

Recreational Course Guidelines

Prepared by the AAA Education Committee

Table 1: Level 1 Avalanche Training

Program	Audience	Learning Outcomes	Core Curriculum Content	Pre-requisites	Format	Performance measures	Instructor Qualifications & Student:Instructor ratio
Level 1 Avalanche Training	*Current and aspiring backcountry travelers	<p>-Access local avalanche bulletin and learn to understand & apply.</p> <p>-Describe where and why avalanches occur. Key components for formation.</p> <p>-Human Factors. Identify & apply simple decision tools to prepare for traveling in avalanche terrain.</p> <p>-Apply risk management tools: safety equipment, trailhead checks, and communication.</p> <p>-Learn procedures for Basic Companion Rescue: Skills Practical</p> <p>-Make key observations for snowpack and weather.</p> <p>-Practice snowpack tests appropriate for the current avalanche problems.</p> <p>-Identify avalanche terrain in the field.</p> <p>-Choose terrain appropriate for the current avalanche forecast & safe travel. Link participant objectives, to terrain and avoiding Avalanche Problem.</p>	<p>Pre-Course</p> <ul style="list-style-type: none"> Consider pre-course materials and study for student. <p>Avalanche Basics & Characteristics</p> <ul style="list-style-type: none"> Avalanche types; Unstable snowpack conditions. Size classification of avalanches. Incident statistics. Terms common to: avalanches, terrain & snow. Avalanche motion: glide, turbulence, speed- dry vs. wet Identify Avalanche Problems (conditions, formation, characteristics). <p>Terrain</p> <ul style="list-style-type: none"> Critical slope angles. Terrain features, shape, size. Role of slope aspect and elevation to sun and wind. Identify avalanche start zones, tracks, and run-outs Critical terrain: traps, convexities, triggering. <p>Snowpack and Weather</p> <ul style="list-style-type: none"> Mountain snowpack development: storms, intervals. Weather events leading to formation of strong and weak layers. Basic snowpack development/change. Snow Climates; by region and within range-mountain location. <p>Information Gathering</p> <ul style="list-style-type: none"> Access and understand information from the Avalanche Advisory. North American Avalanche Danger Scale. Use of terrain/danger rose. <p>Planning, Communication & Decision-making</p> <ul style="list-style-type: none"> Terrain, Snowpack, Weather discussion for trip planning Use information to plan & prepare for field. Use of Maps/technology. Human Factors. Managing Risk. Use of decision tools, check lists, contingencies, emergency plans. Communication. Application of Plan to Field. Tour group decision making prior to travel; safe travel for conditions. Relevant observations & objectives. End of day review. Observations and reflections with group. <p>Making Relevant Observations</p> <ul style="list-style-type: none"> Field observations: Critical Red Flag Obs.; Recognizing & prioritizing Pairing appropriate observations with current avalanche problems and conditions Use of avalanche & snow pit tools: inclinometer, compass, probe, saw, shovel, and thermometer. Snowpack tests: snow pits: ID layers (hand hardness), basic grain types (strong & weak layers). Field identifying the Avalanche Problem. Informal snowpack tests while traveling. 	<p>-No formal Pre requisites</p> <p>-Strongly Recommended:</p> <ul style="list-style-type: none"> Winter Travel and First Aid Skills Avalanche Awareness or Similar Course provider's recommended reading. Pre-course work. <p>-Participants should have some experience in backcountry travel as required by Course Provider.</p>	24 hours Minimum: 60% field	<p>Attendance & participation</p> <p>Course Close:</p> <ul style="list-style-type: none"> Recommendations for further skill development. Limits of training Value of Mentors Preparation for Level 2 Avalanche Training 	<p>-Primary or lead instructor: AAA Pro Member</p> <p>-Assistants: AAA Member Affiliates</p> <p>-Continuing education within previous 4 years</p> <p>-Instructors must be excellent role models for the skills they teach.</p> <p>-Maximum 6:1</p>

			<p>Terrain and Travel</p> <ul style="list-style-type: none">• Trailhead Check (beacons/equipment)• Observant Travel/ snow, weather, terrain.• Route selection. Managing group in terrain: travel protocols & group communication.• Terrain identification. Recognize slope scale features. ID Avalanche terrain. Safe terrain choices. <p>Basic Avalanche Companion Rescue</p> <ul style="list-style-type: none">• Beacon use, probing, shoveling.• Simple one and two person burial techniques.• Incident Response-Leadership, safety, checklists. Developing a plan based upon terrain, avalanche size, and resources.• Response as an avalanche victim; As a rescuer.• Special Problems/ Common mistakes.• Role of first aid and emergency response in real avalanche rescues.				
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Table 2: Avalanche Rescue

