Pharmacy medicine</td>
</tr>
<tr>
<td>3</td>
<td>Pharmacist only medicine</td>
</tr>
<tr>
<td>4</td>
<td>Prescription only medicine</td>
</tr>
<tr>
<td>5</td>
<td>Caution</td>
</tr>
<tr>
<td>6</td>
<td>Poison</td>
</tr>
<tr>
<td>7</td>
<td>Dangerous Poison</td>
</tr>
<tr>
<td>8</td>
<td>Controlled drug</td>
</tr>
</tbody>
</table>

The School is licenced to purchase or acquire poisons under schedules 2, 3, 4, and 7. The general licence holder is Bill Wilson.

A permit is not required to purchase schedule 5 and 6 substances, and these substances may be ordered/purchased without any poisons permit.

Possession of Schedule 9 substances in Western Australia is prohibited unless gazetted by Vice Regal decree for a specific person, location and purpose.
All poisons and hazardous chemicals must be stored with controlled access. Poisons in the restricted categories must be kept in a locked container in which information for emergency response and first aid is also kept.

All use must be done by suitably qualified personnel and amounts recorded in a log book.

More details are available from:


### 8.8 Waste management

The University has specific policies for the disposal of contaminated and non-contaminated, hazardous and non-hazardous, biological, clinical, radioactive, gaseous, asbestos and solvent wastes. The University Safety, Health and Wellbeing provides information about these procedures at: [http://www.safety.uwa.edu.au/topics/waste](http://www.safety.uwa.edu.au/topics/waste)

**If you are unsure about any substance you are using or disposing of contact your Safety Officer immediately.**

### 8.9 Radioactive Substances

#### 8.9.1 Use of Radioisotopes

By law, all work involving radioactive substances and/or the generation of ionising radiation has to be monitored by the Radiological Council. Any facility where work is carried out has to comply with strict safety regulations. The purchase and subsequent disposal of radioactive material is strictly monitored.

Within the School there are several areas that have been classified as suitable for radioactive work. These areas have different ratings which restrict the types of activities that can occur there. All areas where radioactive work is carried out are monitored via bench swab testing on a monthly basis to ensure that safe work practices are being adhered to.

Staff and students who intend to use radioisotopes in the course of their studies must attend a three-day course on safe handling procedures for radioisotopes. The course is run in February/March of each year with several sessions being held. For those who join UWA after March, a short half-day seminar is held in August of each year. This serves to provide a basic introduction to the safety practices involved, staff that attend this session are expected to attend the full course in the following year.

Before any work can commence using radioisotopes, a protocol needs to be submitted to the University Radiation Safety office. Isotopes cannot be purchased for a project until the protocol has been approved. All purchases must be directed through the Radiation Safety office via the School Purchasing Officer.

Staff or students intending to use radioisotopes should contact their local radiation safety officer so that they can be registered and issued with a radiation monitoring badge.

Radiation safety officer: Mike Smirk
University Radiation Safety Officer: Ext 7932.

### 8.10 Equipment

All equipment should be used in accordance with the **Standard Operating Procedures (SOP)**. Copies of SOPs are kept in the safety file of the laboratory in which the equipment is located.
**Electrical/ electronic instruments:**
Staff and students should become familiar with the correct operation of an instrument prior to using it for experimental work. Instruments that malfunction should be reported to a member of the technical staff. Do not over load or piggy back power boards. Repairs to appliance cords, plugs and sockets must be undertaken by an appropriately licensed person.

**Balances**
Never move a balance while it is connected to power. Always check that the balance is level before using.

**Microscopes**
Microscopes must be handled with extreme care. Optical surfaces must be kept clean and moving parts must not be subjected to rough treatment. Microscopes must be kept dry and immersion oil cleaned from lenses after use. When not in use microscopes must be covered to keep dust away from optical surfaces.

**Centrifuges**
Do not use centrifuges without adequate instruction. Always use the correct centrifuge tubes. Follow correct balancing procedure. Do not use excessive speed relative to the mass being centrifuged or beyond the rating of the rotors.

**Furnaces and heating equipment**
When using furnaces and heating equipment suitable gloves, tongs and face or eye protection must be used. Do not use or place flammable materials near heating equipment.

