

UNIS Safety Instruction for fieldwork and excursions

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Introduction

The safety instructions for field work are divided in two parts. Part one is a general part, describing requirements and regulations, while part two provides more specific regulations for various activities and use of different types of equipment.

The *Safety instructions for field work at UNIS* summarise the various safety regulations, policies and safety measures in existence for the accomplishment of field work at UNIS. The instructions will not always manage to provide complete guidance of operational procedures, but rather serve as a summary of the safety measures and regulations. A more thorough description of operational procedures and safety regulations will be provided during the safety courses, safety seminars and HSE briefings at UNIS.

The regulations are based on experience drawn from field work in Svalbard by UNIS, cooperating institutions and individual employees at UNIS. Scientists at UNIS have contributed in writing and by quality assuring the topics in

the regulations, as well as in the general formulation of the instructions. Hence, the regulations and work procedures described are research-based, as is all the education at UNIS.

Furthermore, the safety measures described for each activity and subject are the result of a systematic risk assessment process. These risk assessments can be found in a separate risk assessment database.

Exceptions from the rules and regulations stated in this document may only be granted by the UNIS Director or the Director of HSE & Infrastructure.

GENERAL PART

1. Objective and Application Area

1.1 Objective

The activities relating to the University Centre in Svalbard (UNIS) are centred on Svalbard's geographical location in the High Arctic. This results in field work and excursions in areas where weather conditions, long distances and limited emergency help require participants to pay closer attention to safety than is customary in most other places in Norway.

The objective of these instructions is to increase the safety awareness of staff/researchers, guest researchers/lecturers and students involved in field work and excursions arranged by UNIS, through careful preparations and implementation of these activities. The instructions also state clear regulations, policies and methods of operation for different kinds of activities, as well as use of equipment and tools during field work.

Moreover, these instructions provide guidelines and methods of operation for UNIS staff and students when planning and performing field work outside Svalbard.

1.2 UNIS' Health, Safety and Environmental (HSE) goals

The overall goal for Health, Safety and Environment

UNIS shall be a leading organisation for health, safety and the environment. We shall work to prevent injuries or accidents associated with our activities. We shall minimise any possible negative impacts on the environment, and ensure a working environment that is safe, stimulating and rewarding.

Main goal for Safety

UNIS shall conduct all activities in such a way that the safety of the participants is the top priority. All UNIS activities shall follow the ALARP (as low as reasonably practicable) principle. UNIS shall provide logistics, training and procedures that make the institution a leader in undertaking safe field work in the Arctic.

Knowledge goal, safety

We shall have the necessary knowledge concerning the risks associated with the activities at UNIS to be able to prevent accidents and injuries.

Approach goal, safety

Safety must have the highest priority in all activities inside and outside UNIS.

Skills goal, safety

We shall have the necessary skills to operate the equipment and instruments required at UNIS and during field work. We shall master the techniques and methods required to prevent injuries from all types of field work. All laboratory work shall be governed by rigorous rules and procedures for the use and management of chemicals, radiation sources and harmful substances.

2. Scope

These guidelines apply to field work and excursions in Svalbard, in the fjords and the surrounding sea and islands, when the activities form part of ordinary courses and research at UNIS or other projects or assignments commissioned or managed by UNIS. These guidelines always apply during the field work/excursions. These instructions also provide guidelines and methods of operation for UNIS staff and students when planning and performing field work outside Svalbard.

3. Definitions

Field work:

Field work and excursions are the collection and/or analysis of data and material outside the classroom used for research or instruction, or in preparation for such activities. These activities may include the following:

- Established coursework or scientific cruises in the form of field work (organised class instruction outside the classroom where groups of students carry out well defined tasks relating to a specific area within a certain timeframe under various degrees of supervision) or excursions (organised class instruction outside the classroom limited by time and place)
- Research projects or projects at bachelor's, master's or PhD level
- Commissioned projects (projects ordered and financed by external clients)
- Surveys and inspections (commissioned observations and data collection outside the classroom, which are not directly connected with one's own research or studies (limited by time and place)

Risk:

An expression of the combined effect of the consequences of an event and the associated likelihood of occurrence

Risk treatment:

An expression of the process to modify risk. At UNIS this involves:

- Avoiding the risk by deciding not to start or continue with the activity that gives rise to the risk
- Taking or increasing risk to pursue an opportunity
- Removing the risk source
- Changing the likelihood
- Changing the consequence

Residual risk:

An expression of the remaining risk after risk treatment. Residual risk can contain unidentified risks.

