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SKI/SPLITBOARD MOUNTAINEERING IN THE CASCADES 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 hand, also wants to have everything he or she needs if there is a storm.

This list was designed for the "<u>worst case scenario</u>," 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.

Call or Email 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: <u>shop@AlpineInstitute.com</u> Equipment Shop Website: <u>Shop.AlpineInstitute.com</u>

Clothing		ing Checklist
Beanie/Toque Wool or synthetic. Must fit under helmet. Easily replaced with hooded layers after early season.		Own Buy
Sun Hat For those blue-bird winter days.		Own Buy
Buff/Neck Gaiter Look for one that is UPF rated. Brighter colors work better for warmer conditions and darker colors for colder conditions.		Own Buy
Glacier Glasses These are mandatory. Look for a pair that fits well and has side shields. The lenses should be dark enough to not let more than 10% of visible light through. Photochromic (variable tint) lenses are more expensive but are usable in a wider range of activities. * 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.		Own Buy
Ski Goggles 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 (variable tint) lenses are highly recommended. * Julbo brand goggles with the airflow feature are nice to have.		Own Buy
Liner Glove Thin, lightweight, wool or synthetic gloves. Size to fit snug but not too tight. They need to be dexterous and comfortable, but not necessarily very insulating. Bring two pairs.		Own Buy
Hard Shell Glove 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.		Own Buy
Undergarments Wool or synthetic.		Own Buy
Sports Bra Wool or synthetic, comfortable, active wear.		Own Buy
Socks 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 to three pairs on hand is recommended in case a pair gets wet.		Own Buy

Base Layer Top This will be your base layer and should be midweight synthetic or wool. No cotton. Should be long-sleeved.	Own Buy
Active Insulation Layer 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.	Own Buy
Soft Shell Jacket 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. * <i>Materials: Exolite, Matrix, Schoeller or similar.</i> * <i>Example: Patagonia Houdini, Arc'teryx Squamish Hoody, Mountain Equipment Squall.</i>	Own Buy
Insulation JacketAKA 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.	Own Buy
Hard Shell Jacket 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, Drilite, H2NO, Pertex Shield	Own Buy
Down Parka These jackets come in many shapes, sizes and temperature ratings. If you tend to get cold easily, opt for a slightly warmer and more substantial parka. Otherwise, choose a down parka that is still fully baffled, includes a hood, and offers sufficient coverage over your waist. Must fit over all of your other layers. This parka is ideal for courses where evening and night time temps get very low, this will increase your comfort level considerably after a long day when you are spending time around camp the last few evenings. It is optional depending on your comfort level in the cold, and conditions for the week. * <i>Materials: Primaloft, down</i> * <i>Weight:</i> 992 – 1560 grams	Own Buy
Base Layer Pant (aka "Long Johns") Wool or synthetic.	Own Buy

Soft Shell Pant 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. * <i>Materials: Exolite, Matrix, Schoeller</i>		Own Buy
Hard Shell Pant or Ski/snowboard pant 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. * <i>Materials: Gore-Tex, eVent, Drilite, H2NO, Pertex Shield</i>		Own Buy
Note About Pants 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 or Splitboard, and Avalanche Equipment We allow skis or splitboards. <u>This is NOT</u> the appropriate course to be using a backcountry set up for the first time.	Pack	ing Checklist
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 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
Splitboard Make sure to pick a board that goes with your weight, riding style, and terrain that you want to be on. For powder, softer rocker boards are recommended, whereas for more freeride style you will want a stiffer, cambered board. For women, companies are making more women specific splitboards with smaller sizes, narrower widths, and softer flexes. It is also recommended to get the same type of boot and bindings as your board. If you are getting a stiff board, then you will want stiffer bindings and stiffer boots as well. Binding systems where you can lock down the heel is a bonus. Make sure to size your board, bindings, and boots together correctly. For example, if you have large feet, make sure that your boots and bindings aren't too big for your board. You don't want your boots hanging too far off the edge of your board (No		Own Buy Rent

