



CURRICULUM for English Speakers

Übungsleiter
Hochtouren

Summer 2017

INHALT

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A) Educational objective

Übungsleiter Hochtouren are experienced volunteer mountaineers who have the skills to guide groups responsibly on tours in high alpine regions involving glacier travel that they have chosen themselves. They are aware of the risks involved in high alpine regions and able to help efficiently in case of emergency. *Übungsleiter Hochtouren* are also able to communicate basic skills for agreeable mountaineering in high alpine regions for beginners and intermediate mountaineers while being aware of the risks involved. The course *Übungsleiter Hochtouren* primarily focuses on guiding and leadership skills.

Course volume: ca. **56 units** on 5 days.

B) Requirements

- Experience in planning tours for and in mountaineering in high alpine regions.
Documentation of tours: "Name 6 tours in high alpine regions (with glacier and rock travel) which you have completed during the last two years (without a guide or other help). Please name your partner and give the date (mm-yy) in brackets."
- Skills: Block climbing (UIAA 3+) wearing mountain boots, climbing of firm and ice faces of up to 50° as well as sure-footedness and freedom from dizziness on pathless terrain.
- Rope handling: overhand loop, (rewoven) figure-of-eight knot, Munter hitch, girth hitch, clove hitch and Prusik knot
- Endurance and fitness: Ascents of 1000 meters in altitude difference in a maximum of 3 hours (total time) without signs of fatigue
- Minimum age: 16 years.

C) 3 stages in the acquisition of competences

The letters (U), (A) and (T) indicate the extent to which the participants need to acquire the course content. The three stages - represented by the three letters - are defined as:

(U) „Understanding“:

- Comprehending and grasping meaning
- Having knowledge about ...

Prerequisite for this stage is "knowing":

knowing → understanding

(A) „Applying“:

- Interpreting facts, recalling relevant knowledge and transferring it to other situations
- Using acquired tools e. g. being able to work with decision-making strategies.

Prerequisite for this stage is “understanding”:

understanding → applying

(T) „Teaching“:

- Being able to communicate acquired knowledge according to its meaning
- Being able to teach competences during guided section tours and to instruct at training events.

Prerequisite for this stage is “understanding” and “applying”:

understanding/applying → teaching

The stage of competence to be reached (U, A or T) is indicated in the following pages. The method of teaching depends on the contents and will be one of the following: small groups, hands-on exercises, presentations, lectures and peer teaching/demonstration lessons.

D) Teaching objectives & methods

1. TOUR PLANNING [4 units]

Participants ...

- ✓ can choose and plan a tour suitable for the conditions and the group, using the weather forecast, the topographic map, information from the internet and guide books (A)
- ✓ know how to use the resources of alpenvereinaktiv.com for planning tours in high alpine regions (A)
- ✓ are able to write a complete and clear description of a section tour in high alpine regions and can chair and facilitate a planning meeting. (A)

Methods:

- [Indoors/group]
 - Groups of 2 participants plan a specific tour using map, coordinate scale and the form „Tourenplanung-Formular Hochtour“ (tour planning form for mountaineering in high alpine regions)
 - Plan a specific tour using the “Tourenplaner” of alpenvereinaktiv.com (if a computer and WiFi are available).

2. INDIVIDUAL & GROUP

Participants ...

- ✓ know about the advantages of small and the disadvantages of large mountaineering groups; they know the recommendation by the ÖAV for the maximum group size of mountaineering groups (4 +1) (A)
- ✓ can communicate decisions and leadership measures clearly and unmistakably (T)
- ✓ is aware of the influence of psychological processes and group dynamics on the readiness to take risks, on decisions and on behaviour (U)
- ✓ know the “psychological danger signals” listed in the “mental check” and can detect them using self-reflection and counter a dangerous increase in risk. (A)

Methods:

- [Indoors/plenum]
 - Lecture „Hochtouren“ (ppt)
- [Outdoors/group]
 - Use the „mental check“ in specific situations („thumb check“).

