

## LECTURE #4

Lecture 4 Topics
Snow Camping
Snowshoes and crampons
Leadership and Team Responsibility
Winter Overnight Preparation – Individual and Group Gear Discussion. Please bring the gear you will be taking on the Winter Overnight Field Trip. This will be the last opportunity to obtain feedback on gear needs and selection. Think of it as an opportunity for “back pack check.”
Review
<b>This reading and is DUE at Lecture 4 NO Quiz</b>
Successfully Complete your Conditioner Hike before you can go on the overnight  <u>Mountaineering: The Freedom of the Hills (9th Edition)</u>  <u>Subject</u> Camping and Food Ch 3, All Review the material covered in Lectures #1 - #3 and Field Trips #1 - #3.  Lecture #4 Material on the <a href="#">Course website</a> under blue tab for Course Materials
<b>Additional Resources</b>
<ul style="list-style-type: none"><li>• <a href="#">Crampon Use</a></li></ul>

## SNOW CAMPING

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### PLANNING AND PACKING

Spending the night or many nights in the wilderness requires more time for planning.  
Necessary research needs to be done on the

- area
- conditions
- weather

Preparations need to be made for

- shelter
- food
- clothing
- equipment

Additional consideration needed to keep you warm and comfortable. Many campers like to have the comforts of home but since you will be carrying everything on your back, you will need to streamline what you take with you without compromising your safety.

The most efficient way to streamline gear is to plan with your team/tentmate(s) in advance, and Coordinate shared equipment

- tents

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- stove/pot/fuel
- water purification system
- snow shovel
- other group gear
- Make a checklist of each of the items and dole out the group gear amongst the team members (many partners do it by weight).
- Try packing a few days before the trip to see if all fits in your pack. You may want to re-read *Freedom of the Hills* 9<sup>th</sup> Edition Tips on packing (page 33) to see how to distribute weight.
- Make sure you have your pack properly fitted and adjusted, and then try walk around with it loaded. Make sure it is within the weight you can carry comfortably. If everything does not fit or the load is too heavy, go through the checklist and identify what you can leave out or substitute with something smaller or lighter, without sacrificing safety.
- It is a good practice to try out any new (and rented) equipment, such as tent, stove, and water filter, while you are home (BEFORE the trip) so that you can make sure you know how to use it, it is in working order, and you will be able to set it up quickly even after a long hike as the temperature drops.
- When you get back home after each trip make notes on your checklist, what worked and what didn't, and what could be improved; it will be extremely useful when you prepare for the next camping trip.

### CLOTHING

Your body basically acts as a furnace, producing heat through chemical reactions (food) and activity. As you increase your physical activity your body increases heat production; when you decrease or stop activity the body decreases heat production and starts to lose heat.

- You will need to find/figure out/pack a layering system that will keep you cool and dry during physical activity, but warm at rest.

The key to staying warm in winter conditions is to stay dry. You will typically want to start with a

- moisture wicking base layer and a shell during heavy physical activity, and
- add mid insulating layers as physical activity decreases or temperatures drop.
- When at rest, put on additional layers before you become chilled since it is more difficult to get warm again once your core temperature drops.
- When you/the team is ready to be active take off layers until you feel just cool, since your body will start producing heat as soon as you start moving, and you absolutely do not want to break a sweat.
- When you get into camp, try to change into dry clothes as soon as possible. This will help you stay warm for the rest of the evening and into the night.

NOTE: even sweaty cotton underwear and bras make it harder to stay warm. It is not recommended to wear cotton on backcountry camping trips.

### FOOD AND WATER (Make sure the water won't leak)

Try to take foods that are

- light weight
- compactable
- simple to prepare
- require minimal clean-up

Prepackaged or re-packaged foods save on both bulk and weight.

Be as creative as you'd like when planning your meals— but make sure they work at home before trying them out on a trip.

**Breakfast:** For some scramblers, “carb loading” can give you a head start on your energy needs, it's a good idea to eat a carb heavy breakfast. Often eaten cold to save time when camping. Granola, granola bars, French rolls, muesli, cereals, bagels, and dried fruit are all good choices. Instant oatmeal, cocoa, and herb tea are popular when taking the time to cook. In cold weather conditions, warm food and drinks can help you start the day warm. Avoid caffeinated drinks (coffee, tea, etc.) when scrambling, as these contribute to dehydration.