Accident:

A sequence of logically and chronologically related deviating events involving an incident resulting in injury to personnel or damage to the environment or materiel assets

Event, incident or unwanted accident:

A sequence of logically and chronologically related deviating events involving an incident which, under slightly different circumstances, could have resulted in injury to personnel or damage to the environment or materiel assets

ALARP

A term that describes a principle in safety management where the risk has been managed to a level "as low as reasonably practicable"

HSE:

Health, safety and environmental issues. UNIS defines these regulations to primarily deal with the safety part of this term, but many of the regulations and measures will also have an impact on both health and environmental issues.

UNIS course:

A course arranged by UNIS with a UNIS course code, which is described in the UNIS online course catalogue

UNIS project:

A project organised by UNIS with a UNIS project number

Joint project:

A project in which UNIS staff and / or students have a role in cooperation with other institutions. Access to UNIS facilities and services must be agreed on a case by case basis.

External project:

A project not organised by UNIS, whereby the project rents or purchases one or more services from UNIS. Projects of this type must follow UNIS' HSE regulations.

Excursion / expedition leader:

The leader responsible for a field project. Other terms, such field leader, expedition leader and chief scientist, may can be used synonymously.

Person responsible for HSE:

In field activities where the project chooses to have a dedicated person responsible for HSE, this may be someone other than the excursion leader. In such cases, the person responsible for HSE will organise and quality assure all HSE aspects during the field work. Logistical tasks and responsibilities can also be assigned to this function. The excursion leader retains responsibility for the accomplishment of the operation, and the person responsible for HSE reports to the excursion leader.

4. Responsibilities

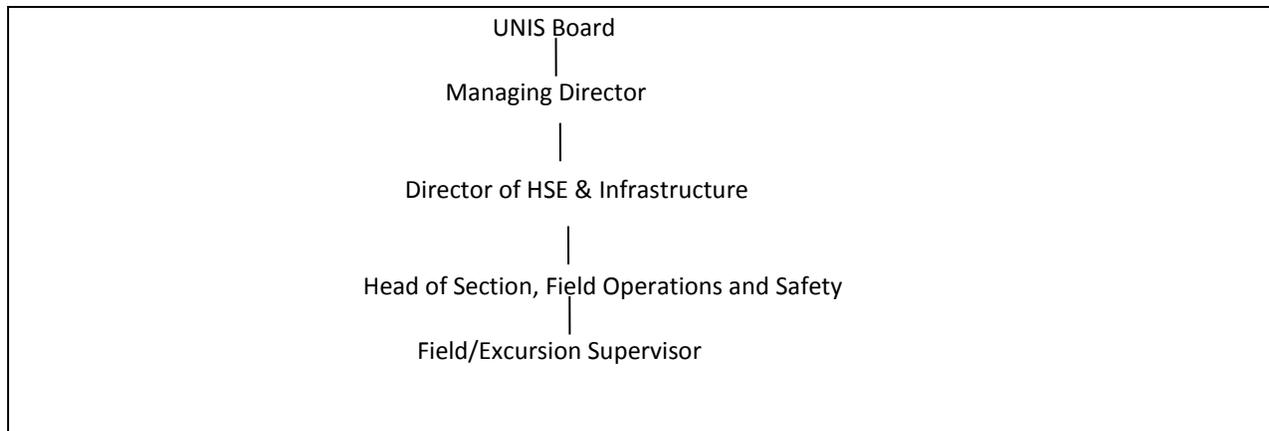
4.1 Safety responsibility at UNIS

The Managing Director of UNIS has the overarching responsibility for safety at the institution. The Managing Director reports to the UNIS Board, and the board members are personally responsible for the institution's activities.

The Director of HSE & Infrastructure is responsible for the HSE regime at UNIS. This covers all aspects of the term HSE, and responsibility for UNIS having updated HSE regulations and policies.

The Head of the Section for Field Operations and Safety is responsible for implementing the safety regulations in preparation for and accomplishment of field work.

The Working Environment Committee (AMU) will monitor the safety work, and report to the UNIS Board on an annual basis. The Director of HSE & Infrastructure reports on HSE matters to the UNIS Leader group every second week and to the UNIS Board twice a year. The Working Environment Committee (AMU) receives HSE reports from the Director of HSE & infrastructure four times a year.



