You MUST be equipped with ALL of the required items for the outing. If you arrive without acceptable versions of ALL of the required items, you will not be allowed to participate.

- Your equipment must be properly fitted and in good working order.
- Expect a very thorough gear check, during which you will need to show the instructor every required item.
- Items left in the vehicles (or in the gear room) are NOT secure, and are NOT insured by the University! Do NOT leave keys, wallets or anything of significant value in the vehicles!
- Each participant will be expected to carry some group gear not itemized below, so please leave room in your pack.

Please note the following about the (*) and (**) symbols:

(*) Layers must be wool or synthetic fabrics. NO COTTON!

REQUIDED ITEMS

Backpacking
1. Boots - to instructor's specifications
2. Socks - two pair to wear - 2 wool or a liner and a wool (*)
3. Socks - complete change of above sock system (*)
4. Insulating layer for the legs - long pants or long underwear (*)
5. Base layer for the top – short-sleeve okay (*)
6. Lightweight long-sleeved shirt or sweater (*)
7. Thick sweater, fleece jacket, vest, etc. (*)
8. Raingear - substantial fabric, hood to ankles (**)
9. Insulating hat - must cover the ears (*)
10. Warm gloves and/or mittens
11. Sunglasses
12. Sunscreen
13. First aid kit
14. Matches or lighter
15. Nylon cord
16. Whistle - loud!

Backcountry Navigation - in addition to the above Backpacking requirements:
1. Gaiters (high type) (**)
2. One additional layer for the legs (*)
3. One additional torso layer if you get cold easily, or substitute a parka for an above torso layer. (*)

Field Leadership - in addition to the above Backpacking requirements:
1. Backcountry Navigation items 1, 2, 3

Snow Camping - in addition to the above Backpacking requirements:
1. Backcountry Navigation items 1 and 2
2. Warm parka or vest to provide 1* of torso insulation
3. One more warm hand layer – 1 pr. mittens required for outing
4. Orange pack cover and vest (**)
5. Large day pack – or use your backpack
6. Long sling and locking carabiner (**)

Avalanche Safety - in addition to the above Backpacking AND Snow Camping requirements:
1. Snow shovel (**)
2. Avalanche probe (**)

Mountaineering - in addition to the above Backpacking requirements:
1. Backcountry Navigation items 1, 2, 3
2. Snow Camping items 3 & 4
3. Side shields for sunglasses and sun hat
4. One more pair of socks

The following technical climbing gear:
Seat harness, chest harness slings, crampons, ice ax, helmet, 2 prusiks (1 l. & 1 s.) 4 biners (2 locking), 1 long sling or cord

Backcountry Survival - in addition to the above Backpacking requirements:
1. Backcountry Navigation items 1 and 2
2. Snowcamping 2 and 4
3. Optional Items 17, 20, 21, 22, 25, 26 (2 min. 4 rec.), 30, 37, 41
4. Food - two non-cooking meals (one per night)
5. 3 or 4 feet of duct tape if using 'mylar' space blanket
6. 2 gallons of water per person

Required Items

- Map(s) - must be in plastic bag such as a "Ziploc"
- Compass (**) 
- Headlamp or flashlight – LED recommended w/alkaline or hybrid NiMh rechargeable batteries
- Water (**) - liter capacity minimum - bring full
- Water purification tablets or filter/purifier
- Food - 2 breakfasts, 3 lunches, 2 dinners & snacks
- Cup and/or bowl, spoon
- Pocketknife
- Sleeping bag - 2" or greater top layer thickness
- Sleeping pad – closed cell or self-inflating insulated pad (**)
- Large pack (**)

Participants must arrange for shared access to:
28. Stove (**) & fuel – see below for required amount
29. Shelter – tent, tarp or megamid (**) w/stakes (sand)
30. Cooking pot(s), pot grips and utensils (**)

OUTING FUEL REQUIREMENTS
- 2 full days of stove use or cooking – 2 dinners and 2 breakfasts -

Canister Stove
A. BPK & FL: one small canister per person (2 oz. per person/day)
B. BCN: one large canister per person (4 oz. per person/day)

White Gas Stove
4 oz./person/day
5 oz./person/day
C. MTN: one large canister per person plus one extra small canister/group of 2 (5 oz. per person/day) 6 oz./person/day
D. SNC & AVAL: one large and one small canister per person (6 oz. per person/day) 8 oz./person/day

NOTE: We recommend that you bring a little extra fuel for use in an emergency, regardless of the fuel type.

OPTIONAL ITEMS
Some items may be required at the instructor’s discretion.

<table>
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<tr>
<th>Inner and Outer Clothing Layers</th>
<th>Outer Wear/Protection</th>
<th>Safety and Survival</th>
<th>Health and Hygiene</th>
<th>Tools and Technology</th>
<th>Hydration/Kitchen</th>
<th>Accessories and Extras</th>
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</thead>
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<tr>
<td>01 Liner socks</td>
<td>02 Plastic bags (for feet)</td>
<td>03 Camp shoes</td>
<td>04 NEOS overboots (**)</td>
<td>05 Camp shoes</td>
<td>06 Stove pad</td>
<td>07 Notebook, pencil</td>
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<tr>
<td>05 Gaiters (high or low) (**)</td>
<td>06 Additional head to toe layers</td>
<td>07 Wind shell</td>
<td>08 Mitten shells</td>
<td>08 Mitten shells</td>
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<td>09 Reading materials, notes</td>
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<tr>
<td>09 Sun hat</td>
<td>10 Clothes, food, water for van</td>
<td>11 Shorts &amp; t-shirt</td>
<td>12 Sit pad (**)</td>
<td>13 Camp shoes</td>
<td>14 Camp shoes</td>
<td>10 Work gloves</td>
</tr>
</tbody>
</table>

Minimum Gear Requirements for Excursions Away From Camp
On some outings, you may be required to pack the following kit for excursions farther than ¼ mile away from camp.

A. TO FIND YOUR WAY
- Topographic map to the instructor’s specifications
- Orienteering compass
- Headlamp or flashlight – LED light recommended with fresh batteries

B. FOR PROTECTION FROM THE ELEMENTS
- Emergency shelter - poncho, tarp, bivy sack, space blanket, etc.
- 25’ of 1/8” parachute cord to erect/stabilize shelter
- Knife to cut cord or help with building a fire
- Rain gear - head to toe
- Insulating layers in addition to what is worn for traveling comfort (synthetic or wool – no cotton):
  - Leg layer, torso layer (parka, vest, or thick fleece jacket), warm hat (must cover ears), gloves or mittens
- Sleeping pad or sit pad
- Windproof/waterproof matches/fire starting device and fire starter fuel

C. FOR SUSTENANCE/HEALTH
- Food (for energy/heat) AND water (1 liter minimum)

D. IN CASE OF AN EMERGENCY
- Signaling and marking devices (whistle required; signaling mirror a good addition to kit)
- First aid kit (including personal medications and Epipen if sensitive to insect stings, etc.)

E. RECOMMENDED – some items may be required at discretion of instructor
- Change of socks, an extra torso layer, sunglasses & sunscreen, metal cup or small pot, glowstick, camera, binoculars