

FACULTY OF SCIENCE

FIELDWORK SAFETY GUIDELINES AND PROCEDURES

1. INTRODUCTION

Science is a great deal about commonsense. OH&S in the Faculty of Science recognises this fact and so a document on fieldwork safety cannot cover all contingencies or situations. This is especially so in light of the growing breadth in field research in the Faculty over the past decade. Ten years ago, no one was carrying out research in the Antarctic or running a remote field trip to the Simpson Desert with fifteen students. This document is intended to warn the unwary of the pitfalls of carrying out research or teaching in the field. It has been prepared to assist staff in the assessment and minimisation of risks associated with fieldwork. It also makes no distinction between the familiar and the unfamiliar, urban and outback, near and isolated. All locations involve risk whether fieldwork is performed at the front gate of the university, in the most remote part of the Antarctic, or in the back alleys of Kings Cross. As a first step in considering field safety, you should be familiar with the University of Wollongong's OH&S procedures. The following web site provides this information: <http://www.uow.edu.au/admin/personnel/ohs/ohs.html>. Staff and students should be aware that the field is a workplace of the University of Wollongong and that they are expected to maintain appropriate standards of workplace behaviour. Codes, policies, and rules in place at any of the University of Wollongong campuses equally apply in the field. These include:

Codes of practice for student assessment <http://www.uow.edu.au/student/calendar/rules/plagiarism.html>
Policy on health and safety <http://www.uow.edu.au/admin/personnel/ohs/roles%26respdraft.rtf>
Rules for campus access and order http://www.uow.edu.au/student/calendar/rules/campus_access_order.html
Rules for staff conduct http://www.uow.edu.au/student/calendar/code_of_conduct.html
Rules for student discipline http://www.uow.edu.au/student/calendar/rules/student_discipline_rules.htm

If the university employs you, you can be subject to the same fine for negligence as any other employee from the VC down. Presently the maximum fine is \$50,000 plus GST. Each of you should have taken as many of the OH&S courses offered by the university as possible. The following web site contains the range of OH&S courses offered by the university: <http://www.uow.edu.au/admin/personnel/ohs/trainmain.htm>. Particularly, you should be trained in first aid and be aware that the university has access to 4WD training courses. Most fieldwork in the Faculty of Science goes off-road. Staff and students should be aware that the following circumstances require special driving skills: rough terrain; spinifex; flooded landscapes; gravel roads; unfenced roads where stock or wildlife may be present, especially at night; roads with road trains; mountain roads; snow, ice and frost; towing of trailers or caravans; and loads on roof racks, especially with high-suspended vehicles. This list is not exhaustive.

Units may also have their own specific rules for fieldwork based upon past history, necessity and perception of OH&S. If you are inexperienced in undertaking fieldwork (eg. this is the start of your first academic appointment) or have changed the direction of your field work (eg. given up counting birds and taken up underwater mapping of corals) seek advice on the risks involved. Seek the advice of your colleagues, people in other units, the university's OH&S Office, and outside authorities.

2. DEFINITIONS

The following definitions apply to this document:

2.1 Personnel

Head of Unit

The Head of Unit is the person in charge of an academic unit or nominated substitute. His or her role is outlined in detail subsequently.

Academic Supervisor

The academic supervisor is the Academic staff member, responsible for the supervision of students undertaking fieldwork as part of their degree requirements.

Student

A student is an undergraduate, Honours or postgraduate student.

Staff

Staff includes both academic and general staff.

2.2 Types of Fieldwork

Fieldwork involves performing research, teaching or instruction outdoors, at a location off campus. Fieldwork normally is not to be carried out alone. Fieldwork may consist of many trips of short duration, longer field trips requiring overnight accommodation in the field or a block of fieldwork based at a field site or at a field camp. If a field worker must work alone, then they must be contactable or have some means of communication if they need assistance. If the field worker is a student, a university employee must know where the person who is undertaking fieldwork is

located at all times.

Isolated Fieldwork

Isolated fieldwork can be defined in terms of both distance and inaccessibility from major roads, towns, facilities or human contact. It does not have to be non-urban. You can be as isolated in a run-down part of Sydney or on a rock platform at Bondi Beach as you can be in the middle of the Simpson Desert.

Remote Fieldwork

Remote fieldwork implies that you, or those under your supervision, do not have easy access to facilities for several hours or more. Note that you could be on a road, but if no one comes by for several days, or you could die of heat exhaustion trying to walk back to town, you are remote. This document assumes that both isolated and remote fieldwork have similar risks.