All field work and excursions shall have a field/excursion supervisor (leader). The supervisor has the overarching responsibility for ensuring that the field work/excursion follows the instructions outlined in this document. The supervisor will be the person responsible for the course, when he or she takes part in the field work /excursion. When this is not the case, the person responsible for the course will delegate this responsibility to another person participating in the field work/excursion. The field/excursion supervisor for master’s students will be the study adviser or a person delegated by this person.

4.2 Safety is a personal responsibility

Although UNIS is responsible for the safety and wellbeing of students and staff, it is important that every individual takes responsibility for his / her own safety. Everyone is required to take an active part in the quality assurance of all aspects related to HSE, and all participants in field work are required to follow UNIS’ HSE guidelines, policies and regulations.

4.3 Stop the work philosophy

It is every individual’s right and duty to make others aware of possible threats and dangers. If you observe what you believe to be a possible unsafe condition, you are obliged to report this immediately, and the ongoing work must be stopped. The situation, or possible hazard, shall be evaluated by the expedition leader before work may resume.

4.4 Duties of the employer

UNIS’ responsibility as an employer towards its employees is mainly governed by Section 14 of the Working Environment Act, which states:

The employer is responsible for the working environment and safety of its employees. This means that the work shall be of such a nature that it may be completed in a secure and proper way, and that necessary steps must be taken to ensure these conditions. The employer is also responsible to inform its employees of potential accident situations and hazards that may be present in the workplace, and to give its employees the necessary instructions and practice necessary to avoid accidents or close accidents.

UNIS’ responsibility towards its employees does not apply towards the students. However, UNIS may be liable for damages to students suffering from loss or damages if the loss/damage is a result of negligence on the part of UNIS.

UNIS is not responsible for:

- Employees and students from other institutions participating in programmes administered by these institutions

- Employees and students at UNIS engaged by other institutions or organisations in their own field work or excursions
- Accidents or deaths resulting from leisure, sports or other activities, which are not a part of ordinary field work and excursions

All participants in field work and excursions for which UNIS is responsible must be insured. Students registered with one of the universities on the Norwegian mainland are automatically covered through the Norwegian National Insurance Scheme.

UNIS offers compulsory safety instructions and safety courses primarily to ensure that safety principles are incorporated in field work and excursions conducted at UNIS. However, it is also assumed that faculty staff and students familiar with these safety instructions also utilise this knowledge in other outdoor activities.

4.5 Duties of the employees

Working at UNIS, in a High Arctic environment, requires special emphasis on safety and safe behaviour. This is especially important in relation to field work and the use of firearms or other types of potentially dangerous equipment and machinery for work or transportation in the field. Natural hazards, such as challenging weather conditions, glaciers, avalanches, sea ice and wildlife, represent potential hazards related to safe travel and work in the High Arctic environment. UNIS expects all employees to perform their job in such a way that they can be trusted with the responsibility for other staff and students while engaging in field work, and to demonstrate safe behaviour and good judgement in all aspect of their work.

The employees are responsible for ensuring that the preparation and implementation of the field work/excursion comply with the stipulated instructions and guidelines, and to the best of their ability exercise proper judgement and implement decisions to prevent injuries or accidents. The employees are also required to participate in the safety instructions and training mandated by the employer unless the employees can document relevant, equivalent or greater knowledge in these areas. The employees who perform field work and require access to firearms must attend refresher courses in rifle handling and polar bear protection every six months. This also applies to staff who wish to borrow firearms from UNIS for private outings.

4.6 Duties of the students

Students are required to familiarise themselves with these safety instructions entitled *Safety Instructions for field work at UNIS*. The students are also required to follow the instructions given to them by the supervisor when participating in field work or excursions. The students are required to act properly and attend to their own safety as well as the safety of their fellow students throughout the work. The students are required to participate in safety courses arranged for students at UNIS. Students are required to present a personal *Self-declaration of health condition* before commencing studies at UNIS (see appendix). The students must attend refresher courses in rifle handling and polar bear protection every six months.

4.7 Duties of guest lecturers and guest scientists

Guest lecturers and guest scientists must follow the same rules and regulations as the ordinary staff at UNIS.

4.8 Field assistants at UNIS

Field assistants must be registered with an employment contract with UNIS. Field assistants must follow the same rules and regulations as the ordinary staff at UNIS. This also applies when students act as assistants in field work for other students.