3. ORIENTATION & NAVIGATION [6 units]

3.1. Map

Participants...

- ✓ know the essential features of a topographic map and the corresponding fundamental terms such as e.g. declination, relief, key or scale (U)
- ✓ can orient a topographic map (T)
- ✓ know the most important symbols on a topographic map (U)
- ✓ can determine their position in the terrain accurately enough (using an altimeter) (A)
- ✓ can pinpoint points, lines and surfaces from the map in the terrain and vice versa as well as differentiate between different landforms (A)
- ✓ can infer accessibility, walkability, steepness, aspect and form of terrain which is concealed from view (T)
- ✓ can determine UTM coordinates on the map and also transfer them to the map (A)
- ✓ are familiar with the online maps and the gradient layer in alpenvereinaktiv.com. (U)

Methods:

- [Indoors/group]
 - Teach basic map skills in groups („table of maps“)
 - Explain and practise how to determine and transfer UTM coordinates
 - Plan a specific tour using the map and the coordinate scale
- [Outdoors/group]
 - Various orientation tasks on tour.

3.2. Altimeter

Participants...

- ✓ can calibrate their altimeters/wristwatches altimeters (T)
- ✓ use points of reference in order to minimise errors when determining elevation by barometer (T)
- ✓ know the difference between barometric and geometric elevation determination (U)
- ✓ know the connection between air pressure and elevation and can interpret it. (A)

Methods:

- [Indoors/group]
 - Give information during tour planning
- [Outdoors/group]
 - Calibrate the altimeter at the start (equipment check)
 - Use the altimeter for determining the current position.

3.3. GPS

Participants ...

- ✓ can enter coordinates of waypoints (A)
- ✓ can string waypoints together to generate a route (A)
- ✓ are able to determine the coordinates of their position in the terrain. (A)

Do not teach:

- X Special functions of the participants' GPS devices
- X Digital tour planning using specialised software

Methods:

- [Indoors/group]
 - "Table of maps" – plan a tour using GPS points.
- [Outdoors/group]
 - Various tasks involving GPS devices on tour.

3.5. Smartphone

Participants...

- ✓ can use the app alpenvereinaktiv.com for orientation and navigation as well as for determining their current position (A)
- ✓ can download tours and map segments for offline use (A)
- ✓ know how to use their smartphones in an energy efficient way. (A)

Methods:

- [Indoors/groups]
 - Introduce app functions (menu)
 - Download map segments
- [Outdoors/groups]
 - Use the app alpenvereinaktiv.com for determining the current position on tour.

4. WEATHER [2 units]

Participants ...

- ✓ know sources for reliable (mountain) weather forecasts in Austria (T)
- ✓ can read, understand and apply a weather forecast for the respective tour (A)
- ✓ know the „Alpenverein-Wetterdienst“ (Alpenverein weather service) at alpenvereinaktiv.com (A)
- ✓ know about the utmost importance of visibility when mountaineering in high alpine regions (A)
- ✓ are aware of the importance of stable weather conditions for tours in high alpine regions (U)
- ✓ are aware of the windchill factor and know how to deal with it (U)
- ✓ are aware of the dangers of the sun and radiation and know the indications for the development of thunderstorms (U)

Do not teach:

- X Physical/geodynamic processes

Methods:

- [Indoors/group]
 - Get and compare weather reports from different sources
- [Indoors/plenum]
 - Lecture „Wetter“ (ppt)
- [Outdoors/group]
 - Compare weather forecast and development of actual weather.

5. ROPE HANDLING [12 units]

5.1. Roped glacier travel

Participants ...

- ✓ know the various types of roping up on glaciers (T)
- ✓ know how to space apart roped-up skiers and how to use stopper knots depending on the size of the rope team. (T)
- ✓ know about the necessity of discipline during roped-up glacier travel (during breaks, slack rope, etc.). (T)

Methods:

- [Outdoors/group]

- Demonstrate and explain. Have participants follow the example, then repeat on tour.