Honours/postgraduate Fieldwork

A student normally carries out fieldwork collaboratively, or in consultation with a supervisor, as part of coursework or thesis research. Nominally the supervisor is responsible for the student's safety and those working with him or her. However if the Honours or postgraduate student takes on the role of a party leader, then they may hold legal responsibility for those under their instruction and care.

Undergraduate Fieldwork

Undergraduate fieldwork normally consists of work in the field carried out on a short-term basis under the supervision of an academic who is present. The academic is responsible directly for the student's safety. Location or time of day may isolate some of this work. In these cases provision must be made for ongoing communication between groups of students and a university employee. Field trips that do not operate overnight, if they are not isolated, can generally be treated similarly to working at the university. Isolated or overnight field trips require an itinerary and a safety form for each student, which is filed for the duration of the trip in that unit's general office. Sample templates of these forms are attached ([Appendix 1](#) and [Appendix 2](#) respectively).

Collaborative Fieldwork

Any fieldwork involving the assistance of an outside organisation or its personnel must comply with all of the procedures outlined in this document. Similarly any employee or student linked to the University of Wollongong, but performing fieldwork under the auspices of another organisation, must also comply with these procedures. In addition the host organisation may have requirements for field safety. These may be stricter than those set out in this document. A host organisation's requirements cannot nullify those set by the University of Wollongong.

2.3 Fieldwork Party

A fieldwork party comprises a party leader and students. Additional staff members or other approved persons may also participate in a fieldwork party. Note that some university procedures and regulations may not apply to people who are not employees or students of the university. If you foresee conduct or behaviour problems that could put anyone at risk, it is better to set the ground rules and restrictions at the beginning of the field work rather than afterwards.

Party Leader

The party leader is the person directly in charge of the fieldwork party. Normally this person will be an Academic staff member, but the Head of Unit may nominate a general staff member, student or other person to take responsibility if they have relevant and demonstrated experience and training. In emergencies the party leader, unless incapacitated, is in charge until relieved by a statutory emergency worker (eg. Fire fighter, ambulance officer, SES leader, etc.). The party leader may not abrogate responsibility for field safety to other employees or students. They may also be legally responsible for the safety of persons not associated with the university. It is assumed that a party leader has previous field experience for the conditions or areas being studied.

Communication

There are many means of communication. Communication implies that the person undertaking fieldwork can contact someone who can provide or send assistance, if required, to his or her location. A flashing mirror with no one to see it or a mobile phone with a dead battery means that you cannot contact someone. Communication also implies that you are contactable, if not during the fieldwork at least afterwards if you are working away from the campus overnight. Communication can be via two-way radio, mobile phone, or satellite beacon locator (EPIRB). Implicit in this is the knowledge that your location can be determined. It is no use sending a call for help if you are working in steep canyons but don't know which one. If there is any possibility of getting lost while undertaking fieldwork and knowing your location is crucial to communicating, then you should have, and be able to use, a GPS. If fieldwork is being undertaken overnight in an isolated location and the participants are away from a field base where communications have been established, then they must consider establishing a call-in schedule either to the base or the university. Generally, a call-in schedule should be daily at a prescribed time taking into account time differences. A field worker may have the best communications, a GPS and a satellite beacon locator, all of which are useless if the worker falls over and renders themselves unconscious. A call-in schedule ensures that someone can initiate a search-and-rescue for a missing person within 24 hours.

2.4 Fieldwork Hazards

Hazard or Risk Recognition

Hazard or risk recognition is the prior identification of hazards or risks that can be associated with an activity. Potential hazards or risks should be identified in advance, preferably on the basis of previous experience. Appendix 3 lists some of the hazards to be considered in different settings in the field. A detailed risk assessment should be undertaken in anticipation of safety problems that can be reasonably associated with an activity. Note that in a risk assessment, the possibility always exists that the fieldwork is just too hazardous and should not be carried out. The following university web site outlines basic procedures for carrying out a risk assessment: <http://www.uow.edu.au/admin/personnel/ohs/riskassriskmgmt.htm>.

Hazard Control

Hazard control is the prior allocation of physical and human resources, and the establishment of procedures to eliminate or to minimise, as far as is reasonably practicable, the risk to safety or health.

3. RESPONSIBILITY FOR FIELDWORK

3.1 Head of Unit

The Head of Unit is responsible for the management of fieldwork in compliance with the University of Wollongong's Occupational Health & Safety Policies with the objective of securing, as far as is reasonably practicable, the health and safety of fieldwork participants and other persons. Where units have special requirements not specified in this document, then the Head of Unit shall ensure that additional documents are produced that address field safety and that these documents are made available to all staff and students involved in fieldwork. Heads of Units shall ensure that all staff in their unit involved in any fieldwork are suitably qualified and that courses in specialist training, eg. off-road or rough terrain driving skills and basic first aid knowledge, are made known to staff and students. No fieldwork is to be undertaken without the approval of the Head of Unit.