4.9 Visitors and guests

Visitors and guests to UNIS must follow the same rules and regulations as the ordinary staff at UNIS. If visitors or guests take part in field work, they must undergo the necessary safety training connected to the activity in which they will take part.

In special situations, it may be possible for permanent staff at UNIS to take full responsibility for visitors and guests and, as such, enable people from this category to participate in field work with less safety training than permanent staff. In such cases, visitors and guests are not allowed to use equipment, or engage in activities, requiring special training. Examples of this include responsibility for others during field work, handling of firearms and driving boats or snowmobiles.

4.10 External projects supported by UNIS logistics

All projects supported by UNIS logistics / HSE services must follow all UNIS' HSE regulations.

4.11 Insurance

All participants in field work and excursions for which UNIS is responsible must be insured. It is the individual student's responsibility to ensure that he or she has the appropriate type(s) of insurance, and that the insurance is valid in Svalbard. This applies to travel, accident and health insurance. UNIS students are *not insured* while in the Svalbard Science Centre (UNIS building) taking classes or studying, or during leisure time.

UNIS has an accident insurance during UNIS field activities, which covers a lump sum payment of 15G (G=Norwegian National Insurance Scheme basic amount, currently NOK 90,068) in case of 100% invalidity. For those who are members of the Norwegian National Insurance Scheme (Norsk Folketrygd), this insurance also covers treatment cost up to NOK 50,000. This insurance only applies when students are properly registered in the field log before leaving UNIS.

5. General Requirements

5.1 Duties of the employer

Employees at UNIS must, as a minimum, undergo safety training including a theoretical briefing on risk scenarios in Svalbard, as well as a four-hour practical lesson in behaviour towards polar bears and use of polar bear deterrents and rifle training.

Employees at UNIS who are responsible for performing field work and excursion, or who participate with joint responsibility in such activities, must have necessary competence in the different risk scenarios that the field work might imply. Depending of the nature of the field work, safety training for this group of employees will include:

- Risk assessment
- UNIS' HSE regulations and routines
- Leadership and organisation of a field party
- Accident management
- Movement on glaciers, both summer and winter
- Movement on ice and sea ice
- Use of snowmobiles
- Use of belt wagons
- Movement in avalanche prone terrain
- Travelling at sea in small boats
- Leading groups at sea in bigger vessels

- Crossing tundra and rivers
- Work on mountainsides or steep hillsides
- Use of helicopters
- Polar bear protection
- The wildlife in Svalbard, including the walrus and the parasite *Echinoccus multilocularis*
- The special environmental considerations in Svalbard
- Lifesaving first aid
- Use of communication tools; VHF radio, satellite phone and emergency beacon
- Establishment of field camp

UNIS is responsible for offering such instruction.

5.2 Duties of the students

Employees at UNIS must, as a minimum, undergo safety training including a theoretical briefing on risk scenarios in Svalbard, as well as a four-hour practical lesson in behaviour towards polar bears and use of polar bear deterrents and rifle training.

Employees at UNIS who are responsible for performing field work and excursion, or who participate with joint responsibility in such activities, must have necessary competence in the different risk scenarios that the field work might imply. Depending of the nature of the field work, safety training for this group of employees will include:

Students at UNIS who participate in field work or are responsible for their own field work must have necessary competence in the different risk scenarios the field work might imply. Depending of the nature of the field work, safety training for this group of students will include:

- Risk assessment
- UNIS' HSE regulations and routines
- Leadership and organisation of a field party
- Accident management
- Movement on glaciers, both summer and winter
- Movement on ice and sea ice
- Use of snowmobiles
- Use of belt wagons
- Movement in avalanche prone terrain
- Travelling at sea in small boats
- Working at sea in bigger vessels
- Crossing tundra and rivers
- Work on mountainsides or steep hillsides
- Use of helicopters
- Polar bear protection
- The wildlife in Svalbard, including the walrus and the parasite *Echinoccus multilocularis*
- The special environmental considerations in Svalbard
- Lifesaving first aid
- Use of communication tools; VHF radio, satellite phone and emergency beacon
- Establishment of field camp

UNIS is responsible for offering such instruction.

6. Preparations and planning of field work in Svalbard

6.1 Planning

Planning must be done well in advance and in cooperation with the Section for Field Operations and Safety to ensure that equipment is available and that the plans are possible to accomplish.

