

American Alpine Institute^{Ltd.}

SIERRA NEVADA ALPINE MOUNTAINEERING EQUIPMENT LIST

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Temperatures and weather conditions in the Sierras can change quickly, so during this program you will need to be prepared for anything, even snow in mid-summer. But generally we have fine warm days with cooler nights and the potential for afternoon thunderstorms. Lows at night often drop to slightly below the freezing point with daytime highs ranging up to 80°F at lower elevations.

The equipment you bring must function well in a wide variety of conditions. Your clothing should be warm and 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. On cool or cold days, Sierra mountaineers typically will wear a layer of polypropylene long underwear, an insulating layer of pile or fleece when necessary, and a Gore-Tex shell in windy, wet, or colder conditions.

City clothes and other odds and ends which you won't need during your course can be left in the vehicle or hotel. Bring a duffle and lock for this purpose. Please take the time to prepare your equipment carefully, and if possible, become familiar with it by using it in the field prior to your program. If you have any questions don't hesitate to call the Institute office or equipment shop (360-671-1570). We'll be happy to help you with big questions or little details. Please use us as a resource as you prepare for your program.

CLOTHING

Boots – (for courses with snow and ice curriculum and approaches) Due to snow levels and frequent freezing temperatures, plastic boots are mandatory for early season through mid-June. Heavy duty leather mountaineering (not hiking) boots are recommended at other times since these are comfortable on the trail, adequate on the snow and good on the rock. While there are many manufacturers of leather mountaineering boots, we have found the following companies' boots to be best suited to alpine mountaineering: Scarpa, Asolo, La Sportiva and Lowa. Whichever boot you choose, remember that they must be designed for heavy duty mountaineering with at least a 1/2 length steel shank, and be compatible with crampons. They should also be thoroughly waterproofed and broken in; this means that you should wear them enough so that your feet will remain blister-free, and they should fit comfortably walking down steep terrain with a 50 pound pack. Please keep in mind that there are many rugged mountaineering boots that are not suitable for this program. Please call our Equipment shop if you have any questions about your purchase of mountaineering boots.

Gaiters - (for courses with snow and ice curriculum and approaches) Calf/knee height. Be sure they fit your plastic and/or leather boots snugly.

Running, Tennis, or Lightweight Approach Shoes - For approaches and around camp.

Socks - Wool or synthetic (no cotton). Bring two complete changes. Climbers frequently 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 DriClime) are good examples of this multi-use layer.

2nd Layer (Bottom) - Schoeller, Pile or fleece preferred. Seek out quick-drying and wind/water resistant material. Black Diamond Alpine Pants and Arc'teryx Gamma LT Pants are good examples of these types of materials.

Warm Jacket - Pile, fleece or Windstopper.

Insulated Jacket - Lightweight down or synthetic in addition to the warm jacket 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).

Rain Pants or Bibs - Gore-Tex or other waterproof breathable material recommended. Full side zips recommended for easy on and off over boots and crampons.

Rain Parka with Hood - Gore-Tex or other waterproof breathable material recommended.

Liner Gloves - Polypropylene / polyester.

Modular gloves or mittens - (for courses with snow and ice curriculum and approaches) which include a matched pair of insulating gloves or mitts and waterproof shells offer excellent protection. Good models are made by Outdoor Research, Black Diamond, Wild Country and others. (If you bring a pair of these you'll still need to bring the polypro gloves.)

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

T-shirt

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

Sun Hat - A baseball cap serves well.

CLIMBING GEAR

Ice Axe - 60 to 70 cm with a standard 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 1 inch webbing and we'll tie it on the course.

2nd Tool – (Needed only for courses with ice instruction and ascents) 50cm Ice tool with hammer and reverse curved pick. Straight shaft or bent handle tools function better in the alpine environment than radically curved waterfall ice tools. Models like the Black Diamond Shrike, Black Prophet and X-15 all work well.

Crampons - (for courses with snow and ice curriculum and approaches) 12-point semi-ridged. Be sure they fit and flex with your boots. Crampons with step-in bindings should be used only with plastic boots and leather mountaineering boots that are specifically manufactured to be step-in crampon compatible. The Black Diamond Sabertooth, Grivel 2F and Charlet Moser Black Ice models are recommended.

Climbing Harness - Should fit over bulky clothing. Adjustable leg loops help in this regard.

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

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

Rock Shoes – Should be comfortable shoes which can be worn all day with a pair of thin socks if so desired.

Belay/Rappel Device - Required. Black Diamond ATC's and Wild Country Belay Devices work well.

Daisy Chain - To girth hitch to your harness. You may also bring 12 feet of 1/2" or 3/4" tubular webbing to tie into an acceptable daisy chain during your course (this method is less preferable, but less expensive).

Protection – If you have any technical rock protection you would like to use and/or get more familiar with please feel free to bring. We will provide all of the necessary technical protection including ropes so you will not be required to bring these items.

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 25°F (or 15° if early season). Bring an extra large plastic garbage bag with which you can line your sleeping bag stuff sack and use for storage in the tent.

Sleeping Pad - 3/4 or full length closed cell or Thermarest.

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.

**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.

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

Fuel - 1 1/2 liters is sufficient for 12 days for one person. White gas can be purchased in Bishop. (As a reminder, fuel cannot be taken on airplanes.)

Pots - One 1 1/2 or 2 quart pot is enough for one person. Two people sharing a stove should bring two pots.

Utensils - Large thermal mug (pint size best) and spoon minimum. Most also bring a bowl.

Lighters - Bring two.

Water Bottles - Bring two 1 quart wide-mouth.

Water Purification - Bring tablets such as Potable Aqua or use a filter pump. If you bring a pump it is recommended to bring tablets as a back up.

MISCELLANEOUS

Food - Planning for mountaineering courses is somewhat complicated and a difficult thing to do well. Please see MEAL PLANNING FOR ALPINE MOUNTAINEERING for food suggestions.

Large Pack - Large internal frame pack, minimum 5000 cubic inches is recommended.

Summit Pack - Large, 1500 to 2000 cubic inches. Optional. For climbing days it can be nice to have a smaller lighter pack on your back.

Ski/Trekking Poles - Optional, but recommended. Telescoping/variable length to assist with carrying heavy loads, crossing streams, and easing stress on knees and back particularly on steep trail or talus descents. If you have regular downhill ski poles, they will work.

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

Pocket Knife - Swiss Army style knives are good as well as Multitools like the Leatherman.

Compass - Liquid filled. Appropriate USGS topographic maps can be purchased in Bishop.

Repair Kit - Needle and thread, a moderate amount of adhesive/duct tape, stove repair kit, Thermarest repair kit, 20 to 40 feet of heavy cord (for hanging food out of the reach of animals), crampon adjustment tools as needed for your crampons.

Personal Medical Kit - For blisters, cuts, scrapes, etc. Bring a full blister kit with plenty of moleskin, tincture of benzoin, Second Skin TM, CompeedTM pads (or other bioclusive coverings), topical antisthetic and antibiotic gel or ointment, and 1"-2" athletic adhesive tape.

Insect Repellent

Glacier Glasses - With side shields.

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

Personal Toiletries - Bring one roll of toilet paper. Smaller amounts can be rolled off and taken into the mountains as needed, while the "main supply roll" can stay safe and dry in the course vehicle.

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

Stuff Bags - Bring a few of varying sizes to help keep your gear or food organize.