**Lunch/Snack:** Typically it is best to snack from breakfast until dinner, getting something to drink and munch at every stop. Suggestions: granola bars, French rolls, pemmican bars, gorp, peanut butter

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sandwiches, cheese and crackers, beef jerky, dried fruit, and bagels. Sport drinks such as Gatorade, ERG, etc., will help maintain needed body salts (electrolytes) as well as providing energy.

**Dinner:** Begin replenishing water supplies (internal as well as external) as soon as you get into camp. If melting snow, it may take 2-3 hours to refill all water bottles. Cocoa, Gatorade, or hot Jell-O will add energy as well as fluids. Herb tea or various drink flavorings are good for just rehydrating. Food options are many and varied. Freeze-dried foods are easy but expensive; quality is variable. Many grocery store items work well, either alone or when combined: couscous meals, Top Ramen, instant soups, instant rice, dried or packaged meats, etc.

\*Eat protein for dinner as the protein will be broken down more slowly. Therefore, the heat will be released over a longer period of time.

It is important to stay hydrated during an outing, and this can be even more difficult when the temperatures drop. Many climbers use an

- insulating Nalgene sleeve to store water, in their pack or even better in your jacket. Make sure to store the Nalgene upside down, so if the water does begin to freeze, it freezes at the bottom of the container.
- If you prefer a bladder and tube system, make sure you use an insulating tube sleeve and store the mouth piece in your jacket to keep it from freezing.
- Either keep water inside your tent at night, or bury it in the snow. Snow acts as an excellent insulator and can keep water from freezing, but make sure you mark where you buried it.

### CAMPING

Refer to the Winter and Snow Camping section and the Sleeping Systems of Chapter 3 in Mountaineering: The Freedom of the Hills (9th Edition).

- If there is an adequate amount of snow, you can build snow shelters, such as an igloo, a snow cave, and a snow trench. They take more time to build, but they are more secure and warmer in winter condition than tents.
- A tent for winter camping needs to withstand both wind and snow, and it must have a roof line that allows snow to fall off. Four season tents generally meet these criteria. A ground sheet is useful to help protect the tent floor (the snow underneath can turn to ice from your weight and body heat and sharp ice can tear the tent floor).
- Anchor the tent using snow tent stakes or deadman anchors.

Some considerations in choosing a winter snow camp:

- Camping regulations
- Other campers
- Wind – avoid ridge tops and open area where wind can blow down tents or create drifts
- Be aware of dead branches hanging in trees (“widow makers”)
- Avoid low lying area where the coldest air will settle
- Select sites that do not pose any risk from avalanches
- Exposure – south facing areas will give longer days and more direct sunlight
- Water availability (lakes or streams nearby) – always camp 200 ft or more from a body of water

When the party arrives at the camping location, there are many activities to be done. The team can work together and coordinate activities.

- Preparing platform for tents
- Setting up tents
- Building snow walls
- Designating water supply snow areas
- Melting snow for water if no running water is available, filtering water
- Setting up a kitchen (and dining area)
- Preparing meals
- Setting up a latrine (use blue bags for fecal material and carry out)

Meal time and at the after meal get together at the dining area is a good time for the party to discuss the plan and itinerary for the next day. You may find, as many campers do, the evening get together is one of the

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highlights of your trip. Make sure everyone has an adequate supply of water for next day and warm water bottles for his or her sleeping bag.

When packing up and leaving the campsite, work together to camouflage the camping areas, so it will be undetectable after 2-3 inches of snow has fallen.

- Pick up any trash
- Collapse snow structures
- Cover up discolored snow
- Fill snow pits that can pose cave-in hazards for other visitors and wildlife.

### SLEEPING, SLEEPING BAGS AND INSULATION PADS

You will probably wake up a number of times during the night. This is normal at altitude and in cold weather. Your body needs to change positions to allow for circulation to compressed tissues and to move around a bit so that muscle movement generates heat.