Heads of Units are responsible for all fieldwork undertaken by their staff, students and other approved participants, eg. Visiting fellows and scholars, voluntary assistants and spouses. The Head of Unit is responsible for ensuring that undergraduate students are informed in writing about the risks that can be involved with fieldwork. Appendix 4 provides an example of such an information sheet. In addition, the Head should be aware of the travel arrangements in writing especially if students are involved. Examples of the type of information that the Head should be aware of are shown in Appendix 1 and [Appendix 2](#). The Head of Unit shall ensure that copies of codes, regulations and policies relating to OH&S are kept in the unit's office for reference. The Head shall ensure that copies of student and staff fieldwork forms, where required, are filed in an accessible location in the unit's office. This is crucial in cases where the forms kept by the party leader could be destroyed (flood, fire, accident).

3.2 Party Leader

Intending leaders of field parties should note that they have particular responsibilities for ensuring the safety of those participating in the fieldwork. They need to be organised and knowledgeable, not only about the field site but also about the range of hazards that could be encountered. In the Faculty of Science, the majority of field trips are localised and of short duration. These types of trips are not difficult to organise. However, a novice should realise that extended trips require more thought. For example, besides the equipment required to undertake the research, there is the equipment needed to ensure the comfort of the field party after a day's activities. [Appendix 5](#) contains a list of requirements for a simple trip of several days' duration, in an area away from facilities. The list is intended as an example only. It would be dramatically different for a trip to the tropics or Antarctica. If this list contains surprises for anyone already working in the field trip, then you should re-assess your field equipment requirements. In addition, anyone working in an isolated area should consider carrying as well a basic survival kit. [Appendix 6](#) lists some of the basic equipment you might carry in these circumstances.

The party leader shall be able to communicate readily with his unit or a recognised authority. Additionally the party leader should be contactable at least daily. Where a field trip occurs overnight, the party leader shall list all participants on the field trip, document contact addresses and telephone numbers for the next of kin of each participant, and note any individual special medical conditions or requirements. [Appendix 2](#) contains a template for doing this. This information needs to be accessible to the party leader at all times for the duration of the field trip. A record is also to be kept in the unit during the trip. Some of this compiled information may be private (ie. a participant has divulged a home telephone number that is unlisted because they have a restraining order on an unwanted person or they have revealed that they have AIDS). The party leader should be aware of their obligations under the Privacy Act at all times. The party leader is to dispose at the end of the field trip, in a secure manner, any information compiled on a participant. The following web site contains information concerning privacy:

http://www.uow.edu.au/admin/personnel/policy/all_privacy.html.

In the case of any critical incident, especially involving a student and more importantly an international student, the field party leader must also abide by the university's procedures. Failure to follow these procedures can have significant legal consequences. A critical incident could be a death, severe accident or illness, an attack, a lost person etc. Comprehensive notes regarding a critical incident and the procedures to follow can be found at the following web site: http://www.uow.edu.au/admin/secretariat/critical_incident.html. Briefly, in case of a critical incident, the Police or other emergency service is asked to contact the University Security Service on 02-4221-4555. Security has access to student

records for verifying details to assist emergency services. Particulars of home address are to be provided only in cases where the individual is incapacitated and unable to provide these particulars themselves. Security immediately alerts both the Academic Registrar's Division and the Media Officer (02-4221-5942). It is the responsibility of these officers to judge whether the circumstances are such as to warrant any further immediate action. The party leader must then be contactable for further instructions.

3.3 Academic Supervisor

All academic staff involved with the supervision of honours and postgraduate students shall ensure that copies of these guidelines and procedures, and the relevant University of Wollongong web sites dealing with fieldwork are accessed by every participant before the commencement of any fieldwork. As insurance, the academic supervisor should sit down and formally discuss the contents and implications of these documents with the student to ensure that they are fully understand. Copies of additional documents produced by units shall also be made available. Where joint supervision is involved, or where joint honours or postgraduate degrees are being undertaken with another unit or outside organisation, then the academic supervisor is responsible ensuring that any requirements for field safety set by the University of Wollongong are not annulled or relinquished.

3.4 Staff and Students

All staff and students participating in fieldwork should be aware of the guidelines and procedures for field safety, and the relevant University of Wollongong web sites dealing with fieldwork. Additionally any employee of the university regardless of their classification or level of employment is legally responsible under the OH&S Act for adhering to and implementing safe practices in the field.