5.2. Protection in snow

Participants ...

- ✓ can place fixed belays in snow using ice axes (one-ax deadman anchor, sitting hip belay with anchor). (A)

Methods:

- [Outdoors/group]

- Demonstrate and explain on suitable terrain. Have participants follow the example. Evaluate and discuss with group.

Do not teach:

- X Detachable one-axe deadman anchor and detachable boot-axe belay
- X Ice-axe belay ("stomper belay"), boot-axe belay ("New Zealand foot brake")

5.3. Protection on ice

Participants ...

- ✓ can place ice screws correctly (A)
- ✓ can set up a belay station on ice using two or more fixed anchors (series) (A)
- ✓ can make an Abalakov V-thread anchor (A)

Methods:

- [Outdoors/group]

- Demonstrate and explain on suitable terrain. Have participants follow the example. If needed repeat on tour.

Do not teach:

- X Detachable ice screw

5.4. Rock protection

Participants ...

- ✓ can set up a belay station in rock using both a standard bolt as well as removable anchors (A)
- ✓ know the different options for setting up a reliable belay station. (A)

Methods:

- [Outdoors/group]

- Demonstrate and explain on suitable terrain. Have participants follow the example. Evaluate and discuss with group.

5.5. Belaying from fixed anchors on rock and ice

Participants ...

- ✓ know how to belay from fixed anchors on steep ice and rock (A)
- ✓ master belaying leaders and followers using the Munter hitch and tying off the belay using the Munter Mule knot (A)
- ✓ master the use of the plate for belaying one or two followers (leaders are always belayed using the Munter hitch) (A)

Methods:

- [Outdoors/group]

- Demonstrate and explain on suitable terrain. Have participants follow the example. Evaluate and discuss with group.

Do not teach:

- X Belaying leaders from the body ("body belay")

5.6. Ascending and descending on a fixed line

Participants ...

- ✓ are able to set a fixed line tied into a reliable fixed anchor (ice screw, runner around a rock horn, bolt, etc.). (A)
- ✓ are able to instruct the group how to move along the line using a Prusik knot. (T)
- ✓ are able to belay the last group member to the assembly point using the Munter hitch. (A)

Methods:

- [Outdoors/group]

- Help participants set a fixed line. Choice of terrain is crucial. Have participants move up and down the line using the Prusik knot. If possible, repeat realistic scenario on tour.

Do not teach:

- X Use of ascenders

5.7. Rappelling

Participants...

- ✓ can explain how to rappel, can rappel themselves and explain it to a group of novice mountaineers (T)
- ✓ are familiar with the partner check for rappelling and can explain it (T)
- ✓ know of the necessity of knots in both ends of the rope when rappelling (A)
- ✓ know of the importance of a reliable rappel anchor. (T)

Methods:

- [Outdoors/group]

- Demonstrate and explain. Have participants follow the example, then repeat on tour.

Do not teach:

- X Simultaneous rappelling on both ends of the rope

5.8. Lowering

Participants...

- ✓ can lower a person using the Munter hitch or a tube. (A)

Methods:

- [Outdoors/group]

- Demonstrate and explain. Have participants follow the example, then repeat on tour.

Do not teach:

- X Simultaneous lowering of two people

6. RESCUE TECHNIQUE [14 units]

6.1. Direct force crevasse rescue

Participants ...

- ✓ are able to lead a group hauling up the fallen mountaineer. (T)

Methods:

- [Outdoors/group]
 - Explain and show on suitable terrain. Have participants follow example several times in suitable group sizes. Discussion.

6.2. Single pulley

Participants ...

- ✓ are able to haul a fallen skier out of a glacier crevasse using the single pulley. (A)

- ✓ are able to use the Microtraxion on single pulley rescues (A)

Method:

- [Outdoors/group] Demonstrate and explain the technique on suitable terrain with a secure backup anchor system. Participants practice in rope parties of two and/or three. If the terrain calls for it, the backup anchor system must be checked at close intervals ensuring its proper function (danger of melting due to exposure to direct sun light).

