

American Alpine Institute^{Ltd.}

ALPINE MOUNTAINEERING & TECHNICAL LEADERSHIP (Parts 1, 2, 3)

EQUIPMENT LIST

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Temperatures and weather conditions in the summer Cascades can change from minute to minute. You'll often hear the popular weather prediction "If you can't see the mountains it's raining, and if you can see them it's going to rain." But when the sun comes out, it's glorious, and occasionally downright hot. Rain can fall at any time of year, and it is possible to get snow down below timberline before the beginning of July and after about mid-September. Lows at night often drop to slightly below the freezing point with daytime highs ranging anywhere from 35F to 70F.

The equipment you bring must function well in a wide variety of conditions. Your clothing should be warm, lightweight, dry quickly, and allow good freedom of movement. The layering principle, based on several thin layers of insulation (rather than one thick one), covered with an outer weather-proof shell, meets these needs well. Typically, Cascade mountaineers will wear a layer of long underwear made from polypropylene or similar synthetic, another insulating layer of pile or fleece, and a Gore-Tex shell, in addition to gloves/mittens and a hat.

In the early summer season, which extends to about mid-July, and also in the last part of summer, from mid-September to the time the winter snows begin to fall in October, the Cascade climber will also bring along an extra light sweater, perhaps a pair of expedition weight long under-wear in addition to their light pair, and a second warm hat.

On the Part II and III courses we visit several different climbing areas in the North Cascades. We occasionally car camp but often backpack into a base camp where we may spend up to 4 or 5 nights. Usually we resupply with fresh foods (and possibly shower) on about day 6 or 7 and again later during the course. When we move camp into the mountains participants normally save weight by pairing up and sharing the use of tents and stoves.

City clothes and other odds and ends which you won't need during your course can be left in the AAI office. Bring a duffel and lock for this purpose. Please take the time to prepare your equipment carefully, and to the extent possible, become familiar with it by using it in the field, perhaps on a backpacking trip. If you have any questions don't hesitate to call the Institute office or equipment shop.

CLOTHING

Boots - Plastic climbing boots are highly recommended. Leather boots** are only adequate late season when used with super gaiters. Models such as the Koflach Degre, Lowa Civetta, and Scarpa Inverno perform well.

**If you plan to bring leather boots, please contact our shop staff prior to the course to discuss the specific model. They will also need to be examined and approved by your guide. They must have at least a half length steel shank, thoroughly waterproofed, and be warm enough for temperatures below freezing.

**If you have lightweight leather boots and/or sticky rubber approach shoes you may want to bring them in addition to your heavier duty mountaineering boots. They will be useful during your course on single day alpine climbs or technical rock routes with small amounts of snow travel.

Gaiters - Knee high. If you buy gaiters ahead of time make sure they are large enough to fit over plastic climbing boots. Gaiters can be rented or purchased at AAI before your course. Required for everyone who is not bringing supergaiters.

Rock Shoes - Required. If you do not own your own you can rent them from AAI.

Socks - Wool or synthetic, (no cotton). Bring three complete changes. It is recommended one wear a thin liner sock, and one or two pair of thick socks depending on boot fit.

Long Underwear Bottoms and Tops - This will be your base layer and should be lightweight polyester, polypropylene or similar synthetic.

2nd Layer (Top) - Expedition weight long underwear top, 100 weight powerstretch, very light weight fleece, Schoeller, or a lightweight windshirt (i.e. Marmot DriClima) are good examples of this multi-use layer.

2nd Layer (Bottom) - Schoeller or nylon fabrics preferred. This will be your action layer for your legs and the layer that you will spend the most time in. This layer should be light, comfortable, durable, quick drying, and provide some protection from wind and water. Black Diamond Alpine Pants, Arcteryx Gamma LT Pants, and Mammut Champ pants are good examples of these types of materials.

3rd Layer (Top)- This will be your action layer that you spend the most time in. Schoeller or nylon fabrics preferred. Seek out soft jackets that are light, comfortable, durable, quick drying, and provide some protection from wind and water. Lightly insulated is ok but not required. Arcteryx, Moonstone, Marmot, Mammut, and many other companies make soft shell jackets that work well for this layer.

Insulated Jacket - Lightweight down or synthetic in addition to the 3rd layer described above. Some good examples of insulating materials are Primaloft, Polarguard 3D or any down jacket/parka.

This is different than your outer most waterproof shell jacket. Needed only in the earlier

part of the season (before July) or for the late season (after Sept 15).

