



2019 EUROPEAN INSTRUCTION COURSE

EQUIPMENT LIST

Equipment Checklist

You **MUST** bring all items listed on the enclosed clothing and equipment checklist. The only exception is the items listed as optional; this is very important. Please contact us with any questions you have pertaining to equipment or clothing. At the same time, you must keep your equipment weight to a minimum.

Body Wear

- Waterproof shell jacket
- Waterproof shell pants
- Down or insulated jacket
- Lightweight fleece top
- Softshell jacket/Windshirt
- Softshell climbing pants
- Base layer top and leggings x 1 set
- Underwear

Head Wear

- Sun hat
- Warm hat
- Balaclava (*optional*)
- Sunglasses (*plus an optional spare pair*)
- Ski goggles
- Scarf, bandana or Buff

Hand Wear

- Liner gloves
- Leather gloves
- Mountaineering gloves

Foot Wear

- Socks x 2-3 pairs
- Mountaineering boots (*can be rented locally*)
- Snow gaiters (only required, if your boots do not have an integrated gaiter)
- Lightweight shoes
- Rock shoes (*can be rented locally*)

Packs & Bags

- Mountaineering pack (30–35 litres)
- Small duffel/travel bag

Accessories

- Headlamp and spare batteries
- Water bottle (1 litre)
- Thermos flask
- Sleeping bag liner (a requirement for all huts)
- Personal first aid kit and medications
- Personal toiletries
- Sun block and lip balm
- Wet wipes (*optional*)
- Ear plugs
- Stuff sacks
- Camera and spare batteries (*optional*)
- Personal entertainment (*optional*)
- Pocket knife/Leatherman/tool kit (*optional*)
- Additional snack food

Climbing Equipment

- Ice axe (55–66cm—*can be rented locally*)
- Crampons (*can be rented locally*)
- Climbing harness (*can be rented locally*)
- Climbing helmet (*can be rented locally*)
- Belay device
- Locking carabiners x 2
- Prusiks x 1 (1.5m)
- 120cm nylon sling
- Collapsible ski/trekking poles

Travel Gear

- Casual wear
- T-Shirt and shorts
- Passport, documents plus copies

Clothing and Equipment Information Guide

The following information is a guide to assist you in securing the required clothing and equipment for climbing in Europe, along with recommended brands. You may have equipment you have used which is different to what is on the list, so please read thoroughly and get back to us with any questions.

Fabrics/Garment Designs and Selection

Today there is a bewildering and ever-changing array of modern technical fabrics and garments on the market. Accordingly, suitable mountain attire can be derived from a wide variety of garments utilized in varying combinations. The clothing on our gear list can be creatively substituted according to your preferences, but ensure your choices are functional and adequate. For example, a functional and often utilized garment that does not appear on our list is a vest.

A basic principle in selecting clothing and equipment is to minimize weight and bulk, while still ensuring adequate warmth and functionality. It can be difficult to find a brand that has all the features you prefer, which means you must make prudent compromises. In the description below and for certain items, we suggest brands and specific products that we have found to be suitable; this is by no means definitive. In some cases, there are multiple suitable brands on the market and hence we do not make specific suggestions.

Appropriate fabrics used in thermal underwear include polypropylene, silk and merino wool. The only cotton garment worn during the climb is your glacier shirt. Warmer insulating materials can be made from fleece, softshell or Primaloft. Varieties of fleece include Windstopper, Wind Pro, Power Shield, Windbloc, Power Dry and Power Stretch. Be aware that fleece garments that incorporate stretch fabric take longer to dry. Softshell garments integrate stretchy nylon fabrics to increase freedom of movement, while also providing various degrees of wind and water-resistance in a 'softshell'. They are often lined with a microfleece for increased insulation. Synthetic insulation materials such as Primaloft are advantageous as they are warm even when damp, are water-resistant and quick-drying.

