

Sierra Avalanche Center
Avalanche Level 1 for Motorized Users
2021 Course Syllabus

Course Summary

This course provides an introduction to avalanche risk management for motorized users. Learning will occur through a mix of an online session and three days of field practice. This course follows the guidelines for Recreational Level 1 Avalanche Training as established by the American Avalanche Association.

Schedule

Each class will begin with a mandatory online session prior to field days. Field days will run from 9am-5pm. Instructors will communicate specific plans prior to and throughout the class. Attendance and participation in the full class is mandatory.

Course Requirements:

Participants must:

- Have the ability to ride off-trail in variable conditions. Participants who struggle to ride off-trail in variable conditions may jeopardize the experience of others - please do not overestimate your riding ability.
- Bring a functioning beacon, shovel, and probe. Beacons should be modern three-antennae, shovels should be made specifically for avalanche rescue, and probes should be 270cm or longer. Avalanche gear must be worn/carried on self, and not in tunnel bag. An extra shovel in tunnel bag is recommended.
- Wear a DOT approved helmet and weather-appropriate gear.
- Ride a reliable, well maintained snowmobile/snowbike, capable of off-trail travel. Machines must be registered with visible registration markings. Spare belts and repair kits are strongly recommended. Poorly maintained machines and/or machines not intended for off-trail travel may jeopardize the experience of others.
- Read the required materials and apply the Daily Flow and Alerts stickers to machines for easy reference while riding.
- Bring a radio capable of operating on [FRS/GMRS frequencies](#).

Required Text and Materials:

- [The SAC Daily Flow](#) user guide and video. A paper copy of *The SAC Daily Flow* book will be provided in class.
- Daily Flow and Alerts stickers, available for free at most regional powersports dealers. Additional stickers will be provided in class.
- Handouts and/or weblinks as provided.
- Due to Covid-19, all participants must wear a face covering when in close proximity to others. Consider a neck gaiter or balaclava (without nose or mouth holes) that would be appropriate for riding regardless of Covid-19.

Learning Outcomes

The successful student will be able to:

- Recognize common themes in general risk management systems.
- Demonstrate familiarity with rescue gear, including completion of a simple, untimed companion rescue scenario.
- Consider the qualities of riding partners as they relate to risk; including both avalanche and non-avalanche risk.
- Describe basic relationships between weather, snowpack, and avalanches.
- Access the SAC advisory and relate the danger rating, avalanche problem, and “Bottom Line” to potential avalanche risk.
- Based upon riding partners and anticipated conditions, create safety margins using terrain and/or timing.
- Confirm details with riding partners and use a simple plan as a group contract.
- Manage the riding group using communication techniques and spotting/spacing strategies for both non-avalanche and avalanche terrain.
- Use the SAC Conditions and Terrain Alerts stickers to maintain awareness of conditions and terrain while riding.
- Recognize the benefits of digging below the snow surface for increased awareness of the day’s conditions, and for contributing to lifelong learning.
- Participate in group discussions that link observed conditions to terrain use.
- Encourage partners to learn from each day by using daily debriefs.
- Submit observations to SAC using non-technical language and/or images and videos.

Proposed Itinerary

The exact itinerary may change, depending on weather, avalanche conditions, and other factors. Due to Covid-19, indoor classroom sessions are not planned for 2021.

Online session (pre-course reading: [The SAC Daily Flow](#) user guide and video):

- Instructor and student introductions
- Preview of proposed course itinerary and discussion of syllabus, including Covid-19 mitigation
- Where does this course fit within the American Avalanche Association’s educational matrix, and what can students expect from formal avalanche education?
- General risk management systems, and the SAC Daily Flow
- Overview of avalanche rescue
- The SAC avalanche advisory

Day 1:

- Instructor-led demo of *Before Leaving* components of the SAC Daily Flow
- *Manage Your Group* to rescue practice site. Some play riding possible in non-avalanche terrain

(Day 1 continued)

- Instructor demo of a rescue scenario
- Practice components of a single-victim rescue:
 - Group shoveling
 - Individual probing
 - Individual fine search
 - Individual search including signal, course, fine, and pinpoint
 - Group scenario including rescue organization
- Instructor-led demo of *Manage Your Group* while play riding back to trailhead
- *Debrief* day including summarize observations, and prep for next day

Day 2 – Before Leaving

- Review/Q&A, including discussion of SAC observations page from prior day
- Instructor-facilitated SAC Daily Flow: *Before Leaving*
 - *Consider Your Partners*: Consider the qualities of riding partners as they relate to risk; including both avalanche and non-avalanche risk
 - *Anticipate Conditions*: Describe basic relationships between weather, snowpack, and avalanches. Reference the SAC advisory, and relate the danger rating, avalanche problem, and “Bottom Line” to potential avalanche risk
 - *Create Safety Margins*: Identify characteristics of avalanche terrain using the Avalanche Terrain Exposure Scale (ATES). Accounting for riding partners and anticipated conditions, create safety margins using the ATES, elevations and aspects, and timing
 - *Confirm Details*: Confirm details with riding partners and use a simple plan as a group contract

Day 2 – On the Snow

- *Stop to Talk* at trailhead, including review plan, discuss group management for 1st leg of ride, and equipment check
- *Manage Group*, using communication techniques and spotting/spacing strategies for non-avalanche terrain
- *Maintain Awareness* using Conditions and Terrain Alerts stickers
- *Stop to Talk* about conditions and terrain. Discuss group management for next leg of ride
- *Manage Group*, using communication techniques and spotting/spacing strategies for avalanche terrain (if group has agreed to this during *Before Leaving* session)

Day 2 – End of Day

- *Debrief* day including summarize observations, and prep for next day

Day 3 – Before Leaving

- Review/Q&A, including discussion of SAC observations page from prior day
- Participant-led *SAC Daily Flow: Before Leaving*
 - *Consider Your Partners*
 - *Anticipate Conditions*
 - *Create Safety Margins*
 - *Confirm Details*

Day 3 – On the Snow: Repeat the SAC Daily Flow throughout day

- *Stop to Talk*
- *Manage Your Group*
- *Maintain Awareness*
 - *Conditions*
 - *Terrain*

Day 3 – End of Day

- *Debrief* day including summarize observations, debrief course