3.5 Fieldwork Participants

Each member of the fieldwork party shall be aware of their responsibility to exhibit a duty of care for others and to minimise impact on the environment. All fieldwork participants have a responsibility under OH&S to work safely, taking all reasonably practicable steps to protect the health and safety of themselves and other persons. It is the right and responsibility of a participant to bring to the attention of the party leader any situation that is not in compliance with the guidelines and procedures outlined in this document. All fieldwork participants shall fill in a fieldwork form (see [Appendix 2](#)) before they commence any fieldwork if they are away from the campus overnight.

4. SIZE AND COMPOSITION OF A FIELDWORK PARTY

It is highly desirable and in most circumstances a requirement to have a minimum of two people making up a fieldwork party. The Head of Unit, however, may waive this requirement where it can be clearly demonstrated that potential hazards in the fieldwork area are minimal, the person has relevant fieldwork experience and training, and there is a practical means of communicating to and from the field site.

Fieldwork involving undergraduate teaching requires acceptable student-to-staff ratios so that appropriate transport and supervision arrangements can be implemented to ensure effective hazard control. An acceptable ratio of students-to-staff would depend on:

- The prior training, experience and maturity of the students; and
- The nature of the fieldwork.

A ratio of fifteen-to-one is recommended as a general maximum student-to-staff ratio for fieldwork involving undergraduate teaching. For routine operations with an established safe history, a maximum ratio of thirty-to-one may be acceptable. Larger student-to-staff ratios are not safe.

5. SAFETY IN THE FIELD

All party leaders should be aware of their duty of care when leading a fieldwork party. The health and safety of all persons in the party shall be of prime concern.

In particular, the party leader shall ensure that:

- He or she provides safety instruction specific to the situation to every member of the fieldwork party.
- That staff and students participating in fieldwork are reasonably fit and have no existing medical condition that may give rise to a life threatening or a serious ill health situation.
- All vehicles and boats are in a safe condition and a program exists to maintain them during the fieldwork (see [Appendix 7](#)).
- All drivers adhere to the University's regulations for driving, especially the number of hours that can be driven and kilometres travelled in one day (see [Appendix 8](#)).
- All staff and students are dressed appropriately for the type of fieldwork being undertaken, eg. Enclosed footwear, hats (safety hats on construction and mining sites, walking beneath cliffs, working with equipment above head level) and access to a broad-spectrum sun screen cream (a minimum of SPF 15), and the expected weather conditions.
- All participants have access to insect repellent and avoid being bitten by mosquitoes and ticks. There is now an

obligation under OH&S to minimise exposure to infectious and communicable diseases. Underhill et al. (1988) give a good overview of hazardous flora and fauna in Australia, as well as some basic first aid solutions.

- Staff and students behave in an orderly manner for the duration of the field excursion.
- Appropriate First Aid equipment is available (see Appendix 9 for a sample list).
- There is a means of communication both to the university and back to the party leader.
- The excursion's activities adhere to local, state and federal laws.

Staff and students who do not adhere to the above guidelines may be denied participation in an ongoing field excursion. If a student is excluded from participation in an ongoing field excursion, then they must be given the means of returning to their place of term residence. They should be set down at the nearest bus or train station and should have adequate funds to get home. Where staff or students are guilty of breaching these guidelines during the excursion, then the party leader may initiate disciplinary measures, either during the excursion or immediately afterwards, following standard University of Wollongong procedures.

Where the fieldwork entails examination of areas along major or busy roads, eg. Roadsides or road cuttings, the following steps shall be observed:

- Two people are to wear luminescent jackets and stand at the start and end of the area of study.
- These people will inform the fieldwork party when a vehicle approaches.
- They shall also ensure that members of the fieldwork party do not stray into an unsafe area while at an excursion stop.

Party leaders shall ensure that they can account for all staff and students in their care at the end of each excursion stop and before returning to Campus.

6. REFERENCES

University of Wollongong Web sites

OH&S home page	http://www.uow.edu.au/admin/personnel/ohs/ohs.html
OH&S courses	http://www.uow.edu.au/admin/personnel/ohs/trainmain.htm
Codes of practice for student assessment	http://www.uow.edu.au/student/calendar/rules/plagiarism.html
Policy on health and safety	http://www.uow.edu.au/admin/personnel/ohs/roles%26respdraft.rtf
Policy on privacy	http://www.uow.edu.au/admin/personnel/policy/all_privacy.html
Procedures for a critical incident	http://www.uow.edu.au/admin/secretariat/critical_incident.html
Procedures for risk assessment	http://www.uow.edu.au/admin/personnel/ohs/riskassriskmgmt.htm
Rules for campus access and order	http://www.uow.edu.au/student/calendar/rules/campus_access_order.html
Rules for staff conduct	http://www.uow.edu.au/student/calendar/code_of_conduct.html
Rules for student discipline	http://www.uow.edu.au/student/calendar/rules/student_discipline_rules.htm