more than an inch) or you will get toe/heel drag. It is also stance dependent, if your feet are angled more, there is more room for a bigger boot.	
NOTE- If you are bringing your own board, splitboard specific binding systems are recommended. But if you own regular snowboard bindings, there are kits to convert those for splitboard travel, in case you don't want to spend the money. These must be purchased separately before you arrive. Conversion kits are no longer available at our Equipment Shop.	
Splitboard Boots Standard snowboard boots will work. Splitboard touring specific boots are recommended. They are tailored for touring and also have the added benefit of stiffer models and crampon compatibility. They also tend to have stiff, more mountaineering boot-like soles which makes it nicer for kicking steps and climbing.	Own Buy
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. Collapsible/foldable poles fit into your pack better when riding down.	Own Buy Rent
Splitboard Crampons Only recommended for late winter and early spring ski/splitboard mountaineering programs. Not necessary for standard winter avalanche courses. These are unique for your bindings and your board width, so they need to be acquired before the start of your program.	Own Buy
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. 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, 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.	Own Buy Rent

Hydration 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.				Own Buy	
Water Bottle Parkas These are insulating jackets for your water bottles, one for each bottle. Must cover the entire bottle, including the lid. ★ Examples: 40 Below				Own Buy	
	Climb	ing Equipment		Pack	king Checklist
-	eries, or if it has a 0 Lumens is an idea	a rechargeable battery, make s al range.	ure and bring a		Own Buy
Climbing/Glacier Harness Make sure the harness has a belay loop and gear loops. When sizing make sure it can fit over your clothing layers when you have multiple layers on. A harness with leg loop buckles can make getting in and out of your harness with your skis or splitboard much easier. ★ Example: Mammut Zephir Altitude alpine harness				Own Buy Rent	
Carabiners Must be UIAA rated for climbing. - Four large pear shaped munter-style locking carabiners. - Five non-locking wire gate carabiners.				Own Buy	
U		l Glacier or Black Diamond Rave ease contact our Equipment Sho			Own Buy Rent
Use the following and not recomm		juide on length. Ice axe leashes a	are not required		
	S	traight Shaft Axe			
	Personal Height	Recommended Length of Axe			
	5'8" or shorter	50-55cm			
	5'9"- 6'	55-60cm			
	6'1"-6'3"	60-65 cm			
	6'4" and up	65-68cm			
Crampons Must be steel crampons with front points. Only modern strapon, step-in, or 'newmatic' crampons are acceptable, as long as it fits and is compatible with your mountaineering, ski mountaineering or splitboard boot.				Own Buy Rent	

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Prusiks 6mm nylon cord in three lengths; 13 ft, 6 ft, 5 ft. Available at AAI the morning of the course. We recommend getting three different colors for easy identification.		Own Buy
Slings Bring one 120cm and one 60cm pre-sewn nylon sling. Slings must be UIAA rated for climbing.		Own Buy
Internal Frame Pack 60L or more. Mountaineering specific packs, instead of backpacking packs, are a good way to shave weight. Should also have the ability to carry weight well (45 lbs+).		Own Buy Rent
Day Pack/Ski Pack 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.		Own Buy
Camping Equipment	Pac	king Checklist
Food You are responsible for all food throughout the duration of your course!		Own Buy
Tent Lightweight 4-season tent capable of withstanding winds to about 40 mph and continuous, multi-day rain or snow. Your shelter should weigh no more than 4 lbs per person.		Own Buy Rent
* NOTE: We normally pair up in tents so if you don't have one, you may be able to share.		
Sleeping Bag Synthetic or Down. If you bring a synthetic bag bring one on the lower end of the temperature range since synthetic bags tend not to be as warm as down. If choosing Down, water-resistant Down treatment is preferred to help prevent matting and loss of insulating ability if the sleeping bag gets wet. If you know you sleep cold take this into consideration when purchasing/selecting your bag. You may want to also consider purchasing and carrying a lightweight sleeping bag liner for additional warmth. $* Rating: 10^{\circ}F(23^{\circ}C) to 0^{\circ}F(18^{\circ}C)$		Own Buy Rent
 Sleeping Pad Bring two. One should be a full-length inflatable pad. Your inflatable pad should be a modern, lightweight, and packable version with an RValue of at least 4. Newer pads are less bulky and take up only a tiny portion of your packs' volume. The second pad should be a half or 3/4length closed cell foam pad. Full length (72") is too long. Plain, inexpensive foam pads are less bulky than Ridgerests or ZRests. If you already own a full length model it can easily be cut to ³/₄ length. 		Own Buy Rent
Compression Stuff Sack For your sleeping bag. If it is a down bag, a waterproof compression sack is recommended.		Own Buy