6.2 Risk analyses

A thorough risk analysis is the platform on which all HSE plans and measures are based. The procedure for quality assurance of field work at UNIS is as follows:

- A risk identification process that will clarify possible unsafe activities or risks
- A risk analysis to further investigate risks and propose measures
- Implementation of measures from the risk analysis in plans and procedures

Most of the normal UNIS field activity has been subject to such a process. However, changing framework factors may lead to a need for performing new or updated analyses.

A separate risk analysis of the project must be carried out if the project includes one or more of the following;

- Changing framework factors (new equipment / tools, climatic changes, change in the participants' experience or knowledge)
- Use of unknown techniques, equipment or tools
- Use of unknown or unfamiliar means of transportation
- Travelling in areas unknown to UNIS and / or the participants
- Work in high risk areas (remote areas with limited SAR capacity or areas with an increased risk, such as surging glaciers)
- Working outside the Svalbard region

The risk assessment must follow the *UNIS risk assessment template* (attached) and be quality assured by the Section for Field Operations and Safety.

6.3 HSE briefing and reporting routines

A separate HSE briefing must be accomplished prior to all field and lab work at UNIS. Report routines must be agreed on in each individual case. All field parties must report back to UNIS a minimum of once every 24 hours. HSE briefings follow a specific agenda. This agenda is described in the attached *HSE documentation for field work*.

7. Project planning

7.1 Applications

It may be necessary to submit applications for accomplishment of field work or sampling in certain areas in and around Svalbard. Such applications must, as a main rule, be submitted a minimum of two months ahead of the planned activity. Any applications must be sent via the Director of HSE & Infrastructure. All research projects must submit their applications via the RIS database. The project needs to be registered in this database.

7.2 Scope of work (SOW) document

Specific work operations during field work or cruises must be described in a *Scope of work* document. This document shall focus on the objectives of the activity as well as use of necessary tools, procedures, resources in general and HSE.

7.3 Plan of the day meeting

Accomplishment of the day's work must be described in a *Plan of the day* document.

7.4 Tool Box meeting

A *Tool box meeting* must be conducted prior to every major work task or operation. The purpose of this meeting is to ensure that everyone involved is aware of their role and responsibility as well as the possible risks involved.

7.5 Economy

All expenses related to the project must be agreed on before the project starts. This relates to actual costs and the account the costs shall be allocated to.

7.8 Project number

A UNIS project number is the key to UNIS logistical and HSE services. All expenses related to the project will be reported to this project number. Projects without such a number will not get support. All details regarding invoicing of expenses must be clarified during the planning period.

7.9 Booking equipment and resources

Booking of equipment and resources must be done well in advance and preferably by the following dates:

- For the spring season by 15 January
- For the summer / autumn season by 1 May

Booking of cruises should be done one year in advance.

The UNIS Section for Field Operations and Safety has special booking forms and routines which should be used.

These are published on the UNIS website.

7. Preparations and planning of field work outside Svalbard

Planning and accomplishment of field work outside Svalbard should, as far as possible, follow the same procedures, regulations and principles as field work in Svalbard.

Planning of such field work must always include a thorough risk analysis. Special emphasis must be attached to the following topics:

- Potential risks and hazards related to travelling to the area
- Potential risks and hazards related to the field work methods, tools and equipment
- Potential safety and security risks unique to the region
- Special legal issues and relevant legislation, including legal advice
- Needs for special insurance. The UNIS insurance may not cover the area and activity that is planned.
- Cultural issues and differences that might affect the project
- SAR capacity and access to medical treatment in the region
- MEDEVAC plan for participants in the field party
- Communication issues

UNIS must be able to quality assure travelling to and from the area, as well as working and living in the area. If UNIS does not have the competence to do so, advice must be obtained from relevant sources, such as:

- Collaborating institutions with knowledge of the area
- The Norwegian Ministry of Foreign Affairs
- The Norwegian Red Cross
- Local authorities and institutions

Projects working outside Svalbard shall, to the extent possible, follow the same reporting routines as local projects. Specific agreements must be made with the field part identifying who is to be alerted if the project needs any kind of practical or medical assistance.

Planning of field work outside Svalbard must be done in close cooperation with the Director of HSE & Infrastructure.