Do not teach:

- X Z-pulley

6.3. Self rescue after a crevasse fall

Participants ...

- ✓ know how to rescue themselves and is able to apply the two steps of this technique flawlessly (Prusiking, Münchhausen technique). (A)

- ✓ Are able to use the Microtraxion on self rescue techniques (A)

Methods:

- [Outdoors/group] Explain and Show on suitable terrain. Have participants follow example. Repeat.

6.4. Bivouac

Participants ...

- ✓ are familiar with the possibilities of uses of bivouac sacks. (A)

Methods:

- [Outdoors/group]
 - Discuss topic with group.

7. RISK AWARENESS [2 units]

1.1. Applied glaciology

Participants...

- ✓ are aware of the danger of crevasses on tours in high alpine regions (U)
- ✓ know about the warming of permafrost and the subsequent increase of falling rocks (U)
- ✓ recognise typical crevasse zones and are able to avoid them systematically (A)
- ✓ know about the dangers of seracs (falling ice). (U)

Methods:

- [Indoors/group]
 - Lecture „Risiko Hochtour“ (ppt)
- [Outdoors/group]
 - Participants analyse critical terrain and discuss required action with the trainer.

7.2. Altitude

Participants ...

- ✓ know the reactions and typical symptoms of the body in high altitudes. (U)
- ✓ know how to prepare properly for mountaineering in high mountain regions and how to take precautions against mountain sickness (go slow, drink plenty). (A)

Methods:

- [Indoors/group]
 - Discussion and explanation in group with trainer.

7.3. Visibility/Orientation & Navigation

Participants ...

- ✓ are aware of the importance of good visibility for tours in high alpine regions (U)
- ✓ are able to navigate using GPS and/or smartphone in adverse conditions. (A)

Methods:

- [Outdoors/group]
 - Various GPS tasks - if possible - in adverse conditions.
 - Tasks using the smartphone and the alpenvereinaktiv.com app

Do not teach:

- X Strip map

8. LEADING [8 units]

1.2. Welcoming address and equipment check

Participants ...

- ✓ can communicate current information regarding weather, destination, touring conditions clearly and briefly, proving their prudence and inspiring confidence (A)
- ✓ can inquire after safety-related equipment in a structured manner, thus finding and remedying possible deficiencies. (T)

Methods:

- [Outdoors/group]

- Have participants deliver welcome address and perform equipment check. Give immediate feedback. Have other participants repeat.

8.2. Uphill technique

Participants ...

- ✓ can give advice on crampons, their uses and efficient walking technique. (T)

Methods:

- [Outdoors/group]

- Demonstrate and explain on suitable terrain. Have participants follow example. Repeat. Have participants step into trainer's role.

8.3. Speed

Participants...

- ✓ know about the importance of pace adapted to the group when leading (A)
- ✓ can switch from their "private" speed to a generally slow pace suitable for guiding (A)
- ✓ make timely breaks, taking the terrain into account. (A)

Methods:

- [Outdoors/group]

- Demonstrate and explain on suitable terrain. Have participants follow example. Repeat. Have participants step into trainer's role.

8.4. Making the most of the terrain

Participants ...

- ✓ observe the surroundings continuously - what is above me, what is below me? (A)
- ✓ Can set a safe and efficient uphill track ("comfort track"). (A)

Methods:

[Outdoors/group]

- Participants take turns leading. Trainer comments and corrects.

8.5. Roped travel

Participants ...

