

Avalanche I Syllabus

NATIONAL SKI PATROL **Far West Division – Mother Lode Region** **Pinecrest Nordic Ski Patrol**



Avalanche Level 1 (Modules 1 & 2)

January 30-February 1, 2024 (zoom classroom)

February 10-11, 2024 (Session #1 field days)

February 24-25, 2024 (Session #2 field days)

March 9 (Session #1 tour) March 10 (Session #2 tour)

Thank you for registering for the Avalanche 1 course to be held via Zoom on January 30 thru February 1. From 7:00-9:00. The field days will be held in Pinecrest, CA. Free group housing can be accommodated. The tour date will most likely be at Castle Peak – Tahoe Donner Backcountry navigation is necessary. An additional class will be offered for those not familiar with map/compass/GPS and mobile apps (CalTopo, Avenza, Gaia, etc.). You must attend all three (zoom, field, tour) days. Pick one or the other session.

Enclosed is the student pack for the course. Please make sure you review all materials before the class and complete the pre-test. This course syllabus contains:

- a preliminary weekend agenda
- important logistics (lodging, meals, etc.)
- guidelines for personal equipment.
- You may also download this information from the Pinecrest Nordic Ski Patrol (PNSP) website at <http://www.pinecrestnordic.org/av1>

Additional course information must be ordered and received prior to the course weekend:

- Staying Alive in Avalanche Terrain (required)

Order through [Amazon.com](https://www.amazon.com)

These will be emailed to you separately:

- Pre-Test
- NSP Far West Division Event Release Form (available online at the Pinecrest website as well)

All students must read the Staying Alive in Avalanche Terrain and complete the pre-test BEFORE the course (we will check your work at check-in, email to the instructors in advance). All students must sign the NSP Event Release form in order to participate in the course (you may sign this in person on the first day of the course). If you are a minor, you must have the event release form signed by your parent or guardian before the class.

IF THERE IS ANYTHING THAT YOU DO NOT UNDERSTAND OR HAVE QUESTIONS ABOUT, PLEASE DON'T HESITATE TO E-MAIL ME.

Regards, Keith Gale
keith_gale@hotmail.com

Course Coordinator / Instructor of Record

Avalanche I Syllabus

Agenda

Tuesday January 30, 2024, ZOOM: PLEASE BE ON TIME!

Email your Pre-Test and writing materials to take notes.

- 7:00 – 7:30:** Introductions and Course Overview
- 7:30 – 8:00:** Avalanche Awareness - Hazards and Characteristics
- 8:00 – 8:10:** Break
- 8:10 – 9:00:** Avalanche Triangle (Weather)

Wednesday January 31, 2024, ZOOM

- 7:00 – 8:00:** Avalanche Triangle (Snowpack)
- 8:00 – 8:15:** Break
- 8:15 – 9:00:** Avalanche Triangle (Terrain)

Thursday February 1, 2024, ZOOM

- 7:00 – 7:30:** Snow Mechanics and Avalanche Dynamics
- 7:30 – 7:45:** Beacon Basics
- 7:45 – 8:00:** Break
- 8:00 – 8:15:** Medical
- 8:15 – 8:30:** Outdoor Logistics

Saturday February 10th (Session #1) or February 24th (Session #2) 8:00-3:30

- 7:00 – 7:30:** Breakfast
- 7:30 – 8:00:** Registration/ Rental Gear distributed.
- 8:00 – 8:30:** Review (each team will take one of the Avalanche Triangle and present a 10-minute overview)
- 8:30 – 9:30:** Tour Planning
- 9:30 – 10:15:** Tour Planning Exercise
- 10:15 – 10:25:** Break
- 10:25 – 11:00:** Travel Safely in Avalanche Terrain- Principles of safe travel
- 11:00 – 12:00:**
- 12:00 – 12:45:** Lunch (review Study Guide)
- 12:45 – 1:00:** Prepare for outdoor session.
- 1:00 – 1:20:** Travel to Crabtree
- 1:20 – 1:30:** Travel to onsite round robin training
- 1:30 – 3:00:** Round Robin (Beacon, Probe, Shoveling)
- 3:00 – 3:30:** Return to PCC and undress.