**High Pressure or vacuum equipment**
If glass apparatus is used it must be screened and full face protection worn by the operator. Use metal or plastic tubing instead of glass whenever practical. Exhaust gases from vacuum pumps should be safely vented.

Glass desiccators should be wrapped with film and/or stored in a cage. Plastic shatter-proof desiccators are preferable.

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**8.11 Vehicle safety**

The School of Earth and Environment and other schools within the Faculty have vehicles available for use. Drivers must be authorised by the School and complete a vehicle induction. Full information is provided in the SEE Vehicle Policy.

**8.11.1 4WD Vehicle safety**

Completion of the one day 4 wheel drive training course (not nationally recognised) is mandatory for all staff and students who wish to undertake a field trip involving the off road use of a 4 wheel drive vehicle.

A range of 4x4 recovery gear is available.

**Further information**
Fieldwork and offsite safety

Field activities - especially those undertaken in rural and remote locations - can encompass a range of risks and hazards. Details and procedures applying to all staff, students and volunteers of the University of Western Australia can be found at http://www.safety.uwa.edu.au/topics/off-campus/field-work-remote.

Key points

- All required documentation must be submitted to the Head of School at least 10 days prior to commencement.
- The minimum size of a field party is two.
- Persons who participate in field work should be physically fit and have no existing medical conditions which could reasonably be expected to give rise to a life-threatening situation.

Rural and remote fieldwork

Rural fieldwork is defined as any approved work carried out by staff, students or volunteers for teaching or research activities in places more than 5 km outside urban areas and can include any or all the diverse activities conducted by such persons. Remote fieldwork is further defined as that work carried out more than 10 km from a communications facility, in low traffic areas and where medical or other emergency support is more than 60 minutes away.

Provision of and training in the use of communications equipment is mandatory for work in remote locations. Regular call-in schedules are strongly recommended for any trips involving off-road or remote location work.

SPOT GPS satellite messenger devices MUST be taken in any School vehicle which leaves the metropolitan area. These provide for text messaging for regular check in and also GPS location beacon in an emergency. Satellite phones can also be booked through School Administration staff in the Geology/Geography Building.

Marine safety

All marine (diving and boating) activities are inherently hazardous and require thorough planning and preparation. All people who carry out diving and/or boating activities under the auspices of the University of Western Australia must comply with the University of Western Australia diving and boating planning requirements found at http://www.safety.uwa.edu.au/policies/diving_and_boating.

This includes people who take part in research or a recognised programme of study at the University including undergraduate, postgraduate studies and collaboration with outside agencies.
8.13.1 Diving
ALL diving activity described above must be registered with and approved by the University Diving and Boating Officer.

8.13.2 Boating
A 12ft SAVAGE PUNT (aluminium) with outboard is available through the School of Animal Biology. Other vessels are available through the University Diving and Boating Safety Officer.

Boats can only be used by persons holding the relevant proficiency certificates. All relevant safety equipment as specified by the Department of Transport.

9 Risk management

For assistance in the decision making process (including ‘when’ and ‘if’ risk assessment is required), use the flowchart ‘Task and Activity Planning in a Safe system of Work’. Refer to Safety Management at: www.safety.uwa.edu.au/safety_management

To ensure that activities are unlikely to cause harm it is necessary to be aware of what could possibly go wrong and what the consequences could be. You must then do whatever is ‘reasonably practicable’ to ensure that people are not harmed. This process is known as risk management and involves the four basic steps:

- Identify hazards – find out what could cause harm.
- Assess risks – understand the likelihood of a hazard causing harm and how serious it could be.
- Control risks – implement the most effective control measure that is reasonably practicable in the circumstances.
- Review control measures to ensure they are working as planned.

In the UWA Safe System of Work, risks are categorised as concentric shells. Each shell addresses a specific aspect of the task or activity as follows:

ENVIRONMENT / SUBJECT: This is the outer of three shells of risk.

An overall assessment is made and kept up-to-date as a valuable reference source by Safety & Health. It is known as the “UWA Safety & Health Risk Register”.

RESOURCES: This is the middle shell of risk.

