

# Avalanche I Syllabus

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## NATIONAL SKI PATROL



**Far West Division – Mother Lode Region  
Pinecrest Nordic Ski Patrol  
Avalanche I for Rescue Professionals  
March 10-11, 2016  
March 20, 2016  
Course Syllabus**

Thank you for registering for the Avalanche 1 for Rescue Professionals course to be held at Pinecrest (March 10-11, 2016) and Castle Peak – Tahoe Donner (March 20, 2016). 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:

- Snow Sense text (required)
- Staying Alive in Avalanche Terrain (optional)

Order these at: Amazon.com

These will be emailed to you separately:

- Pre Test
- NSP Far West Division Event Release Form

All students must read the Snow Sense and complete the pre-test BEFORE the course weekend (we will check your work at check-in, so either bring a printed copy or 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.

For those who prefer to travel on Friday night, lodging will be available as a courtesy at the Pinecrest Community Center (see course logistics).

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

Regards,

Keith Gale  
***Course Coordinator Instructor of Record***

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[keith\\_gale@hotmail.com](mailto:keith_gale@hotmail.com)

## Agenda: Day 1

### **SATURDAY – January 30, 2015 - 08:00 PINECREST COMMUNITY CENTER**

PLEASE BE ON TIME! The Pinecrest Community Center is located on Pinecrest School Road off Dodge Ridge Road (after Meadowview campground and before Camp Oski). Leave your equipment in your vehicles for now.

### **Bring your Pre-Test, and writing materials to take notes.**

**08:00 – 08:15:** Check-in, Check off Pre-Test, & Sign Liability Release Form

**08:15 – 08:30:** Introductions and Course Overview

**08:30 – 09:00:** (1) Avalanche Awareness - Hazards and Characteristics

**09:00 – 10:30:** (2) Avalanche Triangle (Terrain, Snowpack, Weather)

**10:30 – 11:00:** (3) Snow Mechanics and Avalanche Dynamics

**11:00 – 11:45:** (4) Stability Assessment

**11:45 – 12:30:** Working Lunch – Pre-Test Review

**12:30 – 13:30:** (7) Companion Rescue (Transceivers, Probing, and Shoveling)

**13:30 – 14:00:** Travel to Crabtree Trailhead

**14:00 – 17:00:** Field Exercise

Terrain awareness and “quick” stability evaluations

Beacon practice

Rescue organization

Probe lines

Regroup at Trail Head

**17:00 – 20:00:** Break for Dinner

**20:00 – 22:00:** Pinecrest Community Center

Human Factors

Scenario Discussion: Travel in Avalanche Terrain

Avalanche Videos

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## Agenda: Day 2

**SUNDAY – February 1, 2015 – 08:00 PINECREST COMMUNITY CENTER**

**08:00 – 09:30:** (8, 9) Organized Rescue

**09:30 – 10:00:** Drive to Gooseberry Trail Head

**10:00 – 11:00:** Travel to field location

Do beacon check en route

Terrain recognition

**11:00 – 12:00:** Snow Pit analysis

**12:00 – 13:00:** Lunch

**13:00 – 15:30:** Rescue scenario

**15:30 – 16:00:** Return to Trailhead

**16:00 – 16:30:** Return to Pinecrest Community Center

**16:30 – 17:00:** Final Debrief and Planning for Field Exercise

Clean-up

**All participants** (*students, instructors, advisors*) are to return to the Pinecrest Community Center at the conclusion of Sunday field exercise.

***NO EXCEPTIONS!!***

**During the week of March 20,** students will be required to review trip plans and report to class the following weekend with a comprehensive travel strategy based on available maps, weather and snow reports, personal and team equipment, and group make-up and dynamics. Details will be discussed at the end of class on Sunday March 11, 2016

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## **Agenda: Day 3**

**SUNDAY – March 20, 2016 – 08:00 CASTLE PEAK – TAHOE DONNER**

We will confirm exact meeting place and directions during the weekend of March 10.