Shell Layer (Upper)- This will be your outermost layer and it needs to be waterproof, breathable, and durable. Two or three-ply Gore-tex or other waterproof breathable materials are required. Your parka needs to have a hood and should be sized to fit over your clothes. Lightweight and compressible layers are ideal but don't sacrifice too much weight for durability. Models like that Arcteryx Beta and Gamma jackets, Marmot Alpinist and Precip, and Patagonia Stretch Armstrong are top of the line.

Shell Layer (Lower)- Full side zips recommended for easy on and off over boots and crampons. Make sure they fit over all of your layers when fully dressed. Pants or bibs are acceptable and each have their advantages and disadvantages. Materials should be Gore-tex or other similar water-proof and breathable fabrics. Examples include Marmot Cirrus and Minima pants, Arcteryx Alpha SV bibs and Beta AR Pants, Patagonia Stretch Element and Microburst pants work well.

Liner Gloves - Polypropylene / polyester.

Modular gloves or mittens - Gloves for mountaineering should be waterproof, dexterous, durable, and appropriately insulated for the temperatures expected while in the mountains. Leather palms are preferred and increase the durability of the glove. Most of your climbing time will be spent in either your poly-pro gloves or these, heavier gloves. There are many modular systems for gloves out there that allows liners to be interchanged. Models like the Black Diamond Ice and Verglas glove, Patagonia Stretch-Element and Work Gloves, and models by Outdoor Research are recommended.

Shorts - Lightweight runners shorts are best. Often worn over your lightweight long underwear.

T-shirt - Two

Warm Hat - Synthetic is less itchy than wool and dries faster.

Sun Hat - A baseball cap serves well.

***Special Note:** Part II and III Day course participants will occasionally come out of the mountains and car camp as you travel from area to area. You may want to bring a complete change of comfortable, and casual clothes for these times.

CLIMBING GEAR

Ice Axe - 60 cm to 70 cm length with standard toothed pick and wrist loop. If your axe doesn't have a wrist loop, pre-sewn ones are available commercially or you can bring about 6 feet of 9/16 inch tubular webbing and we'll tie it on the course.

Technical Ice Tool (only for Part II and III)- 45 - 50 cm hammer. Models such as the Black Diamond Black Prophet or Cobra, Charlet Moser Pulsar or Axar, Grivel Rambo

and Machine, work well. Straight or curved shafts can be used, and they must have a pre-sewn or tied leash. You will only need this technical tool if you are taking Part II or Part III and it will not be with you the whole time. You can rent or share these tools for the segments of the course that they are needed.

Crampons - Flexible or semi-flexible. Step-in crampons are easier to put on with cold fingers but they are not compatible with all boots. Only modern strap-on, step-in, or pneumatic crampons are acceptable. Older Scottish style strap-on are not adequate. The Black Diamond Sabretooth and Contact, Grivel 2F, and Charlet Moser Black Ice are examples of acceptable crampons. Anti-balling plates are highly recommended.

Climbing Harness - Should fit over bulky clothing. Adjustable leg loops help in this regard. Consider purchasing a lighter weight harness but one with gear loops.

Carabiners - Bring four, two of which should be large, locking, pear shaped (or Mütter) biners.

Climbing Helmet - Kayak, bicycle or construction helmets are not acceptable.

Prusiks - Prusiks are specially tied loops of 6mm cord used for crevasse rescue. If you don't have a set of prusiks from a previous AAI course then bring three lengths of 6 mm perlon, 13 feet, 6 feet, and 5 feet. (Precut lengths are available for sale at AAI.)

Belay Device - Bring one if you have one, but you don't have to buy one for the course. If you want to get one, be sure to get advice on choices from the Equipment Department. (ATC's and like devices are recommended over Figure 8's.)

Trekking Poles- At least one is required and two are recommended. Even if you don't normally use trekking poles, at least one is necessary to help with balance while carrying heavy packs on mountainous terrain and crossing streams.

CAMPING GEAR

Tent - Lightweight 4-season tent capable of withstanding winds to about 40 mph and continuous, multi-day rain. We normally pair up in tents so if you don't have one, you may be able to share a rental.

Sleeping Bag - Down or synthetic, rated to about 15 F. To help keep your sleeping bag dry, down bag users should bring an extra large garbage bag with which you can line your sleeping bag stuff sack and use for storage in the tent.

Sleeping Pad - Full length closed cell or Thermarest. If you already own a 3/4 it will be adequate but your bag may get wet if not otherwise protected and your feet will not be insulated when camping on the snow.

Stove - Pump type, white gas stoves, such as the MSR models are preferred. Bring a cleaning needle. Compressed butane or propane stoves are acceptable. Course

participants often pair up on stoves. Due to airline restrictions** you may not bring used fuel bottles on the airline. If you already own a MSR stove bring it and your pump and AAI will loan you a fuel bottle. If you do not own a stove you can rent everything.

