



American  
Alpine Institute

*The Spirit of Alpinism*

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## ADVANCED BACKCOUNTRY SKIING

Bellingham, WA

### EQUIPMENT CHECKLIST

Conditions in the mountains vary dramatically from season-to-season, and sometimes even throughout the same day. This can make the process of preparing equipment for a winter backcountry trip difficult. On the one hand, a recreationalist wants to be light. But on the other, also wants to have everything he or she needs if there is a storm.

This list was designed for the “worst case scenario,” a day out with significant inclement weather. In serious conditions it's not uncommon for someone to need every piece of clothing and equipment on this list. However, if a program does not encounter significant weather, there may be items here that are not used. Keep in mind that if you run particularly warm or cold it would be a good idea to adjust your layers accordingly. As you prepare for your course, it's important to plan for the worst and hope for the best.

Please be sure to check the forecast several days prior to your course to ensure that you are properly prepared.

[NOAA Mt. Baker-Snoqualmie National Forest Weekly Forecast](#)

**RENTALS:** Equipment that is available for rent through the AAI Equipment Shop is designated with a “ Rent” check box. These items may be rented on the first morning of your course during your rendezvous. Please call the shop if you have unusual sizing issues (either large or small), as those items are limited, additionally our stock of skis and splitboards are also limited, so call ahead to reserve.

Don't forget that AAI climbers receive a 15% discount off full-price items purchased through our gear shop!

Please be sure to take care of any rentals (if needed) prior to your course start date.

#### **Call or E-mail the Equipment Shop for Advice on Gear**

Please feel free to contact us to help you get ready for your course. Your comfort and safety depend on being well equipped. Whether you get your gear from us or just get advice, we're here to help you prepare.

Call: (360) 671-1570 Email: [shop@AlpineInstitute.com](mailto:shop@AlpineInstitute.com)

Equipment Shop Website: [Shop.AlpineInstitute.com](http://Shop.AlpineInstitute.com)

Clothing	Packing Checklist
<p><b>Beanie/Toque</b> Wool or synthetic. Must fit under helmet. Easily replaced with hooded layers after early season.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Sun Hat</b> For those blue-bird winter days.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Buff/Neck Gaiter</b> Look for one that is UPF rated. Brighter colors work better for warmer conditions and darker colors for colder conditions.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Sun Glasses</b> These are mandatory. For use when goggles aren't needed (Skinning up or standing around). Standard sunglasses are fine, but make sure they have UVA/UVB protection.</p> <p>★ NOTE: Those using contact lenses should also bring a pair of prescription glasses in the event that your contacts or solutions are lost or damaged by freezing. If you only use prescription glasses, we recommend "OTG" (over the glass) or "Frame-over" style sunglasses.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Ski Goggles</b> For use in high winds and heavy snow and skiing downhill. These should be lightly tinted but not so dark that they will reduce visibility in low light conditions. They should block 100% of UV light. If you wear prescription glasses, these must fit comfortably over your glasses. Photochromic lenses are highly recommended. ★ Julbo brand goggles with the airflow feature are nice to have.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Liner Glove</b> Thin, lightweight, wool or synthetic gloves. Size to fit snug but not too tight. Generally worn alone in temperatures above 25°F(-4°C) when precipitation is not present. UPF rated liner gloves are ideal for sun protection. Bring 1-2 pairs in the event it is extra wet out.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Hard Shell Glove</b> Waterproof and insulated gloves. If the glove lacks insulation then size it to fit a liner glove inside. Mainly worn in wet conditions, cold, or when not mobile.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Undergarments</b> Wool or synthetic.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Sports Bra</b> Wool or synthetic, comfortable, active wear.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Socks</b> Wool or synthetic socks that are over the ankle height. If you are skiing then socks that are just below the knee, or go above the edge of your ski boot are recommended. Having two pairs on hand for the field days are also recommended incase a pair gets wet.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy

<p><b>Base Layer Top</b> This will be your base layer and should be midweight synthetic or wool. No cotton. Should be long-sleeved.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Active Insulation Layer</b> Lightweight “gridded fleece” or lightweight synthetic insulated jacket. Hood preferred. ☆ Active insulation jacket weight at 40g/m2 and heavier Insulation jacket at 60g/m2 or 80g/m2 ☆ Example: Patagonia R1, Montbell UL Thermawrap Jacket, or similar.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Soft Shell Jacket</b> A soft shell is a weather resistant, breathable, and stretchy freedom of movement piece. This piece is versatile in the sense of movement. It is often called an “action layer.” It is weather resistant, meaning it can put up with light showers and wind. Also if it gets wet it dries fairly quickly. This enables you to not have to stop and put on another piece when the wind picks up or a light snow shower happens. Because it is water resistant, and not waterproof, it also breathes fairly well. This enables you to move without overheating, so you don’t have to constantly stop to change out layers to regulate body temperature. They are also made of a stretchy material so there are no restrictions to your movement during activity. Put all those together and you have a pretty versatile layer, the Soft Shell. Hood preferred. ☆ Materials: Exolite, Matrix, Schoeller or similar ☆ Example: Patagonia Houdini, Arc’teryx Squamish Hoody, Mountain Equipment Squall.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Insulation Jacket</b> AKA the “puffy.” Down or Synthetic. This piece is worn in cold conditions or when not moving. Hood preferred. If choosing Down, water-resistant Down treatment is preferred to help prevent matting and loss of insulating ability if the jacket gets wet. ☆ Weight: 350g-450g ideal weight. ☆ Example: Arc’teryx Atom LT, Rab Xenon, or similar.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Hard Shell Jacket</b> Non-insulated jacket with a waterproof and breathable membrane. Three layer construction is recommended. It must have a hood, ideally a helmet compatible hood. When sizing make sure it can fit over other layers. ☆ Materials: Gore-Tex, eVent, Drillite, H2NO, Pertex Shield</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Base Layer Pant (aka “Long Johns”)</b> Wool or synthetic.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Soft Shell Pant</b> Thin, weather-resistant, breathable, and stretchy. This layer is helpful if the weather is nice enough and dry enough, where having a more breathable layer than a hard shell might be more comfortable, typically late winter/early spring. ☆ Materials: Exolite, Matrix, Schoeller</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Hard Shell Pant or Ski/snowboard pant</b> Non-insulated, waterproof and breathable membrane. Full side zips are recommended. When sizing make sure it is able to fit over a base layer and soft shell pants. Having a front pocket that is Avalanche Beacon compatible can be helpful. ☆ Materials: Gore-Tex, eVent, Drillite, H2NO, Pertex Shield</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Note About Pants</b></p>	

If you are wearing ski/snowboard pants, then that layer should suffice, consider adding a base layer for additional warmth. However, if you do not have ski specific pants, then you will want to stick to the base layer, soft shell layer and hard shell layer combination. Please feel free to reach out to the AAI Equipment shop with any further questions.

## Skiing and Avalanche Equipment

### Packing List

#### Skis

Skis with a backcountry flex (softer) are preferable to skis designed for hard packed lift serviced skiing. You may choose to bring either telemark skis or alpine touring skis. Telemark skis must be equipped with full metal edges. If you use a cable binding, bring a spare cable. Equip your skis with runaway straps. Alpine touring skis should use bindings that allow for forward and lateral release.

- Own
- Buy
- Rent

#### Ski Boots

We strongly encourage the use of randonee (AKA AT or alpine touring) equipment. If you are an experienced telemark skier, modern telemark gear will also be accepted. Make sure your boots fit you snug enough for downhill performance, but are comfortable enough to keep your toes warm. The hinge should be flexible enough to allow for comfortable walking, even for long distances. They must be equipped with a deep rubber lugged sole.

- Own
- Buy
- Rent

#### Ski Poles

Adjustable trekking poles with a full size basket are recommended. Ski/Probe poles are not a substitute for the avalanche probe. It can be helpful for touring to have ski poles that have a hooking capability at the top of the handle.

- Own
- Buy
- Rent

#### Skins

For PNW, skins with more traction are recommended over skins with more glide.

- Own
- Buy
- Rent

#### Helmet

A ski or snowboard specific helmet is necessary for this course. Preferably a helmet with Multi-directional Impact Protection System (MIPS). Ensuring that your helmet fits properly is critical for safety and comfort.

- Own
- Buy

#### Avalanche Probe

230cm minimum. If you are in the cascades with an especially deep snowpack then a 320cm probe is recommended. Required even if bringing 'probe poles'. Carbon fiber is lighter and suffers less deflection than aluminum models. Look for a model that has graduated depth markings for use during snow pit studies.

- Own
- Buy
- Rent

#### Avalanche Beacon

Your beacon MUST be a modern, 3 antenna, single frequency (457kHz) beacon. Three antenna digital beacons are preferred. If your beacon is older than 5 years, you should consider retiring it or returning it to the manufacturer to have it tested for function and frequency drift. 2 antenna beacons are obsolete.

- Own
- Buy
- Rent

#### Shovel

We require metal (aluminum) shovels. Newer models are lighter, stronger, more packable, and more ergonomic than older ones. Avalanche shovels now have a UIAA rating, so keep that in mind when shopping. Additionally we recommend a mid-sized blade that can fit in your pack. Smaller blades don't move enough snow,