Stove and Fuel Liquid fuel or canister stove. Fuel is available at AAI the morning of the course. * NOTE: Many people choose to share stoves, fuel and tents to decrease weight. However,		Own Buy Rent
some people prefer to camp in their own tents and use their own stoves. This can be determined on the morning of the first day of your program.		
Lighter You will have the opportunity to buy them the morning of the course.		Own Buy
 Eating Utensils/Cookware Spoon/Spork: Bigger is better. Lexan is lighter, but metal spoons are more durable. Thermal Mug 		Own Buy
Bowel and/or cooking pot: Bring a plastic bowl or mug, preferably with insulation.		
* NOTE: If you have a Jetboil or MSR Reactor type stove and plan on eating out of your integrated pot, then you don't need to bring a bowl. The same applies if you plan on only using commercially packaged dehydrated or freeze dried meals.		
 Personal Toiletries Toothbrush/Toothpaste Wet Wipes/hand sanitizer Sunscreen (SPF 30+ Zinc based preferred) 		Own Buy
 Contact solution/case/glasses if applicable Other personal hygiene items 		
 Toilet paper/extra ziplock bag We provide biffy bags to pack out solid waste! 		
Water Purification Water purification tablets are recommended, they are available at the shop the morning of the course. Pills that take an hour or less to purify are recommended. Plan to boil water as a purification method, so bring extra fuel. Steripens are an acceptable alternative to purification tablets, but bring a backup in case the batteries fail in the cold.		Own Buy
\star NOTE: Pumps can be damaged by silt in the glacial water.		
Other Essentials	Pacł	king Checklist
Lip Balm Make sure it is SPF rated.		Own Buy
Wristwatch A model with an alarm that will wake you up is preferable. It doesn't need to be anything fancy.		Own Buy
Garbage Bags Bring one large bag to line your backpack and one to pack out garbage. Trash compactor bag, if available, are more durable.		Own Buy
 Personal First Aid Kit Band aids Blister treatment 		Own Buy

 Prescription drugs Ibuprofen etc. If you wear contacts make sure and have spares if you can't see without them. 		
 Repair Kit Extra snow baskets for trekking/ski poles Gorilla tape (Can be wrapped around trekking poles or water bottle. Gorilla Tape tends to be the best brand for the mountains.) Zip ties 6-10 ft of 3mm accessory cord 		Own Buy
Multi-tool Any multi-tool similar to a Leatherman is great. <u>Make sure to bring any specialized</u> tools that might be required to fix bindings or snowshoes in the field.		Own Buy
Ski Straps Required for keeping your skis attached to you so that your skiing doesn't turn into a walking trip, this can be added to your repair kit.		Own Buy
Other Optional Items 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 expedition.	Pac	king Checklist
Gaia Navigation App Optional Smartphone App.		Own Buy
Map and CompassMap should be of the area you are conducting your field days. Compass must have declination adjustment. 		Own Buy
Lightweight Balaclava / Buff 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. * <i>Materials: Powerstretch, fleece, polypro, windpro</i>		Own Buy
 Women's Specific Items Female Urination Device Pee funnel such as the GoGirl or Freshette. Many female guides prefer a rigid pee funnel. Click here for more info Menstruation Collection Cup There are many things to consider concerning backcountry menstruation. Click here for more info 		Own Buy
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. * <i>Examples: Gold Bond, Dr. Scholls</i>	Own Buy
Small Foam Pad Can be useful for sitting or kneeling 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