Other Documents

- Anonymous (1990). *Safety in Biological Fieldwork: Guidance Notes for Codes of Practice. 3rd. Edition.* The Institute of Biology, London, U.K., 68pp.
- Anonymous (1994). *Guidelines and Code of Practice for Fieldwork, Outdoor and Other Off-Campus Activities as Part of an Academic Course.* Association of University and College Lecturers, London, U.K., 3pp.
- Anonymous (1996a). *Policy for Fieldwork Health and Safety.* The Australian National University, Canberra, ACT, University Circular No. 1640, 11pp.
- Anonymous (1996b). *Geological Fieldwork Code.* Geologists' Association, London, U.K., 2pp.
- Committee of Heads of University Geoscience Departments (1996c). *Safety in Geoscience Fieldwork: Precautions, Procedures and Documentation.* The Geological Society, London, U.K., 18pp.
- Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom (CVCP) (1995). *Code of Practice for Safety in Fieldwork.*, Universities and Colleges Employers Association, London, U.K., 35pp.
- The Safety Unit (1993). *Safety During Fieldwork Policy and Guidelines.*, The University of New South Wales, Kensington, NSW, 32pp.
- Underhill, D., Sutherland, S.K. and others (1988) *Australia's dangerous creatures: understand, identify, avoid, and survive.* Reader's Digest, Sydney, 368p. Any novice to Australia or the Australian outback should read this excellent and authoritative book.

Appendix 2 Student Record

An example of a fieldwork form to be filled in by all fieldwork participants. A copy of the completed is to be retained in the unit's office. The original forms are to be given to the fieldwork party leader to take on the field trip, to be used in the event of an emergency.

COURSE CODE	COURSE TITLE	SURNAME/FAMILY NAME	CHRISTIAN/GIVEN NAME	STAFF/STUDENT NO.

In the event of an emergency, please provide a contact name, address and telephone number that can be used by the fieldwork party leader.

NEXT OF KIN/CONTACT PERSON

SURNAME/FAMILY NAME	CHRISTIAN/GIVEN NAME	RELATIONSHIP TO YOU	ADDRESS	TELEPHONE NUMBER

Do you have any known medical condition or are you taking any prescribed medication(s) that may affect your ability to fully undertake the tasks required during the duration of the field trip?

Please specify below or attach a doctor's certificate. All information will be held in strictest confidence.

I have received detailed information regarding safety issues for this field trip from the party leader and I understand the hazards that may occur during the field trip and I am aware of the appropriate safety controls.

PLEASE TICK	YES	NO	N/A	
SIGNATURE		DATE		

Appendix 3 Fieldwork Hazard Assessment

University of Wollongong Faculty of Science Fieldwork Hazard Assessment Form

Hazards associated with driving and off road vehicular use

- (1) Driving long distances (see itinerary).
- (2) Hazards associated with off-road travel (terrain, vehicle incapacity, breakdown).

Fieldwork involving traverses by walking (cleared and uncleared terrain)

- (1) Exposure to elements (sun, rain, inclement weather, bushfires, lightning strikes).
- (2) Exposure to wildlife (ticks, snakes, spiders, dingoes, wild pigs, goats)
- (3) Hazards associated with terrain (steep slopes, cliffs, rocky slopes, dense vegetation, falling trees, falling branches).
- (4) Hazards associated with artificial features (fences, barbed wire, electric fences).
- (5) Hazards associated with stock and feral animals (cattle, horses, sheep, pigs, goats).

Fieldwork along Coasts

- (1) Exposure to sea (tides, waves).
- (2) Exposure to elements (sun, rain, inclement weather, bushfires, lightning strikes).
- (3) Hazards associated with terrain (steep slopes, cliffs, rocky slopes, dense vegetation).

Fieldwork in Road and Rail Cuttings

- (1) Hazards associated with passing traffic.
- (2) Hazards associated with nature of the cutting (loose rocks, steep slopes, unstable slopes).

Fieldwork involving Vessels in lakes, rivers and oceans

- (1) Exposure to sea (tides, waves).
- (2) Exposure to elements (sun, rain, inclement weather, lightning strikes).

Fieldwork involving Diving under water

- (1) Exposure to sea (tides, waves).
- (2) Exposure to elements (sun, rain, inclement weather, lightning strikes).
- (3) Sub-surface hazards (under water topography, marine life - snakes, sharks, sting rays, box jelly fish).