- Own
- Buy
- Rent

and larger blades move too much snow where efficiency is lost. A shovel that has a hoe-mode and snow profile friendly blades are also a bonus.	
<b>Day Pack/Ski Pack</b> 25L to 35L is an ideal size. Whatever you need to use for a full day out. For a Ski specific pack, your pack should fit well, move with you, and not be a major hindrance when downhill skiing. Choose a model with ice axe loops and straps to carry your skis easily. Some models feature additional avalanche features such as an "Avalung" or airbags.	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<b>Hydration</b> 2 - 3 liters of water capacity minimum. Two or three water bottles, usually one-liter wide mouth Nalgene type, are required. Narrow mouth bottles are not functional and should not be used. Other similar plastic bottles (e.g. Gatorade) can work also. Hydration packs are not recommended, once they freeze they stay frozen for the duration of the course.	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<b>Water Bottle Parkas</b> These are insulating jackets for your water bottles, one for each bottle. Must cover the entire bottle, including the lid. ☆ Examples: 40 Below	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<b>Food</b> Please arrive with food for the day.	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<b>Other Essentials</b>	<b>Packing List</b>
<b>Hand Sanitizer and/or Wet Wipes</b> Used after going to the bathroom and before eating.	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<b>Toilet Paper</b> The provided solid waste bags have a small amount of toilet paper with them, but most people do not find this to be adequate. Estimate how much you'll need for a program of this length and place that in a plastic zip lock bag. An extra zip lock bag can be helpful for pack-out of used paper.	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<b>Sunscreen</b> SPF 30+, zinc based is preferred. Small travel size tubes are recommended so you can put them in a close by pocket for easy access. Sunscreen is prone to freezing in the cold and smaller containers fit well into pockets for warming.  Some manufacturers make sunblock in the form of a stick for easy application while wearing heavy gloves.	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<b>Lip Balm</b> Make sure it is SPF rated.	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<b>Wristwatch</b> A model with an alarm that will wake you up is preferable. It doesn't need to be anything fancy.	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<b>Garbage Bags</b>	<input type="checkbox"/> Own <input type="checkbox"/> Buy

<p>Bring one large bag to line your backpack and one to pack out garbage. Trash compactor bag, if available, are more durable.</p>	
<p><b>Personal First Aid Kit</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Band aids</li> <li><input type="checkbox"/> Blister treatment</li> <li><input type="checkbox"/> Prescription drugs</li> <li><input type="checkbox"/> Ibuprofen etc.</li> <li><input type="checkbox"/> If you wear contacts make sure and have spares if you can't see without them.</li> </ul>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Repair Kit</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Extra snow baskets for trekking/ski poles</li> <li><input type="checkbox"/> Gorilla tape (Can be wrapped around trekking poles or water bottle. Gorilla Tape tends to be the best brand for the mountains.)</li> <li><input type="checkbox"/> Zip ties</li> <li><input type="checkbox"/> 6-10 ft of 3mm accessory cord</li> <li><input type="checkbox"/> Ski Straps!</li> </ul>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Multi-tool</b>  Any multitool similar to a Leatherman is great. <u>Make sure to bring any specialized tools that might be required to fix bindings or snowshoes in the field.</u></p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<h2 style="margin: 0;">Other Optional Items</h2> <p>The items below are not required, although many are nice “luxury” items that can make your expedition more enjoyable. Remember that a few ounces here and there add up to extra pounds on your back and knees during your course.</p>	<h3 style="margin: 0;">Packing List</h3>
<p><b>Gaia Navigation App</b>  Optional Smartphone App.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Map and Compass</b>  Map should be of Mt. Baker area (preferably Green Trails Maps #13SX). Compass must have declination adjustment.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Headlamp</b>  Bring extra batteries, or if it has a rechargeable battery, make sure and bring a charger. 200-350 Lumens is an ideal range.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Lightweight Balaclava / Buff</b>  A balaclava is a warm hat that can be pulled over the head to the shoulders. It completely covers the head except for an opening for the face. It should provide excellent wind protection for the chin, ears and neck. A Buff can substitute for this.  ☆ Materials: Powerstretch, fleece, polypro, windpro</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy
<p><b>Women’s Specific Items</b></p> <p><b>Female Urination Device</b>  Pee funnel such as the GoGirl or Freshette. Many female guides prefer a rigid pee funnel.</p> <p><a href="#">Click here for more info</a></p> <p><b>Menstruation Collection Cup</b>  There are many things to consider concerning backcountry menstruation.</p>	<input type="checkbox"/> Own <input type="checkbox"/> Buy

[Click here for more info](#)

**Hand / Foot Warmers**

Recommended for people that are susceptible to cold hands and toes. These should be small, disposable type products.

- Own
- Buy

**Foot Powder**

A very small bottle will allow you to treat your feet daily, keep them dryer, extend the life of your socks, and help you avoid blisters/rashes from chronic wet feet.

☆ Examples: Gold Bond, Dr. Scholls

- Own
- Buy

**Ski Crampons**

Most useful for March courses. These come in a variety of widths, be sure yours are wide enough to fit over your skis.

- Own
- Buy

**Small Foam Pad**

Can be useful for sitting or kneeling on during field instruction. Your pack can also serve this purpose.

- Own
- Buy

**Camera**

Phone cameras or small point-and-shoot cameras are preferred. SLR cameras are not recommended due to their size and bulk.

- Own
- Buy

**Car Charger**

Consider bringing an extra battery pack as well, having a lot of people using car charger cables is difficult.

- Own
- Buy

**Altimeter Watch**

If you have one then bring it, it is a great tool to have in the backcountry, especially for navigation.

- Own
- Buy