You can read Guy Cotter's thoughts on the ultimate lightweight layering system at <http://adventureconsultantsblog.com/optimum-layering/>

Body Wear

Waterproof Shell Jacket

Bring a non-insulated, fully waterproof shell jacket with a good hood and water-resistant zip closures. The jacket should be easy to move in with your base and mid layers on underneath, and provide a good overlap with your pants, but should not be so long that it restricts access to your harness. Chest pockets are useful to things like snack bars and sunscreen during the day. Pit zips allow for increased ventilation and cooling.

There are numerous fabrics which are both water-resistant and breathable such as Gore-Tex, eVent, MemBrain, PreCip and Entrant, etc. These fabrics can be expensive but can last for years, when well looked after.

Shell clothing should be seam sealed during the manufacturing process or the garment will leak through the stitching. Shell clothing made of PVC or similar is totally waterproof but does not breath, which means you become damp from the inside out as moisture cannot escape while you are moving. This style of waterproof shell is not suitable for mountaineering.

We recommend The North Face Summit L5 Fuseform GTX C-Knit Jacket, Arc'Teryx Alpha AR Jacket, Montane Alpine Pro Jacket or the Rab Muztag DV Jacket.

Waterproof Shell Pants

Your waterproof shell pants should have good freedom of movement to enable you to lift your legs easily, when worn with your hiking pants and base layer leggings during inclement weather. They should also have ¾ to full length zips down each leg to enable you to put them on and take them off, while wearing your boots and/or crampons.

A salopette style can be warmer as it has a greater overlap with your jacket, however, you will need to choose a model which allows you to tend to toileting easily and that the zip system is compatible with your underlying pants and base layers.

We recommend The North Face Summit L5 GTX Pro Pants, Arc'teryx Alpha SL Pants, Montane Alpine Pro Pants or the Rab Mustag DV Pants.

		
Arc'Teryx Alpha AR Hardshell Jacket	Rab Xenon X Jacket	The North Face Summit L2 Proprius Grid Fleece Hoodie

Down or Insulated Jacket

You will need a light down or synthetic insulated jacket for climbing in the Mont Blanc region or enough layers to stay warm at the higher altitudes.

Down jackets that we recommend include The North Face Summit L3 Down Hoody, Patagonia Down Sweater Hoody and the Rab Electron Jacket.

Synthetic insulated jackets that we recommend include The North Face Thermoball Hoody, Rab Xenon X Jacket, Montane Prism Jacket and the Arc'Teryx Atom LT Jacket.

Lightweight Fleece Top

A lightweight fleece made from Polartec Power Stretch, Polartec Power Grid, Polartec Alpha or an expedition weight thermal top is a good addition layer to keep your thermoregulation perfected. Wear it as your top layer when warm and then put your midweight jacket over it, when it gets colder. It can be a pullover or have a full zip. Hoods are recommended to keep in warmth and a zip chest pocket is useful for keeping sun cream and snack bars accessible.

We recommend The North Face Summit L2 Proprius Grid Fleece Hoodie, Rab Alpha Flash Jacket, Montane Power Up Hoodie, Patagonia R1 Hoody or the Arc'Teryx Konseal Hoody.

		
Rab Torque Jacket	Marmot Scree Pants	Smartwool Merino 150 Base Layer 1/4 Zip

Softshell Jacket/Windshirt (Optional)

Softshell jackets and windshirts are ideal for aerobic activity in light weather conditions. They are wind-resistant, water-repellent and highly breathable. They are used either alone or as an insulating layer under a waterproof shell jacket and models with a hood are best.

Softshell jackets that we recommend the Arc'Teryx Gamma MX Hoody, ArcTeryx Psiphon SL Hoody, Rab Kinetic Plus Jacket and the Rab Torque Softshell Jackets.

Windshirts that we recommend include the Marmot Ether Hoody and the Rab Vapour-rise Alpine Jacket.

Softshell Climbing Pants

Softshell pants are made of high-performance synthetic stretch fabrics that are resistant to abrasions and tears. They hold up extremely well to mountain abuse. They are typically water-resistant (not waterproof), which means they are breathable, shed light rain and snow, and dry quickly when they get wet, but do not replace Gore-Tex shell pants.

We recommend The North Face Summit L4 Softshell Pants, Marmot Scree Pants, Rab Spire Pants or the Montane Alpine Stretch Pants.

