

SMC MOUNTAINEERING LEVEL 1 TRAINING COURSE SYLLABUS

MTN 1.1

Reference: Mountaineering: The Freedom of the Hills, 8th Edition, The Mountaineers, Seattle WA

SAFETY AND OVERVIEW

Meet and Greet Activity

Welcome to SMC

- Mission: Connect, Learn & Climb
- Membership advantages and benefits

Overview of MTN Courses

- MTN 1: Mountain campcraft, clothing, gear and equipment, navigation, routefinding and scrambling
- MTN 2: Winter mountaineering, off-trail navigation, snow shelters, bivies, physical training
- MTN 3: Ski mountaineering, expedition climbing, avalanche, medical, weather, rescue, advanced shelters and wilderness navigation

MTN 1 Learning Objectives

- Build a foundation
- Impart core knowledge
- Learn critical technical skills
- Cultivate expedition behavior (p. 470)

The Rewards of Mountaineering (p.14)

Inherent Risks of Mountaineering

- Objective Hazards (p. 488-489)
- Subjective Hazards (p. 488-489)
- Risk Management as an individual and a team member (p. 489-494)

Managing Risk (p. 485-494)

- Make good decisions (p. 492-494)
- Experience and judgement (p.15, 486)
- The role of fitness (p. 73-82)

Scope of Modern Mountaineering

- Synopsis of mountaineering history
- Expedition mountaineering
- Traditional "alpine" mountaineering
- Winter mountaineering
- Extreme mountaineering or "Alpinism"

SMC opportunities for mountain climbing

MOUNTAINEERING CONCEPTS

Rating Systems (p. 563-570)

- Class 1 – 5 (p. 564)
- Grade I-VI (p. 563)

Mountain Features (p. 86-87)

- Face
- Ridge or Arête
- Buttress
- Cirque
- Pass / Saddle / Col
- Gully / Chute / Couloir

Training for Mountaineering (p.15, 73-82)

Leave No Trace Ethic (p.15, 121-128)

Stewardship and Access (p. 129-131)

Climbing Code (p. 16-17)

MOUNTAINEERING NORTH AMERICA AND BEYOND

Local Peaks

California Climbing

Western US

North and Central America

South America

Europe: Alps

Africa: Kilimanjaro

Australia: New Zealand Southern Alps

Asia: Caucasus, Tien Shan, Karakoram,

Himalaya

Antarctica: Vinson Massif

Bonus: Where is Olympus Mons?

ESSENTIAL KNOTS

Mountaineering knots practice:

- Tautline Hitch (p. 45)
- Bowline Hitch (p. 142)
- Square Knot (p. 140)
- Figure Eight (p. 141)
- Figure Eight On A Bight (p. 141)

MOUNTAIN NAVIGATION AND ROUTE FINDING

Essential Tools and Skills (p. 92-94)

The Topographic Map (p. 84-89)

- Understanding and interpreting contour lines

- Scale and colors (p. 85)
- Correlating the map and terrain concepts (p. 89)

Understanding declination (p. 95-98)

- True north vs. magnetic north
- Adjusting for local declination

Compass features and usage (p. 92-93)

Basic routefinding concepts (p. 89-92)

Orienting a topographic map concepts and practice

- By inspection
- By compass

Navigation using bearings concepts (p. 93-99)

- Shooting bearings in the field
- Shooting bearings on the map

MOUNTAINEERING BASIC SKILLS

Wilderness Travel (p. 111-120)

- Stages of a climb (p. 112-113, 89-92, 477-483)
- Planning and preparation (p. 83, 489-494)
- Hiking with the group (p. 115)
- Rest step (p. 113-114)
- Talus, scree, brush, snow (p. 116-118)
- Streams (p. 118-120)

Scrambling (p. 211)

- 3rd class and 4th class terrain (p. 564)
- Scrambling technique (p. 214-215)
- Scrambling safety systems spectrum

Spotting concepts and demonstration

Short belay concepts and demonstration

Climbing in terrain with loose rock (p. 117-118)