Program	Audience	Learning Outcomes	Core Curriculum Content	Pre-requisites	Format	Performance Measures	Instructor Qualifications & Student:Instructor ratio
Avalanche Rescue	<p>*Winter recreationists that travel in backcountry settings: -Skiers -Snowboarders -Snowmobilers -Snowshoers -Winter Mountaineers</p> <p>*Aspiring Professionals</p> <p>*SAR Volunteers</p> <p>*EMS/LE</p> <p>*Courses may focus on the specific needs of a particular audience</p>	<p>-Understand and describe the importance of anticipating and knowing when you are entering into avalanche terrain.</p> <p>-Group Plan communication</p> <p>-Trailhead Checks</p> <p>-Travel Protocols</p> <p>-Understand and demonstrate: priorities & actions to take if involved in an avalanche (as a victim or responder)</p> <p>-Demonstrate effective application of search techniques by leading or participating in, companion rescue for one and two beacon burials within specified times and search areas.</p> <p>-Understand and demonstrate methods and strategies used in locating burials without beacons</p> <p>-Describe likely medical issues to anticipate once buried victims are excavated</p> <p>-Understand the need for additional medical training</p> <p>-Understand how to request EMS resources and what to expect with larger ICS responses</p>	<p>AVALANCHE RESCUE PRINCIPLES:</p> <ul style="list-style-type: none"> Survival rates and times Victim demographics and statistics Review of avalanche avoidance Escape and survival techniques if caught in an avalanche Rescuer safety/ Response Recent developments & research <p>AVALANCHE GEAR & TECHNIQUE:</p> <ul style="list-style-type: none"> Digital Beacon –multi antennae 457 kHz Standard (modern technology) Probing & Shoveling Technique Additional optional safety gear/ Response Airbags, Avalungs Helmets Recco Rescue Dogs/ Dog Handlers Organized Probe Lines <p>COMPANION RESCUE PROCESS:</p> <ul style="list-style-type: none"> Scene Safety and Size-up Communication, organization & leadership Last Seen Area (Number of Victims) Activating EMS Search Techniques (spot, Rapid Response) Transceiver Search- signal, coarse, fine Pinpointing technique - probe Non-Transceiver Search Probing Shoveling practice/techniques Trouble shooting common problems Group Management Deep Burials Multiple close proximity burials Communications Scene Size-up / Reporting <p>AVALANCHE VICTIM BASIC PATIENT CARE:</p> <ul style="list-style-type: none"> Briefly describe and anticipate common medical and trauma problems. To include Resuscitation, Hypothermia and Trauma Management <p>RECOGNIZING NEEDS AND IDENTIFYING ADDITIONAL RESOURCES:</p> <ul style="list-style-type: none"> Medical, Backcountry Transport Introduction to ICS & EMS resources Basic Helicopter operations: LZ, basic hand signals 	<p>-Backcountry Gear (minimum: beacon, shovel, probe, mode of winter travel)</p> <p>-Understanding of Basic Avalanche Awareness</p> <p>-Familiarity with appropriate backcountry travel</p>	<p>8 hours: Minimum 5 hours field time with demonstration & practice</p>	<p>Recreationists:</p> <p>-Assessment & coaching during practice and student demonstrations of rescue fundamentals and Avalanche Recue Scenarios.</p> <p>Pros:</p> <p>-Formal Assessment of rescue fundamentals will be a component of entry into pro track, Pass/Fail test</p> <p>Verification of Competency to satisfy Learning Outcomes</p>	<p>-Lead instructor must be AAA professional member</p> <p>-Instructors must provide timely and effective coaching.</p> <p>-Student/Instructor</p> <p>-Maximum 6:1</p>