Base Layer Top and Leggings

Long sleeve base layer tops made of polyester, merino wool or a mix of the two are excellent. Avoid cotton, as it has no insulation and dries slowly. A zip neck design with a collar gives good temperature control. Bring two tops; one for climbing in and one for wearing in the evenings, or to double up with if you get cold.

Leggings made of the same materials as your tops are lightweight and provide a change, if your climbing pants are wet or too warm. They also provide lots of additional warmth if worn under your climbing pants, although this would generally only be required in winter.

We recommend The North Face Warm, Rab Merino, Patagonia Capilene, Icebreaker, Montane Primino and Smartwool Base Layers Ranges.

Underwear

Bring enough changes for your trip. Avoid cotton, as it has no insulation, and dries slowly. Polyester or merino underwear is warmer and dries faster if you get wet. However, a lot of people use their everyday underwear.

We recommend Smartwool, Icebreaker, Montane Primino or the Rab Merino Underwear Ranges.

Head Wear

Sun Hat

A wide brimmed soft hat or baseball cap combined with bandana to protect you from the sun. The sun is extremely strong at altitude, especially as there is less pollution in the air.

We recommend The North Face Horizon Breeze Brimmer Sun Hat, available from our office.

Warm Hat

Your hat can be wool, merino, Windstopper or fleece. It should extend over the ears and be snug enough not to fly off in a strong wind.

We recommend The North Face Bones Beanie or the Rab Logo Beanie.

Sunglasses

Preferably a "glacier" style with side protection, although some wraparound glasses provide enough protection from reflected light.

The lens should be dark enough to withstand the intense reflection from the snow and MUST filter 100% of UVA, B and C radiation. Snow reflects up to 85% of solar radiation and the UV index increases 10% with every 1,000m gain in altitude, so it is of utmost importance you protect your eyes. A Category 3 or 4 polarised lenses with an anti-fog coating are ideal.

If you wear prescription glasses, we recommend you get grey or amber prescription lenses. If you wear contact lenses, it is advisable to bring a pair of prescription glacier glasses as a back-up.

Eyewear retainers are essential and nose guards are optional.

We recommend Oakley, Smith, Julbo, Bollé and Adidas Sunglasses.

Ski Goggles

Bring good-quality goggles for sun and wind protection at high-altitude. The lens should offer visible light transmission (VLT) of no more than 30%. Those with light-sensitive eyes may wish to use a darker lens and photochromatic models are ideal for use in changing conditions.

If you wear prescription glasses, please ensure that they fit under your goggles.

We recommend Oakley, Smith, Julbo, Bollé and Adidas Goggles.

Bandana or Buff

A bandana and/or Buff are a useful addition to the cap to protect the back of your neck from the sun. A Buff makes a good face mask in windy cold weather and can replace a balaclava, when used with a warm hat.

We recommend the Adventure Consultants Branded Buff, available from our office.

		
Julbo Explorer 2.0 Sunglasses	Adventure Consultants Branded Buff	Outdoor Research Airbrake Gloves

Hand Wear

Like body wear, you'll need a few combinations of gloves for a wide variety of temperatures. Layering works well, so check the various combinations work together.

Liner Gloves

These very thin, lightweight finger gloves form a base layer and are worn whenever climbing. They can be worn on hot days to protect against sunburn or under heavier gloves or mittens on colder days.

Ensure the gloves fit closely to allow you to handle ropes and carabiners easily. Wearing liner gloves will prevent cold injuries in situations requiring full finger dexterity. They can also be worn doubled up and should fit underneath your other glove combinations.

We recommend Budget Polypropylene Gloves, available from most hardware or safety stores, Black Diamond Lightweight Fleece Gloves or the Rab Stretch Knit Liner Gloves.

Leather Gloves

A leather palmed glove that is dexterous is invaluable for days on rock or on warmer mountain days, where you still want hand protection.

We recommend the Marmot Spring Gloves, Rab Alpine Gloves and the Outdoor Research Airbrake Gloves.