- Movement as a member of a team
- Safe zones and strategy

Basecamp

- Site selection considerations (p. 47-48)
- Effective set-up concepts
- Basecamp demonstration and practice

Water (p. 62-66)

- Procurement
- Treatment options

Food and gear storage (p. 69-70)

Stoves (p. 58-62)

- Safety and maintenance
- Proper priming and lighting demonstration

Packing for a climb concepts (p. 32-34)

- Technical day climb
- Technical multi-day climb

MOUNTAINEERING CLOTHING, EQUIPMENT AND GEAR

Documents:

- SMC Clothing, Equipment and Gear List (p. 39)
- Lightweight vs. Traditional Mountaineering (p.32)

The "Ten Essentials" (p. 34-38)

- Navigation (map, compass, altimeter, GPS)
- Sun Protection (sunglasses / goggles, sunscreen)
- Insulation (puffy, storm jacket, balaclava)
- Illumination (headlamp, batteries)
- First Aid Supplies
- Fire (matches, lighter, firestarter, flint and steel)

- Repair Kit, Knife (cordage, sharp folding knife)
- Nutrition ("extra" food)
- Water (tablets, filter, purifier, stove and pot)
- Shelter (bivy, tarp, emergency bivy)
- Other essentials: signaling or communication device, ice axe, insect repellent (p. 38)

Clothing and Layering (p. 19-26)

- Shell jacket and pants (p. 24)
- Mid-layer jacket and pants (p. 23-24)
- Base layer top and bottoms (p. 23)

Footwear (p. 26-28)

- Mountaineering boots

Socks and Gaiters (p. 29-30)

Head and handwear (p.25)

Safety and Navigation Tools

- Compasses (p. 92-100)
- Maps (p. 84-92)
- Altimeter (p. 100-102)
- Headlamp (p. 36)

Ice Axes Types and Usage (p. 321-324)

- Traditional axe
- Hybrid axe
- Ice tool (p. 408-412)

Mountaineering Crampons (p. 324-328)

- Steel vs. Aluminum
- Strap systems

Mountaineering Harnesses (p. 148-150)

Mountaineering Helmets (p. 147-148)

Personal Technical Gear (p. 151-154)

- Carabiners (p. 152-154)
- Cordage / runner / leash
- Belay device

Trekking Poles (p. 113-119)

Sleeping bags and pads (p. 56-58)

Packs (p. 30-34)

- Approach pack
- Climbing pack

Stoves (p. 58-62)

- White gas vs. compressed gas (p. 61)
- Types and Uses
- Cooksets (p. 71)

Water Carry and Treatment (p. 62-66)

Tents (p. 41-45)

- 3-season, 4-season and hybrid shelters

Stuffsacks and compression sacks

Kits

- Personal / toiletries kit
- Repair kit (p. 461-462)

First-aid kit (p. 513-514)

MTN 1.2

ORIENTATION AND SAFETY

Welcome and Orientation

In case of emergency

NAVIGATION AND WILDERNESS TRAVEL PRACTICE

Interpreting the map practice

Orienting a topographic map practice

- By inspection
- By compass

Establishing a known point practice

Using bearings practice

- Shooting bearings in the field
- Shooting bearings on the map

Correlating the map and terrain in the field practice

Wilderness travel practice

- Talus, scree, boulders
- Brush

- Streams

BASECAMP

Basecamp selection and set-up practice

PEAK CLIMB

Packing for the summit

Climbing in terrain with loose rock

- Movement as a member of a team
- Safe zones and strategy

Scrambling technique demonstration and practice

- Identifying 3rd class and 4th class terrain
- Strive for efficiency
- Look and plan ahead
- Balance, position and precision

Safety systems spectrum demonstration and practice

- Scrambling
- Spotting
- Short belay

Scrambling 4th class terrain in boots and pack practice

Safe and effective spotting practice

Short belay practice

DESCENT

Downclimbing and spotting practice

More navigation and routefinding practice

Wilderness travel practice