8. Safety courses

UNIS shall offer safety courses for all staff and students, as well as customised safety courses for cooperating projects and individuals associated with UNIS. The UNIS safety courses are based on the different risk scenarios that could occur during field work as well as by living in Svalbard. **The time spent on each topic in the various courses might be subject to change.**

9.1 Models of safety courses:

9.1.1 Main safety course in January

The main safety course in January lasts for six days and provides a thorough introduction to the different risk scenarios in Svalbard during the winter season. This course is compulsory for all semester students, master's and PhD students, as well as permanent staff. The safety course has the following content:

1. Introduction to the different risk scenarios in Svalbard	1 hour
2. Briefing by the Governor of Svalbard	1 hour
3. Correct clothing during winter conditions in Svalbard	2 hours
4. First aid, theory	4 hours
5. First aid, practical training	4 hours
6. Polar bear protection and rifle training	4 hours
7. Communication and navigation tools	4 hours
8. Establishment of an emergency camp	4 hours
9. Safe movement in avalanche prone terrain, and buddy rescue in an avalanche	4 hours
10. Safe movement on glaciers and buddy rescue on glaciers	4 hours
11. Safe movement on sea ice and buddy rescue on sea ice	4 hours
12. HSE regulations and safety at the UNIS labs	4 hours
13. Combined practical exercises	4 hours
14. Demonstration of a rescue operation by helicopter	1 hour
15. Written exam and evaluation	2 hour

9.1.2 Snowmobile courses

The snowmobile courses at UNIS are compulsory for all students and staff. This course has the following content:

1. Laws and regulations	1 hour
2. Driving theory, mechanics and packing a sledge	2 hours
3. Practical driving exercises	4 hours

9.1.3 Main safety course during summer

The main safety course for new semester students coming to UNIS during summer lasts for two days. This course has the following content:

1. Introduction to the different risk scenarios on Svalbard	1 hours
2. Polar bear protection and rifle training	4 hours
3. Communication and navigation tools	2 hours
4. First aid, practical training	3 hours

- | | |
|---|---------|
| 5. Establishment of an emergency camp | 2 hours |
| 6. Use of survival suits and behaviour in smaller boats | 2 hours |

Students who continue at UNIS in the spring season must complete the main safety course in January.

9.1.4 Safety courses for short-term courses or projects

Students coming to UNIS for short-term courses during summer and winter are offered the following two-day safety course.

Winter edition

- | | |
|---|---------|
| 1. Introduction to the different risk scenarios on Svalbard | 1 hour |
| 2. Polar bear protection and rifle training | 4 hours |
| 3. Communication and navigation tools | 1 hours |
| 4. First aid, practical training | 1 hours |
| 5. Establishment of an emergency camp | 1 hours |
| 6 Snow scooter course | 7 hours |
| 7 Avalanche theory and buddy rescue | 2 hours |

Summer edition

- | | |
|---|---------|
| 1. Introduction to the different risk scenarios on Svalbard | 1 hour |
| 2. Polar bear protection and rifle training | 4 hours |
| 3. Communication and navigation tools | 1 hours |
| 4. First aid, practical training | 1 hours |
| 5. Establishment of an emergency camp | 1 hours |
| 6. Use of survival suits and use of small boats | 5 hours |

9.1.5 Customised safety courses

Courses or projects with special needs or challenges in their field work will receive a customised safety course covering elements from the different types of safety courses.

9.1.6 Safety seminars

UNIS arranges four safety seminars in February and March. These one-day seminars cover each topic in greater depth. The three first seminars are compulsory for staff, master's and PhD students who did not attend the main winter field safety course. The final seminar (Field leadership) is compulsory for all new staff, master's and PhD students. The seminars are open to all staff, master's and PhD students.

The safety seminars cover the following topics:

- | | |
|---|---------|
| 1. Safe movement in avalanche prone terrain, and buddy rescue in an avalanche | 7 hours |
| 2. Safe movement on glaciers and buddy rescue on glaciers | 7 hours |
| 3. Safe movement on sea ice and buddy rescue on sea ice | 7 hours |
| 4. Field leadership, planning and accomplishment of field work, accident management | 7 hours |

9.1.7 Repetition (refresher) courses and additional safety training for students coming to UNIS in the autumn

Staff and students must attend courses to refresh their shooting skills every six months. UNIS is responsible for offering refresher courses in rifle handling and polar bear protection.

Students coming to UNIS in the autumn will not receive adequate safety training during their summer safety course to deal with all risk scenarios during winter conditions. UNIS is responsible for offering additional safety training in winter topics as soon as they become relevant in late autumn.