Fuel - For early season prior to mid July course participants need a liter of fuel* per person the extra fuel is required to melt snow for drinking and cooking water. Later season when water is accessible, 3/4 liter is sufficient for 6 days for one person. White gas can be purchased from AAI.

* (As a reminder, fuel cannot be taken on airplanes.) **Bring two lighters.**

Fuel Bottle** - Leak-proof bottles such as Sigg or MSR are best. Can be rented or loaned if you already own a stove.

**United Airlines has indicated that backpacking stoves with detachable fuel containers may be taken on board, but only the stove itself (the fuel container-new or used- MUST be left at home). The stove must be air dried of any fuel and be sent via checked baggage, not carry on. Further information on this regulation may be found by a United Airlines employee under Hazardous Materials: Camping equipment; footnote.

Utensils - Large thermal mug or cup (pint size best) and spoon minimum on these longer courses with car camping you can bring other cooking/eating implements but do not over do it (i.e. fork, knife, extra pot). Most people also bring a bowl.

Pot- One 1 1/2 or 2 quart pot is enough per person. Two people sharing a stove should bring 2 pots.

Hydration - 3 liters of water capacity are the minimum. Hydration packs or bladders like the Camelback or Platypus with appropriate accessories are recommended. Two water bottles, usually 1 quart Nalgene type, are required. Other plastic bottles, similar in nature, can work as well.

Water Purification - Bring tablets such as Potable Aqua. These are lightest and most efficient. If you want to use a filter pump realize that streams will not be accessible until mid season and make little sense prior to this time.

MISCELLANEOUS

Food - Planning for the Part II and Part III course is somewhat complicated as the itinerary can change depending on conditions. In general, have the first six days of food ready to be carried into the mountains. Normally we can resupply with fresh groceries a second and third time during your course (thought the selection may be somewhat limited) as we travel to other climbing areas. Food and clothing that is not needed in one area can be left in the course van.

****Use the MENU PLANNING CHART as an aid. See the MEAL PLANNING FOR ALPINE MOUNTAINEERING for food suggestions.**

Summit Pack - Highly recommended, 1500 - 2000 cu. in. small day pack. This will be

very useful for the rock sections of your course, any lightweight technical ascents done, and if you choose to use a large external frame pack

Large Pack - Large internal frame pack, minimum 5000 cubic inches recommended. External frame packs make movements necessary for climbing difficult and are not acceptable. Models such as the Dana Designs Terraplane, Arcteryx Bora 80-90, and Gregory Robson work well.

Headlamp - Bring an extra bulb and batteries. Flashlights are not acceptable.

Pocket Knife - Multipurpose tools like the Leatherman Tool are great, Swiss army knives work well also.

Compass - Liquid filled. Appropriate USGS topographic maps can be purchased at AAI.

Repair Kit - Needle and thread, a small amount of adhesive tape, stove repair kit, Thermarest repair kit, 20 to 40 feet of light cord, crampon adjustment tools if your crampons need them.

Personal Medical Kit - For blisters, cuts, scrapes, etc.

Insect Repellent- Recommended for Cascades courses. Make sure the container is backpack worthy. Look for more concentrated repellent in smaller containers. If you use a repellent containing Deet be sure to store it away from any climbing gear and clothing. Deet destroys products made of nylon and will break down webbing, cordage, and rope.

Glacier Glasses - With side shields make sure they are 100% UVA/UVB to protect from snow blindness. You may want to bring your normal street sunglasses as well.

Sunscreen - With a protection factor of at least 20 and even more for people with fair skin. You know yourself best, but just remember that the glare from the snow increases your chance of getting burned.

Lip Protection - With a protection factor of at least 16. For the fair an SPF of 20 is better.

Personal Toiletries - Bring or Buy toilet paper, shampoo, etc. Your basic clean up necessities. You will have opportunities to shower.

Garbage Bags - Bring two or three large ones. They serve a large variety of uses.

Stuff Bags - Bring three or four of varying sizes and colors to help keep your gear or food organized.

Camera - With lots of film and an extra battery.

Passport – Or other proof of citizenship. Acceptable proofs of citizenship are a birth

certificate, passport, or a voters registration card. A drivers license is not adequate. You will need this to get into British Columbia, Canada which may happen on all courses Parts 1, 2, and 3.

*** **A special note:** On some past early season courses we have needed to take along transceivers and shovels. You will be required to rent these if you do not have your own. If you are taking an early season course please call our equipment shop at (360) 671-1570 to see if these items will be needed.