Mountaineering Gloves

This glove system is very versatile as you can wear them with or without liners, depending on the temperature. A good model will have abrasion-resistant palms, shaped fingers, a waterproof outer and an insulating removable liner. Cheaper models are not waterproof, so it's worth shelling out for a good quality pair. Please ensure that you can fit your liner gloves underneath your mountaineering gloves.

Mountaineering gloves are not as warm as expedition mitts but have the advantage of being more dexterous. Because of the time that you will spend dealing with ropes and equipment, the dexterity your gloves provide will be extremely useful.

We recommend that you attach wrist loops to these gloves to prevent them being blown away by the wind.

We recommend the Black Diamond Guide Gloves, Rab Alliance Gloves and the Outdoor Research Alti Gloves.

Foot Wear

Socks

Various combinations suit different people. Some people prefer to wear just one pair of socks in their boots, while others wear two; a thicker pair over a thinner one. You need at least 3 complete sets of your personal sock system.

We recommend the Smartwool, Bridgedale and Thorlos Sock Ranges.

Mountaineering Boots

An insulated leather mountaineering boot with a fully rigid sole are ideal for climbing in Europe. Ensure they are waterproof, supportive and warm enough for snow and ice climbing. The boots must have a reasonably sized welt on the back and front to accept 'clip-on' crampons.

Three quarter shank boots do not give enough support the extended periods of snow and ice climbing. They are too flexible. This style of boot is not generally insulated either, so are not warm enough, but some styles are excellent for rock-based mountaineering routes elsewhere in the Alps.

While it is possible to use plastic boots, they have become somewhat outdated, are very clumsy to wear, and will not perform well.

New-generation synthetic double boots with removable liners can also be used for higher elevation ascents around Mont Blanc or when it is very cold. However, single leather and synthetic boots are the status quo for summer mountaineering in the Alps.

The right fit is more important with leather boots than for plastic boots, so make sure they are worn in by doing several multi-hour hikes on hills and rough terrain before you wear them in the mountains.

Your boots are perhaps the single most important piece of equipment and can make or break a trip depending on whether they fit well or not, so please ensure your boots are of high quality and fit your feet well.

We recommend the Scarpa Mont Blanc (no surprise there!) and Phantom Guide, La Sportiva Nepal Range, G5 and Trango Tower Extreme GTX, Lowa Weisshorn, Garmont Mountain Guide Pro and the Salewa Vultur Vertical Mountaineering Boots.

Snow Gaiters (Only required, if your boots do not have an integrated gaiter)

Full calf-length gaiters keep the snow out and need a good tie down system under the in-step, to stop them creeping up at the heel and allowing snow in. A Velcro or zip closure at the front is best for putting them on and removing them easily.

We recommend the Sea to Summit Alpine eVent Gaiters and the Rab Latok Extreme Gaiters.

		
Outdoor Research Alti Gloves	La Sportiva Nepal Evo Mountaineering Boots	Rab Latok Extreme Gaiter

Lightweight Shoes

Lightweight shoes are handy for walking around in at the end of the day and for the walk out down the valley. Believe it or not, a pair of Crocs can be good lightweight slippers for use at the huts.

We recommend Salomon XA Pro 3D Ultra 2, Salewa Wildfire and La Sportiva TX4 Shoes.

Rock Shoes (Optional)

Bring these if you have them, as they are used on training days or non-mountain days. If you don't own a pair, these can be rented locally if needed.

Packs & Bags

Mountaineering Pack (30–35 litres)

There are many models available which are suitable. Required features include a volume of about 30–35 litres with crampon and ice axe attachment points. Avoid trekking style packs with bulky side pockets.

We recommend the Lowe Alpine Peak Ascent 32, Deuter Guide Lite 32, and the Black Diamond Speed 30 and Mission 35 Mountaineering Packs.

Small Duffel/Travel Bag

This is for storing clothing and items left in town, while you are on the mountain. Bring a lock and if you're particularly adept at losing keys, please make sure to buy a combination lock and set to an easy to remember number!

We recommend The North Face Base Camp Duffels and Osprey Transporter Duffels.