Communications (for emergencies)

Type of communications to be used:

1. Telephone
2. Mobile telephone (if service is available)
3. Citizen Band Radio
4. Long distance radio
5. Satellite phone

Hazard Control Measures

- (1) Communication of hazards to all members of the field party prior to field trip and any appropriate hazard control measures.
- (2) Training - 4WD course, senior first aid certificate, diving certificate, instruction in use of vessels.
- (3) Additional safety equipment requirements.

Appendix 4 Student Information Sheet

An example of the type of information given to undergraduate students before a field trip.

SCIE 303 Coastal Environments: Evolution and Processes, and Human Impact

This field trip is assessable as part of your course work. You may be required to answer a series of questions upon its completion.

Code of Behaviour

You are responsible for maintaining a publicly acceptable code of behaviour for the duration of any field trip. Our continued acceptance at public and private locations depends solely on the good reputation you establish in the name of the University of Wollongong. Unruly behaviour during field trips not only disadvantages your fellow students, but may result in disciplinary action being brought against you. Serious misdemeanours can result in expulsion from your course of study.

Field gear

Unless otherwise specified by the course coordinator, the following items should be worn or taken on all field trips organised by the School of Geosciences:

- clothes that are suitable for the known or predicted weather during the field trip;
- broad brimmed hat;
- a good pair of enclosed footwear (ie., no joggers or thongs or sandals);
- sun screen cream (a minimum of SPF 15);
- sunglasses (optional);
- personal insect repellent – spray or roll on (optional);
- notebook and waterproof pen (preferably in a clipboard in case of rain);
- raincoat or shower proof jacket (in case of rain);
- a water bottle to hold drinking water; and
- field bag and geological hammer.

Safe drinking water will be made available during the field trip.

Safety

The following rules apply during field trips:

- always obey the instructions given to you by the party leader;
- don't be afraid to ask for assistance;
- always keep together as a group and don't wander off by yourself. If you feel the urge to do so, inform the party leader of your intentions;
- avoid walking near cliff edges or near steep slopes;
- when doing fieldwork on rock platforms or near the water's edge on beaches, be especially careful of the sea and rising tides;
- always use well worn paths and avoid walking through tall grass or bush bashing;
- don't throw or roll rocks down steep slopes or over cliff edges; and
- in warmer weather, be wary of the presence of snakes, spiders, ticks, leeches and so on.

Environmental Considerations

Do not disturb or gather any flora or fauna, unless specifically instructed to do so. Leave any location in exactly the way you found it. Remove any personal rubbish and discard in bins at the location or take it with you for disposal later. On private property, take extra care to remove any personal rubbish and secure any gate(s) after leaving. If in doubt, always leave gates as you found them. Do not disturb any stock.

Medical conditions

If you need to take any medication(s) or have a prior medical condition that may restrict your ability to undertake all aspects of the field trip, then it is your responsibility to inform the party leader *before the field trip*. All information supplied by you will remain strictly confidential.

Additional instructions may be given to you by the course coordinator during the field trip. It is up to you to read all material issued and to follow any specific instructions or directions.

Appendix 5 Equipment Checklist

Typical Fieldwork Equipment Checklist

A similar list should be developed to suit isolated work area requirements. Note that some terms on this list are Australian idiom. Ask someone who has worked in Australia what they mean if you are uncertain.