Table 3: Level 2 Avalanche Training

Program	Audience	Learning Outcomes	Core Curriculum Content	Prerequisites	Course Format	Performance Measures	Instructor Qualifications & Student: Instructor Ratio
Level 2 Avalanche Training	*Advancing winter backcountry travelers with prior avalanche training and experience	<p>-Link season weather history and relevant snowpack processes to current snowpack structure and layering.</p> <p>-Use local avalanche advisory as well as other resources available - remote weather stations, reports, and forecasts.</p> <p>-Create an avalanche hazard assessment without a local advisory.</p> <p>-Prioritize relevancy of observations and snowpack tests based on avalanche hazard and problem(s) and apply at a local scale. Key record keeping.</p> <p>-Gain deeper understanding of avalanche formation, triggering, and release mechanisms, including links to Avalanche Problems.</p> <p>-Recognize and manage risk: human factors, motivations, objectives, and limitations - through planning and communication.</p> <p>-Apply tools for planning, decision-making, and travel with consideration of group risk management and awareness of safe margins.</p> <p>-Practice travel protocols and techniques to mitigate risk exposure in a variety of avalanche terrain situations and challenges.</p>	<p>Pre-Course</p> <ul style="list-style-type: none"> Review Avalanche Fundamentals Consider additional, targeted pre-course material for students to facilitate foundational topics <p>Concepts in Avalanche Hazard</p> <ul style="list-style-type: none"> Identify/review Avalanche Problems (conditions, formation, characteristics) Avalanche Character + Location(s) and distribution of the Avalanche Problems, sensitivity to triggering Integrate likelihood, exposure, consequence, and trend concepts <p>Understanding Avalanche Release</p> <ul style="list-style-type: none"> Understanding avalanche release – initiation, fracture, propagation Snowpack characteristics, and Triggering. <p>Snowpack & Weather</p> <ul style="list-style-type: none"> Relate seasonal snowpack layering to weather events/history Storms (layers) and non-storm intervals (surfaces, weak layer formation), leading Avalanche events -linking snowpack structure to Avalanche Problems Layer formation processes- fragments, rounds, facets, surface conditions Influences of wind, temperature, snowpack depth on layer formation Relevance of settlement, creep, and glide; links to snowpack stability <p>Terrain</p> <ul style="list-style-type: none"> Scale of terrain- region, range, basin, slope, features avalanche paths and specific terrain features Link terrain aspect and elevation to avalanche problems & character Identify snow cover over terrain. Snow cover distribution weak/shallow; strong/deep. Track Stability & snow quality. Use of terrain rose to illustrate and track Avalanche Character, and safe terrain with snow quality. Estimate avalanche size(s) given terrain scale and avalanche character <p>Applied Information Gathering & Planning</p> <ul style="list-style-type: none"> Review a current avalanche advisory for reference when available In lieu of (or in addition to) public avalanche forecast, identify local and internet resources for snow, weather, and avalanche information Utilize Field Book- for documenting critical Information Relate weather station data to snowpack history and current snowpack observed Identify key information and questions to consider in estimating avalanche hazard and problems Incorporate recent observations and reports to assess present conditions Identify and manage areas of uncertainty with targeted observations and appropriate terrain selection and boundaries Review and practice basic trip planning outline presented in Avalanche Fundamentals (i.e. group objectives, leadership, decision points, contingencies, and emergency plans) Use maps and map technology to identify simple, challenging, and complex terrain in local area. Anticipate terrain challenges given Avalanche Character. Plan route, objectives, and terrain options for current snowpack and weather conditions Consider communication and emergency response options for day and multi-day or remote trips <p>Communication, Teamwork & Decision-Making</p> <ul style="list-style-type: none"> Human factors revisited, identify influences of individual and group factors Communicate to identify objectives/goals (ensure <u>full</u> group buy-in), establish teamwork/roles, and manage group Consider and communicate about group goals, abilities, motivations, and 	<p>-Level 1 Avalanche Training</p> <p>-Avalanche Rescue</p> <p>-Participants must be prepared and fit enough to travel during daylight hours on touring skis, splitboard, snowshoes, or snowmobile in backcountry terrain in winter conditions for three consecutive days.</p>	24 hours Minimum: 60% field time	<p>Instructor Coaching and Feedback.</p> <p>Participation in daily trip planning and execution, including:</p> <ul style="list-style-type: none"> Relevant observations Information resources Team-based decision-making/ support tools Group feedback <p>Self Evaluation:</p> <ul style="list-style-type: none"> Identify individual strengths and limitations of skills and knowledge; identify mentors and learning tools to further develop personal skills and knowledge. <p>No Formal Testing or Evaluation.</p>	<p>-All Instructors: AAA Professional Member</p> <p>-Lead Instructor: Minimum 4 seasons as an Advanced Recreational Avalanche Instructor</p> <p>-Maximum 6:1</p>

			<p>limitations throughout the day; impacts of these factors on route and terrain selection</p> <ul style="list-style-type: none"> • Identify conditions in the field that may challenge communication and decisions • Designate and follow through with group check-ins, decision points, and timeframe for day <p>Field Observations & Snowpack Evaluation</p> <ul style="list-style-type: none"> • Target observations & snowpack tests to fill knowledge gaps and address current/suspected Avalanche Character • Identify and prioritize critical “red flag” observations of terrain, snowpack, and weather • Pertinent weather observations and trends: sky-cover, wind, temperature, solar radiation, precipitation • Additional snowpack observations: snow surface mapping, snowpack depth/distribution, settlement, note daily changes, link key weather and affect on snowpack. • Recording observations- Key concepts: Weather & snowpack obs. Drafting snow profiles • Make observations and informal tests while moving through terrain • Dig snow pits in relevant (aspect, elevation, Avalanche Problem), appropriate locations • Importance of craftsmanship and consistency for standardized observations • Snow pit practices: <ul style="list-style-type: none"> ○ Identify layers (hand hardness, strong vs. weak, suspect grain types), ○ Perform snowpack tests appropriate to conditions (CT, ECT, PST, DTT) ○ Note shear quality and/or fracture character • Interpretation of pit results and integration with other snowpack observations • Limitation of snow pits and value of multiple tests/locations to recognize patterns <p>Travel</p> <ul style="list-style-type: none"> • Recognize gaps in knowledge prior to field travel and prioritize observations needed • Trailhead Check: teamwork & communication, beacons & safety equipment. • Implement plan to field: route and trail; identify and use safer route alternatives when faced with changing or unanticipated conditions • Practice group travel protocols appropriate to terrain (spacing, one at a time, safe zones) • Group management techniques for safe and efficient uphill and downhill movement <p>End of day review:</p> <ul style="list-style-type: none"> • Observations of snowpack and instabilities, weather, terrain. Group teamwork, managing risk through the day; • Review close calls/mistakes, decisions • Reflections, learning 				
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