Assessment of the use of resources can be prepared in advance of work activities. Hazardous plant and equipment can be assessed for use by creation of Standard Operating Procedures and assurance of worker competence through training and creation of supporting records. Hazards associated with chemicals and substances can be assessed through use of Material Safety Data Sheets and Chemical Risk Assessments.

PROCESSES: This is the inner shell of risk.

This is the part of a task which involves the work itself and the aspects which cannot be accounted for in advance. It only addresses previously unassessed hazards IF they are judged to be present in which case it is necessary to carry out Job Safety Analysis which involves writing a Method Statement and completing a Risk Assessment.
9.1 Application of the UWA Safety and Health Risk Register

The UWA Safety and Health Risk Register lists all the relevant acts, regulations, standards, guidance notes and UWA procedures for reference. It considers hazards and risk in all the main areas and subject categories found at the University. Refer to www.safety.uwa.edu.au/safety_management page and open ‘UWA Safety and Health Risk Register’.

This document divides the main activities conducted at UWA or on behalf of UWA into categories. Each category lists the legislation which applies and the University’s response in the form of UWA Safety, Health and Wellbeing procedures and guidance. The existence and application of these documents collectively comprises our control measures for the minimisation of risk in each category. The perceived hazards are assessed as a RAW risk and then re-evaluated as RESIDUAL risk after accounting for the impact of the control measures when properly implemented. The risk rating process was carried out in accordance with the UWA Safety Risk Management Procedure.

The workplace is required to select the parts of this document which are applicable to its activities and create a Workplace Risk Register. Any additions which are not included in the central UWA Safety and Health Risk Register are to be forwarded to UWA Safety, Health and Wellbeing for inclusion. Notice of revisions will be communicated to ensure that the University remains informed and up-to-date.

9.2 Assessing hazards associated with resources

A hazard is something that has the potential to harm the health and safety of people or to damage plant and equipment.

Hazard reporting procedures can be found at http://www.safety.uwa.edu.au/incidents-injuries-emergency/notification#hazard

Resources consist essentially of:

- competent personnel
- risk assessed use of plant/equipment
- risk assessed interaction with chemicals/substances.

9.2.1 Records of worker competency

Records of worker competency must exist for individuals who operate potentially hazardous equipment to show that they are proven, via one or more of training, experience and qualifications, to be able to work safely in the environment and with the resources.

9.2.2 Standard Operating Procedures (SOP) for hazardous equipment

SOPs are to be prepared for potentially hazardous equipment for the following reasons:

- Signed and endorsed SOPs can be stored as documented proof of training and competency.
- As a reference reminder to be displayed near equipment as a handy reminder for reference.
- They can be attached to a Safety Assessment form if one is needed for a task.
- WorkSafe inspectors ask for proof that equipment and tasks have been risk assessed and that personnel working in the area are competent.
9.2.3 Assessment of hazardous chemicals or substances

It is a mandatory requirement to be in possession of a Material Data Safety Sheet and to complete a risk assessment relating to use of all hazardous chemicals or substances.

For work with carcinogens, toxins and embryotoxins, cryogenics, herbicides/pesticides, peroxidizables, organic and shock sensitive, cyanides, acid fluoride chemicals and gas cylinders refer to the MSDS and the UWA Chemical Safety Procedures.

9.3 Carrying out Job Safety Analysis (JSA)

Job Safety Analysis is a tool used to account for otherwise unassessed hazards. It has two main components:

- **Risk Assessment** - assesses potential hazards and works out how to minimise risks.
- **Method Statement** – is the plan. It accounts for the risk control measures identified in the risk assessment. It may be a one-off or used for regularly repeated tasks.

Activities which call for Job Safety Analysis (i.e. Safety Risk Assessment + Method Statement) can be defined as those where you or others may be exposed to otherwise unassessed hazards. A JSA is required to risk assess and describe how the work is to be completed safely:

- if you plan to work outside of your normal workplace
- when you intend to use potentially hazardous equipment not covered by existing SOPs and training.