		
Black Diamond Speed 30 Mountaineering Pack	Black Diamond Storm Head Lamp	Adventure Consultants Nalgene 1 Litre Wide Mouth Water Bottles

Accessories

Headlamp and Spare Batteries

Avoid the 'micro' or simple LED models as they have problems with battery life and light levels. High-output LED headlamps are superb as they provide an excellent level of lighting and are also very light.

Bring two NEW sets of lithium or alkaline batteries for the trip.

We recommend the Petzl Actik, LED Lenser SEO 7R or MH5, and the Black Diamond Storm or Spot Headlamps.

Water Bottle (1 litre)

Wide mouth plastic bottles are a versatile option. Bladder style hydration systems are good in theory but can often freeze and are easily punctured.

We recommend the Nalgene 1 Litre and 500ml Wide Mouth Bottles.

Thermos Flask

You can bring an insulated vacuum flask made from stainless steel of about 500ml–1 litre in capacity for hot drinks.

We recommend Primus and Lifeventure Vacuum Bottles.

		
Personal First Aid Kit	Sea to Summit Silk Sleeping Bag Liner	Sea to Summit Stuff Sacks

Personal First Aid Kit and Medications

A basic personal first aid kit is necessary including blister tape, second skin (optional), gauze pads, crepe and triangular bandages and painkillers.

Please ensure that you also bring any personal medication you require. *(Please remember to inform your guide, if you are on prescription medicine as your standard medications can be dangerous at altitudes).*

Store the first aid kit in a waterproof container or a plastic bag inside a stuff sack.

Sleeping Bag Liner (A requirement for all huts)

For use with the blankets that are supplied in the huts.

We recommend Sea to Summit Sleeping Bag Liners.

Personal Toiletries

Bring a small toilet kit—flannel, some soap, toothpaste and toothbrush. Keep it light and don't bring a full tube of toothpaste to carry around.

Sunblock and Lip Balm

Conditions can be extreme, so you will need a bottle or tube of SPF 50 sun block. Lip balm (with SPF 15 or higher) is also worth carrying in your pocket for application during the day.

Wet Wipes (Optional)

Baby Wipes or similar pre-moistened cloth wipes for personal hygiene. These antibacterial wipes are excellent for cleaning hands and other hygiene issues, whilst away from civilisation. Just a few of them in a small zip lock bag will suffice.

Ear Plugs

A handy way to get a night's sleep when sharing a room with a snorer!

Stuff Sacks

Lightweight nylon bags with draw cords to store spare clothes, etc. These are very useful for organising gear in your pack or when you're in a hut. We suggest bringing 2–3 small or medium sized sacks.

We recommend Sea to Summit Stuff Sacks and Dry Bags.

Camera and Spare Batteries

Bring along your choice of either a SLR or fully automatic camera. Be aware that batteries can be a problem with cold temperatures, so it is a good idea to bring spare sets of batteries and storage cards.

Personal Entertainment (Optional)

Feel free to bring your phone, MP3 player, Kindle or a good book for any downtime.

Pocket Knife/Leatherman/Tool Kit (Optional)

Choose the Swiss Army style, Leatherman or equivalent.

We recommend Victorinox Knives and Leatherman Multi Tools.

Additional Snack Food

Bring any personal favourites that you wish. We recommend you bring at least 4 energy gel sachets for instant carbohydrate replacement on the climb. You may also wish to bring electrolyte powder to mix in your water bottles.

Climbing Equipment

Ice Axe (55–66cm)

For general alpine climbing, you will need a straight shafted axe between 55–66cm long, depending on your height. A longer axe is more helpful on the moderate ground and even the most difficult climbs have approaches and descents for which this is helpful. Short axes with curved shafts and moulded hand grips are fine on hard technical ice climbs, but not suited to most alpine climbing.

The head of the axe should be comfortable to hold when using the axe as a walking stick and not have any protrusions which will dig into your hand.

The pick can be a normal curve or a 'reverse curve'. The reverse curve picks hold better on steep ice, but they are more difficult to self-arrest with. Some ice axes come with replaceable picks so check that the bolts are tight before each climb.

The adze is still used a lot for chopping steps in ice and snow, so must be a good angle to do so. Some adzes are too dropped to chop steps easily and instead are designed for climbing steep unconsolidated snow.

