



American
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The Spirit of Alpinism

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American Alpine Institute
– **Waterfall Ice Climbing Equipment List** –

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It is essential that you do a careful job in selecting and preparing your equipment for this course. The weather in the mountains is a major objective hazard, even in the summer, and in the winter it can present extreme challenges to survival.

Temperatures are typically in the teens but can easily drop to –10F to –20F and be accompanied by high winds and blowing snow. These conditions, in combination with the long periods of inactivity required to belay a climber on a difficult pitch, can easily lead to problems of hypothermia or frostbite.

For your own safety and that of the group, please take this list seriously and come in good condition. If you have any questions about choosing your gear, feel free to call and ask for advice.

CLOTHING

Long Underwear Bottoms and Tops – This will be your base layer and should be lightweight polyester, polypropylene or wool (no cotton).

2nd Layer (Top) – Expedition weight long underwear top, 100 weight Power Stretch, very light weight fleece, Schoeller, or a lightweight wind shirt (i.e. Marmot DriClime) 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, Arc'teryx Gamma pants, and Mammut Champ pants are good examples of this layer.

Soft-shell Jacket – A thin, light, stretchy, breathable but wind and snow resistant layer that is comfortable to wear is ideal. This will be your 'action layer' and the outer layer that you spend the most time in. Hoods are optional but highly recommended. Size your jacket to be trim fitting, but large enough to fit over your base and second layers. Weight: 18 - 26 oz / 510 - 737 grams Materials: Schoeller, Power Stretch, Power Dry, or similar

Insulated Jacket – Lightweight down or synthetic in addition to the fleece jacket. Some good examples are an insulated ski parka, a down sweater, and any insulated jacket. This is different than your outer most waterproof shell jacket. Nice for belaying or while standing around during instruction.

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 the Arc'teryx Beta and Gamma jackets, Marmot Alpinist and Precip, and Patagonia Stretch Armstrong are top of the line.

* Denotes items available to rent from AAI

Soft-shell Pants – This will be your outermost layer most of the time for your legs. Look for the same features as your soft-shell jacket. A thigh pocket is a useful feature for storing small items. Weight: 16 - 30oz / 450 - 850 grams Materials: Schoeller, Power Stretch, Power Dry, or similar

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 has their advantages and disadvantages. Materials should be Gore-Tex or other similar waterproof and breathable fabrics. Examples include Marmot Cirrus and Minima pants, Arc'teryx Alpha SV bibs and Beta AR Pants, Patagonia Stretch Element and Microburst pants work well.

Gloves

You will want more than one pair of gloves. It is only a matter of time before your gloves will become wet and cold. If temperatures are below freezing, which they often are when ice climbing, this can mean frozen gloves. Having one lighter pair of gloves for climbing in and a warmer pair for belaying and time not climbing is a good strategy.

- **Climbing Gloves:** 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. Climbers will often have two complete changes of climbing gloves.
- **Belay/other Gloves:** Gloves for belaying should not be so big as to limit your dexterity or ability to grip the rope. Leather palms are recommended. Mitts are great for around the crag/not belaying if you are prone to cold fingers and hands, they do limit your dexterity for belaying.
- **Liner Gloves** – Polypropylene / polyester. Thin lightweight, can be worn under your other gloves for added warmth.

There are many modular systems for gloves out there that allow liners to be interchanged. Models by C.A.M.P., Blackdiamond, and Outdoor Research are recommended.

Warm Hat – Must be able to be worn under your helmet. Close fitting. Fleece, wool, or other synthetic.

Boots – Plastic climbing boots are highly recommended. Leather boots** can be used as well if they are designed for water ice climbing and are warm enough. Models such as the Koflach Degre, Lowa Civetta, and Scarpa Inverno perform well for plastic boots and La Sportiva's Nepal Extreme and Trango Extreme, Scarpa's Freney XT, and Kayland's Super Ice are good examples leather and synthetic ice climbing boots. Boots are available to rent locally in Ouray, please contact your program coordinator for additional details.

Gaiters – Knee high, keeps snow and ice out of your boots and socks. Will also protect your pants from the sharp points on your crampons. Can omit if your pants have a built gaiter and scuff guard.

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

CLIMBING GEAR

***Technical Ice Tools** – Models by Black Diamond, Grivel, Petzl/Charlet, Omega, DMM, and other mainstream manufacturers are acceptable. Tools that are designed to be used with a leash should have a functioning leash system in place.

***Crampons** – Rigid crampons work best for strictly water ice climbing. However, get good advice before purchasing rigid crampons. They have limited application to the mountains so, if you want a crampon that will work in both mediums choose carefully. Be sure they fit your boots. Crampons with step-in bindings should be used only with plastic boots or leather boots with soles designed specifically to accept heel and toe bails.

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

Carabiners – 2 locking carabiners.

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

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.) Devices like the ATC XP, Trango Jaws, and Petzl Reverso work well with the smaller diameter and often icy ropes that go with ice climbing.

PERSONAL GEAR

Trekking Poles – These are optional, but they can be very helpful on approaches that can involve deep snow and/or creek crossings. Poles with a twist-locking adjustment (as opposed to a lever, like Black Diamond models) tend to create problems in cold-weather environments.

Pack – For approaches to climbs and around the ice park a pack with 3000 cubic inch capacity is necessary. For longer routes you may want a lightweight daypack or a large fanny pack to carry those few extra items.

Sun Glasses – High quality UV protection.

Headlamp – With extra batteries (backcountry ice climbers only, not for Ouray Ice Park).

Foot Powder – Powdering your feet when you first put your boots on in the morning can help keep your feet drier and thus warmer.

Multi Tool or Pocket Knife – Leatherman Tool or Swiss army style is good.

Sunscreen – With a protection factor of at least 20 SPF.

Chapstick – SPF protection strongly encouraged.

Personal Medical Kit – For minor cuts, blisters, scrapes, etc.

Hand/Foot Warmers – Recommended for cold weather courses and for people that are susceptible to cold hands and toes. These should be small, disposable type products.

Camera – Digital cameras can work fine in cold conditions as long as you keep them inside of your coat and don't expose them to cold temperatures for long periods of time. Make sure you bring any needed chargers or extra batteries.

Food – Bring plenty of quick, high-energy lunch food. It helps to keep you warm.

Water Bottle – Two 1-quart bottles with wide mouths. Some people like to use Hydroflasks or Water Bottle Parkas from OR to keep liquids warm. It can be difficult to stay hydrated when you have to drink extremely cold water. NO Camelbacks or similar water bladders, they will freeze.

Thermos – A cup of hot cocoa, coffee or soup on a blustery day can change one's entire outlook on life.

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