9.3.1 Risk assessments

Risk assessments determine the level of hazard or risk associated with any procedure and assess whether current control methods are adequate or need to be improved. They must be performed when:

- it is the first time that a procedure is to be performed
- there is only limited knowledge about a hazard or the risk or how the risk may result in injury or illness
- there is uncertainty about whether all of the things that can go wrong have been found
- the situation involves a number of different hazards that are part of the same work process or piece of plant and there is a lack of understanding about how hazards may impact on each other to produce new or greater risks
- there is to be a significant change of procedure/practice since original assessment.

In research and educational environments, documented risk assessments must be completed for laboratory projects. Work is not to commence until a written risk assessment has been completed, signed off and recorded.

All hazardous chemicals to be used must be accounted for.

9.3.2 Tasks

In the case where tasks are part of larger activities or there may be potential hazards in the areas of work outside of your control, it is reasonable to expect that the person responsible for the activity or area has identified the need to risk assess. Before commencing tasks, it is important that you communicate with the person responsible for the local area to enable proper control to be maintained.
9.4 **Cases when Job Safety Analysis is not necessary**

It is not always necessary to carry out detailed Job Safety Analysis for every task, however, it is important to be able to demonstrate that tasks and activities are appropriately considered.

Job Safety Analysis is not necessary in situations where:

- hazards and their associated risks are well known and have well established and accepted control measures
- legislation requires hazards or risks to be controlled in a specific way – these requirements must be complied with
- a code of practice or other guidance sets out a way of controlling a hazard or risk
- there are effective controls that are in widespread use in the particular industry, that are suited to the circumstances in your workplace.

Many workplaces may proceed safely with day to day operations without further Job Safety Analysis if all of the following are true:

- UWA Safety and Health Risk Register addresses the work environment or subject
- Standard Operating Procedures are available for all hazardous equipment used
- Records of competency exist for individuals who operate potentially hazardous equipment
- Permission to proceed has been given by the Supervisor of the area.

It may be appropriate to make a formal statement that - after accounting for these contributing assessment processes - there are no further identifiable, unassessed risks remaining.

In workplaces where this is true for routine operations (e.g. some workshops), it should only become necessary to carry out a Job Safety Analysis if the nature of the work is such as to introduce new factors which are not addressed as described above.

10 **Emergencies, incidents and injuries**

10.1 **Emergency Contacts**

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<td>Switchboard</td>
<td>99</td>
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Refer to the **Staff and Support** webpage of the UWA Safety, Health and Wellbeing website for further information including lists of safety personnel and a blank Building Safety Personnel Poster for completion and display in prominent locations.

First aid boxes are located in all buildings and most laboratory areas. The contents of these boxes are for genuine emergency use only. First Aid boxes are checked and restocked twice a year. If the box in your workgroup is depleted please contact the first aid officer in that area.
For non-emergency medical assistance call:

University Medical Centre  2118
Sir Charles Gairdner Hospital  9389 3333

All injuries and accidents should be reported to your Supervisor, Health and Safety Representative or Administrative Officer.

In the case of personal injury resulting from chemical spillage - remove chemical affected clothing and, if possible, wash affected areas copiously with water. If chemical is in the eye - immediately wash eye copiously with water and seek medical assistance.

If contaminated with acids or alkalis, wash skin immediately with plenty of water then seek medical attention if required. Eyes splashed with any chemical must be washed with water for 15 mins and medical advice obtained immediately.

10.2 Fire and Building Evacuation

Fire and Building Evacuation
The signal to evacuate your building will be either:
The sounding of the fire alarm bell or evacuation tone
A verbal directive issued by a Fire Warden or member of staff

In the event of an evacuation you should quickly vacate the building by the closest available exit or by an alternate exit as advised by a Fire Warden. DO NOT USE LIFTS.

Upon evacuating your building you are required to proceed to an Evacuation Assembly Area.

Building Assembly Area
Geography/Geology: The big rock on the lawn at the front of Geology
Robert Street: Carpark 19
South Building: The Cottage (north/east end of building)
You are not permitted to re-enter the building until notified by the Chief Fire Warden.

Do not leave the assembly area until notified by the Fire Warden

11 Resources and references

- ChemAlert
- https://www.rsc.org/merck-index
- CRC handbook of laboratory safety (2nd edition)
- Electrical Safety Manual - IFAP
- Accident Prevention - ILO
- Chemsafe Database - Biological Sciences Library (also on the WWW).