**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.

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

**08:30 – 09:00:** Break into teams, gear up, and depart trailhead

**09:00 – 11:00:** Travel to field location

Do beacon check en route

Terrain recognition; safe travel practices

**11:00 – 12:00:** Snow Pit analysis

**12:00 – 13:00:** Lunch

**13:00 – 14:00:** Avalanche transceivers

**14:00 – 15:00:** Rescue scenario

**15:00 – 15:30:** Final Debrief

**15:30 – 16:30:** Return to trailhead

**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!!***

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## Logistics

### 1. Time and Location

#### **Date Location Time Class Hours Field Hours**

Saturday, March 10 Pinecrest 8am - 10pm

Sunday, March 11 Pinecrest 8am - 5pm

Sunday, March 20 Castle Peak 9am - 5pm

□ The current curriculum for Avalanche I for Rescue Personnel requires a minimum of 28 hours instruction (typically 10-12 hours classroom, 16-18 hours field) over 3-4 days. We will take advantage of our access to the Pinecrest Community Center to conduct further classroom hours on the first Saturday evening of the course, thus allowing us to complete the full curriculum in 3 days.

□ The first weekend of the course is held in Pinecrest, CA on March 10-11. The classroom component of the class will be held in the Pinecrest Community Center. The Community Center is located on Pinecrest School Rd, first right hand turn on Dodge Ridge Rd. Link to Google map: <http://tinyurl.com/pinecrest-av1>

□ Field sessions during the first weekend will be held on the Nordic trails accessed from the Crabtree or Gooseberry Road trail heads.

□ Class Registration starts promptly at 8 AM Saturday morning. Please be on time. You will be asked to check in, sign the liability waiver, and complete a Columbia Community College registration form (this helps support PNSP).

□ The second weekend of the course will take place entirely in the field, planned for Sunday, February 8 at Castle Peak/Tahoe Donner ski resort. This location offers us better access to more avalanche terrain in which to conduct field exercises.

### 2. Accommodations

□ The Pinecrest Community Center will be available to sleep in on Friday and Saturday nights of the first weekend. The center will be opened on Friday evening, at a time TBD. Class starts at the same location 8 AM Saturday.

□ NOTE: **This is courtesy accommodation.** Sleeping arrangements consist of an open floor on which to spread a sleeping bag. The community center can be noisy throughout the night - doors slamming and people snoring. Please bring earplugs and realistic expectations regarding the amount of sleep you will get.

□ There are no courtesy accommodations at Castle Peak for the second weekend's field day. If you choose to stay the night you should make your own arrangements. Groups of students have coordinated shared lodging in the past.

### 3. Meals and Cooking:

□ For the Pinecrest weekend, you will need to provide your own food (except for Saturday morning – at the start of class, we will provide doughnuts, bagels, coffee, tea, and other breakfast delights).

□ Pack lunches that can be eaten on-the-go, as there will not be time for cooking.

□ NOTE: **Cooking is not allowed** in the Pinecrest Community Center at any time.

□ For the field session, please arrive at the start time fully fed, and be sure to bring a substantial lunch for a long day out.

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## 4. Saturday Evening Meal:

- ☐ We will break for roughly 3 hours on Saturday evening for dinner. You are on your own for dinner; typically students get together at a local restaurant.
- ☐ There are numerous options around Pinecrest to eat out. The following are some PNSP favorites:
  - Strawberry Inn: 31880 Highway 108, Strawberry, CA 95375
  - Steam Donkey Restaurant and Bar: Pinecrest Lake Road, Pinecrest, CA
  - Mia's Brick Oven Pizzeria: 30040 State Highway 108, Long Barn, CA 95335

## 5. 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 crosscountry 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 or snowshoes). Please do not hesitate to contact the course instructors if you have any questions on appropriate gear and backcountry travel requirements.

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## 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 (*calf height*)
- \_\_\_ 2 pair heavy hiking/ski socks

#### Transport (required):

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

#### Avalanche (bring it if you have it. Rental beacon available for \$25) :

- \_\_\_ Avalanche Transceiver (beacon)
- \_\_\_ Avalanche probe
- \_\_\_ Snow shovel

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## 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>