✓ are able to use the method „running belay“ correctly, both using appropriate protection and spacing as well as adapting it to the terrain and the group (A)

✓ are able to use the method „gestaffelt gehen“ correctly (guide ascends off belay trailing the rope, sets up a belay station, followers ascend on belay), both using appropriate protection and spacing as well as adapting it to the terrain and the group (A)

✓ are able to use the method „Seiltransport“ correctly (coiling part of the rope and ascending on a shortened rope), adapting it to the terrain (A)

✓ are able to use the method „Tibloctechnik“ correctly (simultaneous progression using tiblocs to jam in case of a fall), both using appropriate protection and spacing as well as adapting it to the terrain and the group (A)

Methods:

[Outdoors/group]

- Demonstrate and explain. Participants take turns leading. Trainer corrects and coaches.

Do not teach:

X „short roping“

X „ridge jump“

8.6. Crampon and ice axe technique

Participants ...

✓ know the different types of crampons and can adjust and attach them (A)

✓ are familiar with the basic crampon techniques: flat-footing (“French technique”) and front-pointing (“German technique”) and can instruct a beginners’ group effectively (T)

✓ are familiar with the basic ice axe techniques (cane position, stake position and horizontal position) and can instruct a group (T)

✓ can lead on ice up to 50° using one ice axe and one ice tool (A)

Methods:

[Outdoors/group]

- Demonstrate and explain. Have participants follow example and practice. Revision during demonstration lessons.

Do not teach:

- X** Ice climbing with two ice tools.

9. EQUIPMENT [2 units]

1.3. Technical equipment

Participants...

- ✓ know harness, ice axe, crampons, carabiners and ice screws and are familiar with their use. (A)
- ✓ know about differences in quality and how to check for proper operation, and can help and advise group members in these questions. (A)

Methods:

- [Indoors/group]
 - Equipment bazaar: Discussion of technical equipment.
- [Outdoors/group]
 - Use of the equipment on tour.

9.2. Clothing

Participants ...

- ✓ know about the necessity of functional clothing for mountaineering in high alpine regions (U)
- ✓ can give advice on how to care for technical clothing (A)
- ✓ can give beginners useful advice on the choice of clothing for mountaineering in high mountain regions. (A)

Methods:

- [Indoors/group]
 - Equipment bazaar: Discussion of the most important pieces of clothing.
- [Outdoors/group]
 - Use of equipment on tour. Discuss in group.

10. LAW & INSURANCE [2 units]

Participants ...

- ✓ know the free of charge “Notfall-Hotline” (emergency hotline) of the Alpenverein and the services and support it offers and they know when and how to use it (U)
- ✓ understand that they are only responsible under criminal and/or civil law if negligent behaviour on their part can be proven (U)
- ✓ know that all Alpenverein tour guides resp. all officials are insured against third-party risk and have legal protection insurance; consequently they will not suffer any financial damage even if negligence should be proved (A)
- ✓ know the insurance benefits offered by the Alpenverein relevant to their situation and know where to find detailed information (U)
- ✓ understands the role and duty of the authorities to record and present the facts after a mountaineering accident (U)
- ✓ know how to deal with the authorities and are familiar with the recommendation of the Alpenverein to refrain from police interrogation immediately after an accident (T)
- ✓ understand the legal terms „Fahrlässigkeit“ (negligence), „Kausalität“ (causation), „Maßfigur“ (standard conscientious tour leader), „Einlassungsfahrlässigkeit“ (reckless endorsement), „Auswahlverschulden“ (Culpa in eligendo - fault through poor choice of one’s vicarious agent) and „Verkehrsnorm“ (common standard of generally accepted behaviour). Participants are aware of the main differences between criminal and civil law. (U)

Do not teach:

- X In-depth knowledge about all the insurance benefits of the Alpenverein
- X Detailed legal knowledge.

Methods:

- [Indoors/plenum]
 - Option 1: Lecture „Rechts- und Haftungsfragen“ (Questions of law and liability) (ppt) followed by discussion.
 - Option 2: Have an FAQ session or study cases with group.

11. ECOLOGY [4 units]

Participants...