- | | |
|--|---|
| <input type="checkbox"/> Axe | <input type="checkbox"/> Permatags aluminium |
| <input type="checkbox"/> Barbecue | <input type="checkbox"/> Plastic bags |
| <input type="checkbox"/> Calico bags | <input type="checkbox"/> Plastic bucket |
| <input type="checkbox"/> Billy | <input type="checkbox"/> Plastic food container |
| <input type="checkbox"/> Blankets | <input type="checkbox"/> Pouring funnel |
| <input type="checkbox"/> Bullbag | <input type="checkbox"/> Primus gas stove |
| <input type="checkbox"/> Camp oven | <input type="checkbox"/> Rubber bands |
| <input type="checkbox"/> Can of motor oil | <input type="checkbox"/> Rubber hammer |
| <input type="checkbox"/> Chair portable | <input type="checkbox"/> Rucksack |
| <input type="checkbox"/> CRC lubricant | <input type="checkbox"/> Scissors heavy duty |
| <input type="checkbox"/> Detergent | <input type="checkbox"/> Self folding cartons |
| <input type="checkbox"/> Distilled water | <input type="checkbox"/> Spade |
| <input type="checkbox"/> Dolphin torch | <input type="checkbox"/> Sewing tools |
| <input type="checkbox"/> Eating set cutlery, crockery | <input type="checkbox"/> Short/medium wave receiver |
| <input type="checkbox"/> Emergency signalling | <input type="checkbox"/> Sleeping bags |
| <input type="checkbox"/> Emergency transceiver wire dipol | <input type="checkbox"/> Sledge hammer |
| <input type="checkbox"/> Engine operated tyre pump | <input type="checkbox"/> Small mirror for heliograph |
| <input type="checkbox"/> First aid kit (refer to Appendix 9) | <input type="checkbox"/> Soap |
| <input type="checkbox"/> Flagging tape | <input type="checkbox"/> Soldering iron |
| <input type="checkbox"/> Fly spray | <input type="checkbox"/> Spare tubes |
| <input type="checkbox"/> Folding spade | <input type="checkbox"/> Spare hydraulic jack |
| <input type="checkbox"/> Fridge 12V DC/240 AC/Gas | <input type="checkbox"/> Spare torch batteries |
| <input type="checkbox"/> Fridge 12V DC/240V AC | <input type="checkbox"/> Stool portable |
| <input type="checkbox"/> Frying pan | <input type="checkbox"/> Stretcher |
| <input type="checkbox"/> Generator | <input type="checkbox"/> Sun screen |
| <input type="checkbox"/> Ground sheet | <input type="checkbox"/> Swiss army knife or Leatherman |
| <input type="checkbox"/> Hand held spotlight | <input type="checkbox"/> Table portable |
| <input type="checkbox"/> Hand towel | <input type="checkbox"/> Tents |
| <input type="checkbox"/> Insect repellent | <input type="checkbox"/> Toilet paper |
| <input type="checkbox"/> Jerry can petrol | <input type="checkbox"/> Tool box with basic tools |
| <input type="checkbox"/> Jerry can water | <input type="checkbox"/> Trailer jockey wheel w/brace |
| <input type="checkbox"/> Kleenex tissues | <input type="checkbox"/> Trouble light and fittings |
| <input type="checkbox"/> LPG Gas 1kg, 2.5kg | <input type="checkbox"/> Tyre hammer |
| <input type="checkbox"/> Masking tape | <input type="checkbox"/> Tyre levers |
| <input type="checkbox"/> Measuring tape | <input type="checkbox"/> Vehicle registration number |
| <input type="checkbox"/> Mosquito net | <input type="checkbox"/> Vehicle manual |
| <input type="checkbox"/> Motor bike spares | <input type="checkbox"/> Washing basin |
| <input type="checkbox"/> Panning dishes | <input type="checkbox"/> Water bag |
| <input type="checkbox"/> Paper towel roll | <input type="checkbox"/> Water canteen |

Appendix 6 Survival Kit

Contents for a Small Portable Survival Kit

Note that this kit is of minimal use in cold and snowy environments.

The following is a suggested list of survival equipment from which appropriate items can be selected. The size of the survival kit is very important. It should be of a size that can be easily carried and stored.

ITEM	POSSIBLE USE
Survival manual	Reference
Sewing kit	Repairs, fishing
Swiss army knife or Leatherman	multiple purpose, lightweight, can opener various knives and blades to cut flesh, bone and wood
Plastic bags	Ground sheets, raincoat, shelter, water collectors and carry bags
Fishing net	Fish storage, carry bag
Alfoil reflector	Frying pan, container,
Surgical rubber	Slingshot, siphon
Canvas tape	Multi repairs
Pencil and paper	Records, message
Nylon cord	Fire lighting, snares, weapon
Trace wire	Animal Snaring, fishing, repairs
Rescue blanket	Tent, groundsheet, water recovery, signal
Vitamin tablets	Food supplement
Cigarette lighter	Fire lighting
Water purifying tablets	Water purification
Compass	Direction
Whistle & mirror	Attract attention

Appendix 7 Vehicle Safety

Safety Requirements for Vehicles

The following list warrants consideration in planning fieldwork for long trips or rough terrain.

- All seats must have seat belts.
- In station wagons and open cabin vehicles, safety screens or nets must be installed to prevent equipment entering the passenger section during an accident.
- Off-road vehicles should be reinforced inside the cabin to prevent collapse if the vehicle happens to roll over.
- Power steering is desirable for long trips. It improves control and reduces driver fatigue.
- Installation of Anti-lock Brake Systems (ABS) prevents the wheels from locking on slippery surfaces.
- A second battery with isolating diodes should be fitted to provide reserve power for radio communication, refrigeration etc.
- Additional lights for night and/or fog driving and a trouble light should be provided.
- Spare fuel tanks or extra jerry cans on racks on the vehicle are a requirement for long trips in isolated areas.
- The vehicle should incorporate a built in spare water tank.
- Heavy equipment such as refrigerators, data logging equipment, etc. should either be bolted to the floor or be stored in racks that are bolted to the vehicle.
- Bull bars should be fitted where there is likelihood of encountering animals whilst driving, particularly at night.
- Winches should be fitted to all special purpose off-road vehicles.
- Carry spare fanbelts for power steering, air-conditioner and alternator.
- Air bags can significantly reduce the severity of injuries in an accident and should be installed if they are not a standard fitting.
- Block and tackle