Avalanche I Syllabus

Saturday February 10th or February 24th 3:30-5:00PM; 7:00-10:00

- 3:30 – 4:15:** Human Factors Presentation
- 5:00 – 7:00:** Dinner and Cleanup
- 7:00 – 7:45:** A Dozen More Turns (video)
- 7:45 – 8:30:** Tunnel Creek Case Study
- 8:30 – 9:15:** Sheep Creek Case Study
- 9:15 – 10:00:** Wilson Glade Case Study

Sunday February 11^h (Session #1) or February 25th (Session #2)

- 7:00 – 8:00:** Breakfast
- 8:00 – 8:30:** Decision tools
- 8:30 – 9:00:** Companion Rescue
- 9:00 – 9:30:** Snow Pit
- 9:30 – 9:45:** Prepare for outdoors.
- 9:45 – 10:15:** Travel to Gooseberry Trailhead
- 10:15 – 10:30:** Travel toward Stan's Bowl
- 10:30 – 11:30:** Snow Pit Analysis
- 11:30 – 12:00:** Lunch
- 12:00 – 12:15:** Companion Rescue Demonstration
- 12:15 – 3:15:** Companion Rescue Scenarios
- 3:15 – 3:30:** Return to vehicles
- 3:30 – 4:00:** Return to PCC
- 4:00 – 4:30:** Clean PCC
- 4:30 – 5:00:** Outdoor Logistics

Avalanche I Syllabus

TOUR DAY – 08 :00 CASTLE PEAK – TAHOE DONNER

We will confirm exact meeting place and directions during the week of March 5th.

Please report to the meeting place on time and ready for a full day on the snow. Pending weather and snow conditions, the field day may be re-scheduled to another subsequent weekend.

07:30 – 08:00: Boot-up/dress-up, display Day Passes for Sno-Park

08:00 – 08:30: Review objectives and trip plan

08:30 – 09:00: Travel to Trailhead. Conduct beacon check.

09 :00 – 12:00: Tour to field location: Terrain recognition; safe travel practices

12: 00 – 12:30: Lunch

12:30 – 13:00: Snow-pit

13:00 – 16:00: Return Tour to Trailhead:

16 :00 – 16:30: Debrief and return to vehicles.

17:00: Depart

All participants (*students, instructors, advisors*) are to return in teams to the meeting place at the conclusion of Sunday field exercise. Nobody will be dismissed until all teams, members, and instructors are present and accounted for at the trailhead.

NO EXCEPTIONS!

Avalanche I Syllabus

Housing

Pinecrest Field Days

Housing provided is co-ed single room located in the same facility as the indoor sessions. The Pinecrest Community Center (PCC) is essentially a former one-room school “converted” to public meeting use. Consider this a large dorm room in college.

Anyone interested, please bring your own sleeping gear (pad and sleeping bag). Individuals scatter about the 25'x40' room.

It has bathrooms, but no showers.

It has a kitchen, **but we cannot cook in the kitchen**. We can, though, heat items. The refrigerator is available.

The PCC will be opened beginning on Friday about 4PM (earlier if scheduled with Keith). You can stay both Friday and Saturday nights.

Donner Summit Tour Day March 9th (Session #1) or March 10 (Session #2)

If there is sufficient demand, we can arrange for an AirBnB for the weekend. Last time I did this, it was about \$65/person for both nights with sixteen students in one large house.

Food

Pinecrest Field Days

The course will provide a continental breakfast on Saturday and Sunday mornings.

Saturday evening, we will enjoy a potluck dinner. Those items requiring a stove/oven (as opposed to a crock-pot, or other self-contained warming item) can be given to the Pinecrest Ski Patrol and we will take them to our cabin and heat/cook those items. If kind of complicated, we can permit you to use our kitchen and return to the PCC.

Donner Summit Tour day

If we do rent an AirBnB on the tour weekend, we will conduct another pot-luck.

Avalanche I Syllabus

Transport on Snow:

- We will conduct field sessions in the Pinecrest backcountry trail system throughout the first weekend. The field session will be conducted entirely in the outdoors. Students must be equipped with either skis or snowshoes for cross-country travel over snow.
- Skiers are encouraged to use free-heel bindings (cross-country, telemark, or AT), and either use waxless-type touring skis or bring climbing skins.
- Snowshoes are recommended especially if you are not comfortable on skis. Bring ski poles and sturdy, waterproof boots if you are snowshoeing.

If you are renting gear, pick up your gear and make sure it fits and works properly **BEFORE** class starts at 8am Saturday. Please contact the course instructors if you have any questions about renting gear.