Students coming to UNIS in the autumn who plan to remain for the spring semester must attend the main safety course in January.

9.1.8 UNIS car introductory course

Everyone who needs to use a UNIS car for field work must hold a valid driver's licence and attend a brief course on how to use these cars. The course lasts for about 30 minutes and covers the following:

- Regulations for use of UNIS cars
- General regulations for use of cars in Longyearbyen and local specialities
- Technical issues related to the cars
- Driving techniques related to seasonal challenges
- HSE matters, spare parts and tools

10 Accomplishment of field work

10.1 Organisation

Safety is the top priority in all types of field activities. If doubt arises about whether the activity can be accomplished in a safe matter, it should not be accomplished.

The group must always be organised in such a way that all safety aspects are adequately attended to. This is especially important when it comes to polar bear protection and handling of fire arms or other types of dangerous machinery, tools or chemicals.

10.2 Leadership during field work and excursions

An excursion leader must be explicitly appointed. This person bears the full responsibility for HSE for all activities during the field work period. Each project or course must have a second in command, who takes over the responsibility for HSE if the excursion leader is absent or sick.

In many cases, there will be a shared responsibility when personnel from the Section for Field Operations and Safety take part in the excursion. The tasks for these safety / logistics personnel will be to provide support to the scientific staff and students on logistical, technical and HSE matters. Depending on the experience of the scientific staff, personnel from this section may be appointed as the person responsible for HSE. This person must be explicitly appointed prior to departure.

10.3 Use of Scope of work

Scope of work descriptions and documents must be used actively during accomplishment of specific work operations. However, adjustments to the predefined plan must be made in accordance with changing circumstances and conditions identified during the field work.

10.4 Use of Plan of the day meetings

Each day of field work must be outlined and communicated to the participants during a Plan of the day meeting. Every participant in the field work must be aware of his / her role in the plan and be especially aware of potential residual risk involved in the operation. The Plan of the day meeting must be documented in a specific document.

10.5 Use of Tool box meetings

Tool box meetings (TBM) shall be used to outline in detail how specific work operations should be accomplished. The TBM serves the same purpose as a Safe job analysis. The primary focus should be on safety, possible risks involved and safety measures. The TBM must be performed immediately prior to the work operation with all participants and equipment on site. The TBM builds on the Scope of work description and must be documented in a specific document.

10.6 Responsibilities and tasks

The excursion leader is responsible for all safety aspects during the excursion. The project must report back to UNIS at least once per day on the status, location and plans for the following day.

10.7 Special regulations regarding alcohol, medication and drugs

It is not permitted to consume/take any types of alcohol or drugs during any kind of field work. Anyone using drugs for medical reasons must inform the excursion leader about this in advance. When performing field work based in (staying at) the settlements in Ny Ålesund, Hornsund and Barentsburg, the excursion leader may consent to the consumption of alcohol within reasonable limits.

10.8 Private outings or activities during organised field work

When staying at field camps or performing field work based from settlements other than Longyearbyen, participants are not permitted to mix private outings with field work. All activities performed by the group will be regarded as part of the field work and must comply with the UNIS safety regulations.

10.8 Preparation of equipment and restoring equipment after use

The scientific staff and students are expected to take an active part in the preparation of equipment for field work and the restoring of it after use. Details of how this will be accomplished should be agreed during the HSE briefing prior to commencement of the field work.

10.9 Evaluation and debrief after field work

The field party or the logistics unit may have a need to evaluate the accomplishment of the field work, e.g. in relation to logistical support or HSE matters. The field party and the logistics unit can both request such a meeting. The logistics unit is responsible for organising such meetings.

11. How to handle residual risk, risk scenarios, near accidents and accidents

Safety has the top priority in all activities at UNIS. Regardless of planning safety measures, there will still be a residual risk connected to accomplishment of field work. The following principles apply for how to handle such situations at UNIS:

- Planning phase

Activity is planned in cooperation between the Section for field operations & safety and the expedition leader. All necessary safety measures and operational procedures are agreed upon, taking into account the nature of field work, the competence and experience of the participants and the known conditions on site. The last coordination is done during the HSE briefing prior to departure.