Some tips to stay warm and get a good night rest:

- Use the restroom before you get in your tent, so you don't have to get up and possibly go out into the cold at night. If you do need to urinate in the middle of the night. Go for it! Otherwise you won't get back to sleep, and your body is wasting energy keeping all that extra fluid warm. You may want to use a "pee bottle" in your tent— make sure you mark it well.
- Brush off any snow from your boots or packs with a whisk broom so you don't bring any snow inside the tent.
- Put water bottles with hot water or tea (to drink in the morning) into your sleeping bag. Put them in a dry sac in case they leak.
- Remove any wet/damp layers and replace them with dry ones, particularly socks. Wear layers of dry clothes for the night.
- Wear a hat, fleece booties, thin gloves and scarf around the neck to help keep you warm.
- Get warm before you get into your sleeping bag. Do some jumping jacks, etc. .
- Pre-warm your bag with your body (get it nice and toasty).
- Place damp items in the sleeping bag with you near your trunk. This will help dry them overnight.
- Sleep with your face out of the bag. This reduces moisture build-up inside the bag.
- Ventilate the tent so moisture can escape.
- Bring ear plugs, many people tend to snore at elevation
- Sleeping bags for snow camping should be rated to temperatures below what you will likely experience if you want to be comfortable.
- It is recommended to use two insulating pads when camping on snow, they are indispensable for sleeping comfortably at night.

### HELPFUL HINTS

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- A platform for your stove, so it stays on top of the snow.
- Wrap a few feet of duct tape around your trekking poles, ice axe, or water bottle. When you need it for a repair, simply peel off what you need.
- When melting snow with a stove, put some liquid water in the pot first – believe it or not you can scorch the snow.
- Instead of boiling the melted snow, to save time and fuel, some people use a pump type water filter to purify once melted.
- If the weather is good, you can melt snow at camp by putting it into a black garbage bag and letting it sit in the sun.
- Consider iodine tablets for purifying water instead of a pump type water filter. They weigh much less and there is nothing to break or repair in the field. You might wish to use a bit of powdered flavoring to mask the iodine flavor.
- Marlene's Market and Deli, Winco and other natural food stores have a good selection of dehydrated foods (some in bulk) at a lower cost than the prepackaged meals found at climbing shops. Also, Marlene's, for one, has tiny packets of Gatorade type replenishment minerals to add to your water. Since there is no sugar, it weighs far less than Gatorade.

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- Consider an altimeter and/or GPS to aid in your navigation and route finding (NOT as a compass substitute).
- Put your water bottle in your sleeping bag or bury it in snow (cap down) to keep it from freezing at night.
- Some people find it helpful to smoothly apply Leukotape (or in a pinch) duct tape to their heels before starting out to prevent blisters.
- Waterproof boots per manufacturers recommendation
- Test your stove at home before leaving on the trip and carry repair parts.
- Strike anywhere kitchen matches work better than waterproof matches unless they are wet. Likewise, a small butane type Bic lighter is handy to have. Carry two or more different fire starters to be safe.
- Try to ensure your gaiters fit tightly around the heel and laces of your boot. Most of the time wet feet are caused by the snow migrating up the inside of the gaiter and melting into the boot from the top side.
- When it is raining hard put your rain pants on the outside of your gaiters to keep water from running down your rain pant legs and into your gaiters.
- Extra socks are handy to have. They can also be used as mittens if the need arises.
- Lightweight swimming pool slippers are nice to have around camp so you can take your boots off.
- A properly fitted crampon will fit tightly on the boot, such that it does not fall off before strapping.
- Ski goggles are helpful to have on a trip when winter conditions may be encountered.
- Coat the inside of your glasses and goggles with anti-fog.
- Always carry a complete set of under layer – top, bottom, socks, gloves, and hat. If you get wet you can change into next to skin dry clothes.
- Carry extra gloves -- they often get wet.
- Many people consider ski/trekking poles most helpful for the hike in and out.
- An empty plastic peanut butter jar makes a good container for dehydrated food, instant rice, etc. Just add water and wait. Some people who are not picky and don't want to cook can add water from their water bottle an hour before arriving at camp.
- Avoid bears and varmints. Don't eat near where you are going to sleep. Hang your food and toiletries away from your campsite with lightweight cord or carry a bear canister. Do not leave food, toiletries, or credit cards in your car at the trailhead.
- Give a spare key to your car to one of the party members to carry in case you lose yours.