NOTE: Field sessions will take place in a backcountry, winter environment and weather patterns are unpredictable. Students must be equipped with appropriate clothing and gear to spend several hours in potentially cold and wet conditions. Students are expected to be proficient in moderate uphill and downhill travel in difficult snow conditions using their choice of gear (backcountry skis, snowboards or snowshoes). Please do not hesitate to contact the course instructors if you have any questions on appropriate gear and backcountry travel requirements.

Avalanche I Syllabus

Equipment

For the lecture sessions: dress comfortably to be in a classroom for the entire morning session. Bring a pen and paper for taking notes.

For the field sessions: dress to be outside, working, for the entire day. We will eat lunch out on the mountain, so pack a healthy lunch. Bring a backpack with enough room to carry your lunch and any personal equipment, with some extra room for group equipment. Avalanche work is strenuous activity requiring plenty of energy. Make sure you bring a good lunch and plenty of water with you. You are also likely to spend a lot of time in the snow, and are likely to get wet. Be sure you are equipped with the proper clothing to maintain comfort all day in cold, variable, and wet conditions.

We encourage participants to use their own equipment wherever possible, as this will improve their experience with that equipment. You are not expected to own all the equipment on this list, but if you have it or can borrow it, please bring it along. We have a limited supply of packable shovels and avalanche transceivers that we can loan to those who do not already own them. If you plan on purchasing one of these items, the classroom instruction and field trip will give you a chance to learn about several different options before making your purchase. You can use this page as a checklist.

Avalanche 1 EQUIPMENT LIST

Clothing (required): NO COTTON!!!

- ___ Long Sleeve Shirt/Sweater (*polypro, fleece, wool*)
- ___ Pants (*polypro, pile, wool, wool blend, ski pants*)
- ___ Warm Jacket/Sweater (*fleece, down, wool, wool blend*)
- ___ Long Sleeve Thermal Underwear (*polypro, wool*)
- ___ Beanie/Balaclava
- ___ Mittens/Gloves - 2 pair (*polypro, fleece, wool*)

Foul Weather Gear (required):

- ___ Waterproof/Water-Repellent Parka or Shell
- ___ Waterproof/Water-Repellent Pants or overalls
- ___ Waterproof/Water-Repellent Mittens or gloves

Footwear (required):

- ___ Ski Boots or well waterproofed Hiking Boots
- ___ Gaiters, optional (*calf height*)
- ___ 2 pair heavy hiking/ski socks

Transport (required):

- ___ Skis (*backcountry touring, with skins*)
- ___ Snowshoes (*MSR or similar small type*)
- ___ Ski Poles (*even if you are snow shoeing*)

Avalanche (bring it if you have it. Rental beacon available for \$25, probe/shovel \$10) :

- ___ Avalanche Transceiver (beacon)
- ___ Avalanche probe
- ___ Snow shovel

Avalanche I Syllabus

Helpful Links

There is a plethora of good information on avalanche education and awareness available on the internet. Listed below are just a few websites that your instructors find particularly useful. Lots of hidden treasures lie deep within these sites... take a few hours to browse and explore.

Avalanche Forecasts for various regions of California:

<http://sierraavalanchecenter.org> (Central Sierra, Tahoe area)

<http://esavalanche.org> (Eastern Sierra)

<http://shastaavalanche.org> (Mt Shasta)

Weather information

<http://www.wrh.noaa.gov/> (The source of most internet weather forecasts)

<http://www.wrh.noaa.gov/forecast/wxtables/index.php> (Forecast weather tables... useful!)

<http://www.nohrsc.nws.gov/> (Detailed snowpack data... pretty technical)

Incident reports and information portal for other mountain regions:

<http://avalanche.org>

<http://csac.org>

Products and training information:

<http://fsavalanche.com/> (National Forest Service Avalanche Center)

<http://beaconreviews.com> (Comprehensive data on various beacons)

<http://www.backcountryaccess.com/education-research/avi-research-and-papers/>

<http://www.youtube.com/user/AvalancheGuys> (Snow pit analysis videos - Montana)

Discussion forums (caution, not all advice here is legitimate):

<http://www.telemarktalk.com/phpBB/viewforum.php?f=2>

<http://www.tetongravity.com/forums/forumdisplay.php?f=17>