- ✓ learn about ecological processes in the alps (U)
- ✓ get to know about typical wildlife and plants while being on walking trails (U)
- ✓ are able to lead groups in ecological endangered terrain (A)

Method:

- [Outdoors/group]
 - Show and explain on suitable terrain.

12. DEMONSTRATION LESSONS [4 units]

On the last day of the course, participants give demonstration lessons either at differently themed stations or during a demonstration tour, revising and practicing essential leadership qualities. Participants receive feedback on their performance promptly.

The topics listed below are discussed during the demonstration lessons and revisions. There will be time for questions and discussions should anything have remained unclear. Presentations in front of groups are practiced.

- Applied glaciology
- Protection on rock, in snow and on ice
- Belaying a leader and a follower
- Direct force crevasse rescue
- Single rope pulley
- Roping up for glacier travel
- Orienteering compass and coordinate scale
- Map
- Correct tour planning using the form
- GPS and smartphone
- Equipment for mountaineering in high mountain regions
- Crampon technique
- Setting fixed line

E) Evaluation of the participants

Successfully completing the training course “Übungsleiter Hochtouren” qualifies the participants to guide and instruct. It is the responsible trainer who decides if a participant has passed or failed. The criteria for a pass respectively the key qualifications are communicated at the beginning of the course (resp. are available online).

Key qualifications

During the entire period of the course, participants are observed and evaluated using the following **key qualifications (Q)** (the order in which the key qualifications are listed below does not imply order of importance):

- (Q 1) Fitness & sports motor skills:** The participant possesses the necessary physical (endurance, strength, technique) and psychological (courage, prudence) characteristics and skills necessary for successfully practising the sport. Regarding endurance/fitness, an easy mixed tour of 1000 meters altitude difference is expected to be well within the limits of the participant’s performance capacity. Short rock passages and firm faces (up to 50°) are mastered without difficulties.
- (Q 2) Expertise:** The participant is sufficiently competent in order to guide a group on mountaineering tours in high altitudes or in order to teach a group basic skills for agreeable mountaineering in high mountain regions while being aware of the risks involved. The participant has understood the topics relating to rope handling as taught in the course and can apply them. Moreover, “Übungsleiter Hochtour” participants have comprehensive skills in orientation and navigation and can plan mountaineering tours in high mountain regions.
- (Q 3) Risk management & self assessment:** The participant possesses pronounced risk awareness and generally displays prudent behaviour. They have realistic self assessment and one can trust that they will only take responsibility for those guided tours and courses for the Alpenverein that they can definitely cope with.
- (Q 4) Willingness to learn & learning progress:** The participant is curious and very eager to improve know-how and to share personal experience. They can quickly and successfully put demonstrations, explanations, directions and corrections into practice and integrate them into their behavioural repertoire.
- (Q 5) Social skills:** The participant is sufficiently emphatic and thoughtful, able to communicate with others and is appreciative towards them, has leadership qualities and is a team player. These skills are to be evaluated taking into account the specific educational objective.

pass/fail

Participants of the course “ÜL Hochtouren” have passed if the responsible trainer gets a “positive” impression in all 5 key qualifications. A “fail” - if the deficit in one key qualification is too pronounced - results in retaking the entire course. “Pass/fail” is communicated on the last evening of the course, possibly on the last day of the course.

F) Time table

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
7:00	Arrival					
8:00						
9:00						
10:00	Check In & Course opening	Leadership skills Orientation Rope handling	Setting up of practice course Rescue techniques	Leadership skills Orientation „Touring day“	Leadership skills Orientation Individual and Group	Demonstration lessons
11:00						
12:00	Equipment check Methodological basics Leadership skills					
13:00						
14:00						
15:00	Break	Break	Break	Break	Break	End of course
16:00						
17:00	Rope handling	Rescue technique	Orientation Weather	Law & Insurance	Equipment	Departure

18:00	Dinner	Dinner	Dinner	Dinner	Dinner	
19:00						
20:00	Tour planning	Tour planning	Tour planning	Tour planning	pass/fail	
22:00						