

Arctic field safety course

Practical field safety management

1. Purpose

The course aims at improving the participant's practical management skills in both the planning and accomplishment phase of fieldwork in the arctic.

2. Target group

The course is primarily aimed at persons who are responsible for the day-to-day operation of a research station. The course is also relevant for persons who are responsible for planning, quality assuring or implementing field activities in the arctic or in areas with Arctic conditions.

3. Prerequisites

It is expected that participants have knowledge of arctic conditions and have knowledge of the general operation of a research station or for the implementation of major field activities.

4. Goals / learning outcome

a. Knowledge

Upon completing the course, the participants will have acquired:

- Basic knowledge of the risk assessment process from risk identification to implementation of measures.
- A good understanding of the complexity in planning and accomplishing field work in relation to safety and logistical aspects.
- A good understanding of the variety of natural hazards and human safety aspects that needs to be mitigated during fieldwork.
- A good understanding of the environmental aspects that needs to be considered when working in a fragile arctic environment.
- A better understanding of how their leadership in the field will affect the total risk picture for the group, as well as the possibilities for the project to reach its goals.

b. Skills

Upon completing the course, the participants will have required adequate skills within the following areas:

- Tools and methods to perform a complete risk assessment process.
- Tools and methods to operationalize safety measures during field work.
- Safe establishment and management of a field camp.
- Safe movement on glaciers and moraine areas and buddy rescue techniques on glaciers.
- Safe movement and safe guarding of groups working in steep mountainous terrain.
- Safe travel with smaller boats in arctic waters
- Vital first aid skills
- Techniques and operational procedures to avoid conflict with the Arctic wildlife, and in particular Polar bears.
- Use of relevant communication equipment

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c. General competence

Upon completing the course, the participants will:

- Acquire personal experience in living out in a field camp, under demanding Arctic conditions, over some time.
 - Get insight in how group dynamics and psychology, as well as individual behavior affect the projects ability to succeed in their objectives.
 - Get insight in how their leadership affects the group dynamics and the projects ability to work safely, and to reach the projects goals.
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5. Teaching methods

The course will use a variety of teaching methods. The most important will be;

- Introductory lectures and presentations from the course responsible and from instructors, both before and during the field stay.
- Theoretical and practical team work
- Case tasks solved as individuals and as a group
- Practical exercises where the participants are mentored by instructors
- Feedback and evaluation sessions where both practical skills and individual performance as a leader / group member will be in focus.

6. Accomplishment

a. Duration

The course will last for seven days, starting Monday 16 September at 16:00 and ends Sunday 22 September at 12:00. The first and last day of the course will be held at UNIS in the Science Centre in Svalbard. The rest of the course will be in a remote field locality in Isfjorden. The course will use tents as accommodation and it is expected that all participants take fully part in operating the field camp.

b. Assessment and evaluation

The main focus of the course is leadership (safety management), and understanding of roles and responsibilities for each participant in the field party. All participants must expect to act as leader during periods of the course. An important part of the learning process will be group evaluations of each participant's performance in the leader role, and as a field party member. These evaluations will be run every day. All participants will get a course certificate, stating that they have fulfilled the course, and listing the content of the course.

7. Program

The course is structured as a combination of theory and practice and the whole course will be done out in a field camp.

Monday 16th of September:

Welcome and introduction to the course.

- Risk analysis, theory and method

- Roles and responsibilities
- Leadership
- Preparation for field stays.

Tuesday - Saturday:

Sail to location

- Establishing field camp
- Layout for a camp
- Securing the camp
- Plan and establish field- and camp routines
- Use of rifle and flare gun

Crisis management:

- Emergency plan
- Emergency equipment
- SAR handling, equipment, procedures
- Accident management, information and communications, roles and responsibility
- Fire preparedness, evacuation plans
- Debriefing

Natural hazards

- Challenges related to steep terrain; land and mud slides, avalanche, block fall
- Permafrost; wet soil, mud
- Water ways
- Climate and weather related challenge
- Wild life

Planning and accomplishing safe travel on glaciers

- Leadership on glacier
- Safe travel on glaciers
- Rescue on glaciers

First aid and cold climate

- Cold climate
- Dressing, summer and winter
- First aid practice and theory
- Mental challenges in remote areas

Maritime Safety related to use of small boats:

- Risk ID process; what could possibly go wrong?
- Safety equipment relevant for boat operations

- Practical exercises;
 - Clothing for travel in small boats
 - Operational procedures
 - Abounding ship
 - Use of survival suits and survival strategies
 - Surviving in life rafts
 - Surviving on the shore line / in ice floes

Communication and Navigation:

- Communication means, HF, VHF, satellite phone, PLB
- Navigation means, card and compass, GPS

Review of manmade risk factors:

- Transport by snowmobile, ATV, helicopter and airplane
- Work on glaciers and sea ice
- Testing of maritime emergency equipment

Introduction to scientific station at location

Visit to shut down Russian mining town

Saturday 21st of September

Sail back to Longyearbyen

Course dinner

Sunday 22nd of September

Course evaluation