Shafts are either metal, wood or fibreglass, and some have rubber hand grips. A rubber grip at the base of the shaft makes it easier to hold when self-arresting or climbing steeper ground, as well as keeping your hand warmer. The shaft must be smooth enough to be forced into the snow and should not have protrusions which can get caught up on a crusty snow surface.

The spike at the bottom of the tool should be sharp enough to penetrate hard snow. A wrist loop is needed for support when climbing on steeper ground. The correct length allows you to hold the bottom of the shaft with the sling tight.

We recommend the Petzl Summit Evo, Grivel Air Tech Evo G-Bone and the Black Diamond Venom Ice Axes.



Crampons

A general mountaineering crampon with horizontal front points, a plastic toe harness and heel bail, and anti-balling plates are best. Check that the set-up fits securely, and the strap is long enough to fit on your mountaineering boots.

Be sure to check the heel piece of the clip-on crampon is compatible with your boots and stays in place when in the up position. If possible, practice putting on your crampons before your trip. Avoid technical ice climbing crampons.

We recommend the Petzl Vasak Leverlock Universel, Grivel G12 New-Matic and the Black Diamond Sabretooth Clip Crampons.

Climbing Harness

A sit harness is used for most mountaineering situations. The harness should be lightweight and fully adjustable around the waist and legs.

Adjustable leg loops are easier to get in and out of (important when nature calls!) when you have boots and crampons on. Do not bring a harness with fixed leg loops, which cannot be adjusted for different clothing layers.

Wear your mountaineering layers when trying a harness on to ensure it fits over all your clothing layers. Comfort is essential as you may be sitting in it for quite some time whilst belaying your climbing partner.

We recommend the Petzl Aquila, Adjama and Luna (Women's), Arc'Teryx AR-395A, Black Diamond Technician (Men's and Women's), Black Diamond Couloir and the Mammut Zephir Altitude Climbing Harnesses.

Climbing Helmet

Helmets designed for climbing are lightweight and designed to deflect falling ice and rocks. They also protect the head in a fall. All helmets must meet industry standards for impact protection, with the standard for overhead protection being greater than the side-protection standard.

There are two kinds of climbing helmets available today—hard shell helmets and shelled foam helmets. Helmet makers use different terms for each type of helmet, so focus instead on tell-tale construction details like shell hardness, foam thickness and number of vents.

Plastic becomes brittle as it ages so if you are borrowing a used helmet, then it should not be more than 4 years old.

Check the size and make sure that it will adjust for when you are wearing your hat underneath.

We recommend the Petzl Sirocco or Meteor, and the Black Diamond Vapor or the Vector Climbing Helmets.

Locking Carabiners x 2

Bring 2 lightweight locking carabiners which have either a 'screw gate' or 'twist lock' gates. Do not get the ball lock type! Whichever you choose, please practice with them with your gloves on at home.

We recommend Petzl and Black Diamond Carabiners.

60cm Sling

Bring along a 60cm sewn/tied length of sling.

Collapsible Ski/Trekking Poles

Compulsory as these are great for walking on snow or to save the knees on long days. Snow baskets are a worthy addition for when walking through deep snow.

We recommend Leki and Black Diamond Trekking and Ski Poles.

		
Petzl Meteor Climbing Helmet	Petzl Attache Screwgate Carabiner	Black Diamond Expedition 3 Ski Poles

Travel Gear

Casual Wear

Bring a selection of casual clothes to wear on the between days, when not in the mountains and at the end of the trip.

T-Shirt and Shorts

Cool clothing to wear when doing activities in the valley, e.g. trekking or rock climbing.

Passports, Documents and Copies

You will be in at least two countries when around the Mont Blanc region.

NOTE: If you found you have forgotten anything when you arrive in Chamonix, do not worry as there are plenty of stores that specialise in mountaineering equipment. Your guide will be happy to help you with any purchases you would like to make.

If you would like to rent any equipment, please let the staff at the office know and they will make sure that it is put aside for you and available for you upon your arrival. If you have any questions, please ask.