- Deployment / transportation phase

The expedition leader must constantly review the conditions on the route as he / she is moving towards the field site. If the field party meets unexpected or difficult conditions, the expedition leader must adapt to the situation

and, if necessary, change the route or cancel the transport. Examples on this could be unexpected, difficult sea ice conditions, rough conditions at sea or worse weather conditions than expected. The expedition leader is responsible for making these judgements and adjustments.

- **Execution phase**

During the execution phase, the expedition leader is responsible for constantly judging the present and forecasted conditions on site. The accomplishment of field work must be adapted to the actual conditions on site, and if necessary altered, to make sure safety and wellbeing for the participants.

11.1 Residual risk

- All field activity must be accomplished with high awareness of safety. Attention must be paid to changing conditions which may affect the plan.
- Plan of the day meetings and TBM must be used actively to adapt the activity to changing conditions.
- Field work plans must be robust, in terms of both time and equipment, to allow for manoeuvrability and options in case of unforeseen events or changing conditions.
- Expedition leaders have unrestricted authority to make decisions regarding safety matters during field work.
- Expedition leaders must have the necessary competence and skills to be able to lead expeditions in a High Arctic environment.

11.2 Risk scenarios

- In cases or situations where doubt arises about whether an operation may be accomplished in a safe matter, the operation in question should be cancelled or further safety measures should be implemented. If you are in doubt; you are not in doubt, and protective actions must be taken.

11.3 Near accidents

- Near accidents may be a clear indication of malfunctions in systems, equipment, organisation or human errors resulting from a lack of competence, skills or wrong attitudes. All near accidents should be thoroughly investigated on site immediately to ensure the activity can continue without risk of similar incidents. It may be necessary to implement additional safety measures or organisational actions.

11.4 Accidents

- In the event of an accident, all available resources must be used to limit the extent of the accident. The field work is put on hold until the situation is resolved.
- Accident scene management is the expedition leader's responsibility and he / she must have the necessary skills and competence to be able to lead the rescue work. UNIS offers specialized courses on this topic.
- In the event of an accident, the priorities are:
 - i. The safety of the rest of the group (those not affected by the accident)
 - ii. Planning of a rescue mission and notifying the Governor on Svalbard (Syssemmannen på Svalbard)
 - iii. Accomplishment of the rescue mission (if possible with respect to safety of the participants and available resources)
 - iv. Treatment and stabilisation of the patient(s)

12. Reporting accidents or near accidents

12.1 Accidents

- Accidents where life or limbs are at stake, and where professional help is required, should be reported immediately to the Governor on Svalbard by releasing the emergency beacon and by calling via satellite phone or GSM phone.
- After reporting the accident and performing initial measures to limit the extent, UNIS should be informed by either calling the reception during day time or the person on duty after working hours.

12.2 Near accidents

- Near accidents must, as a minimum, be registered and reported after the field work is finished.
- In cases where suspicion may arise that important, structural underlying causes may be the root cause of the incident, UNIS must be contacted to discuss if the field work can be organised in a safer way.

All accidents and near accidents are reported to the UNIS Leader group weekly and summarised in a report to the UNIS Board every six months. UNIS' Working Environment Committee receives a briefing on these matters four times a year.

13. Internal investigation and handling of accidents or near accidents

Accidents with personal injury and / or significant damage or loss of equipment are the subject of an internal investigation, the purpose of which is to clarify the causes of the accident and to suggest measures to prevent similar accidents from occurring in the future. The UNIS Leader Group appoints an investigation committee with a defined mandate on a case by case basis.

14. Publication of images, films or results from field work. Media policy and regulations

UNIS can request that images, films or other media results (hereafter referred to as *images*) taken by UNIS staff (hereafter referred to as the *photographer*) on UNIS field work be sent to the information unit at UNIS, as outlined in the UNIS work contract. Images must be submitted to UNIS free of charge and may be used in UNIS promotional material (print, web and social media, etc.). The images will be registered in the UNIS photo archive, and the photographer must provide basic information about the image, such as place, time and description. The photographer has copyright of the images and can use/sell the images externally. However, images showing UNIS field work activities cannot be distributed externally without prior permission from UNIS' HSE director and/or the information unit. If a third party is interested in using the images, UNIS will refer the party concerned to the photographer who will then decide whether to distribute the image externally (except images showing field work activities). UNIS will not distribute images externally (i.e. to parties not involved in the production of UNIS material) without the prior consent of the photographer. When images are used in UNIS material, UNIS shall credit the photographer together with the UNIS logo and / or "UNIS" in the image text.