Appendix 8 Driving

Driving/rest Regimes

In NSW on average

- Driver fatigue accounts for about 17% of fatal crashes per year
- Country non-urban areas account for about 28% of fatigue related fatal crashes.
- Most fatigue related fatal crashes occur between midnight and 8 am.
- Early to mid-afternoon is also a high risk time.
- About 51% of fatigue related fatal crashes involve male drivers under 40.

These guidelines apply to staff and students driving on bitumen roads under normal conditions on long trips. Trips off-road can be more tiring and allowances should be made to reduce driver fatigue in these circumstances.

Total Travel Time

Driving should take up no more than 8 hours in a period of 24 hours. The total time spent travelling, including breaks, should not exceed 12 hours, even where two, or more staff or students share the driving.

Total Duty Per Day

Ordinary duty (which does not involve driving duty) combined with driving duty should not exceed 12 hours in any period of 24 hours.

Rest Periods

On completion of each period of 2 hours driving, a person who has driven continuously should take a rest period of at least 20 minutes away from the vehicle. Some form of light exercise, eg. Walking, is required. Where staff and students are sharing the driving, a change of driver should take place at hourly intervals.

Driving Roster

After a person has been the sole driver of a vehicle for three consecutive days, the fourth day should be a non-driving day.

Alcohol and Drugs

All potential drivers should avoid alcohol or drugs at least twelve hours before and whilst driving. Prescribed medication is permitted, if the medication does not interfere with the driver's concentration and reflexes. Some non-prescription medicines, eg., anti-hayfever tablets or decongestants, contain substances which can impair driver response and reflexes after prolonged usage, and staff and students taking these medicines should not drive within 24 hours of ceasing to administer them. If in doubt, consult a doctor or chemist or refer to the contraindications information, normally supplied with the medicine.

Distance per Day

Approximately 650 km should be the maximum any group travels by car in any one day. The distance that can be reasonably covered during a day will be governed by the type of vehicle, type of terrain, maximum time permitted to drive, and speed limits. Factors such as general safety, road and climatic conditions and weather should be taken into account as well as driver fatigue.

Time of Day

Be especially careful about driving long distances in the early afternoon or at night. Rest periods or driver relief should occur more frequently at these times. In unfenced areas, driving should not occur dusk-to-dawn because of the risk of hitting wildlife.

Appendix 9 First Aid Kit

First Aid Kit Contents

Contents

The following list contains the minimum contents of a remote work first aid kit. Add additional items if the field trip is for lengthy isolated work or if particular hazards are expected. While certain brands are specified, any equivalent good quality material may be used.

Manuals

"Australian First Aid Manual" St John Ambulance
"First Aid Manual" Australian Red Cross Society
"Aids to Survival" Western Australian Police Force

Dressings

Universal dressings (extra large accident).	2
20x10cm non-adherent wound dressings	2
10x10cm non-adherent wound dressings	4
8cm dressing length	1
Assorted bandaids (50)	1
Assorted knuckle shapes	1
Butterfly closures (10)	1
Eyepads	4
Large non-adherent burns dressings	1
Combine pads (medium)	2
Gauze (pkt.)	1

Bandages

15cm conforming bandages	2
10cm conforming bandages	2
5cm conforming bandages	2
2.5cm conforming bandages	2
10cm crepe bandage (handy crepe)	1
2.5cm hypo allergenic adhesive tape	1
Adhesive tape (5cm)	1
Triangular bandages	4
"Tubi-grip" (pkt)	1

Miscellaneous

Splinter remover	1
Antiseptic liquid (30ml ampoules) (pkt.)	4
Pocket mask resuscitator	2
Surgical gloves	6
Sterile dressing tray	3
Cotton buds (pkt 50)	1
Cake antiseptic soap	1
Disposable towels	6
Nail brush	1
12.5cm scissors	1
Safety glasses	1
Eye bath	1
Dencorub	1
Lipguard	2
Paracetamol tablets (50x500mg) e.g. Panadol	1
Safety pins in container	10
Emergency shock blanket	1
Alcohol swabs (Betadine swabs).	20
Small note book and pencil	1