Name: ……

Seattle Mountaineers

Glacier Travel Course

Skills Book

2024

Contents

Introduction

The Glacier Travel Skills Book contains the minimum set of techniques students must know for successful progress in the Glacier Travel Course. Knowledge beyond the skills represented here is encouraged. However, these skills are the minimum required to successfully complete the Mountaineers Glacier Travel Course.

This skills book is designed to help students and instructors track progress, and instructors are encouraged to add comments to record any feedback, observations, or reminders in the available notes sections.

The skills book is broken down by field trip and the activities and skills associated with each of these field trips. Instructors AND students are strongly encouraged to note skills that could use additional practice to ensure the best possible opportunity to develop and progress through the course.

The intent of evaluations is to ensure ALL students obtain the skills necessary to climb safely with the club and complete the course feeling confident in their skills and abilities. Our students of today can become our future instructors and leaders, helping impart their knowledge upon others for safe and efficient mountain travel, as learned in the Basic Glacier Travel Course.

Fitness Test

This is not associated with any field trips or lectures/seminars. Students have the goal to show a sufficient level of fitness by climbing Mt. Si via the new trail with 20% of their body weight or 30 lbs (whichever is higher) as a load within 2 hours (ascent). Comparable hikes may be done as long as they are around the same mileage and elevation gain as Mt. Si (8 mi. RT and 3100' elevation gain). **Passing the fitness test is a requirement to proceed with climbs. You are required to submit a track of your fitness test if you are doing this solo or with an outside group.**

If you're able to get on a timed conditioner of Mt. Si or another comparable hike with another Mountaineers group, please let the leader know you're doing your timed hike for the Glacier Travel Course and have them 'sign you off' by emailing glacier.climbing.seattle@gmail.com with your time, date and the hike.

Signoff by instructor (name, date)	Hike & Time

Field Trip #1 – Know the Ropes: Knots, Prusiking, Coils

We will be practicing and testing these skills at the first field trip. Please come prepared to show the instructors these skills.

Skills	Satisfactory	Proficient
Figure Eight (Rewoven)		
Figure Eight on a bight		
Slip knot		
Runners tied with water knots		
Clove hitch		
Girth hitch		
Butterfly coil a rope		
Prusik Hitch		
Double Fisherman		
Butterfly knot Munter Hitch		
Klemheist		

Harness fit & Tying into the Rope

Skills	Satisfactory	Proficient
Harness properly fitted per manufacturer		
Helmet properly fitted per manufacturer		
Inspect partner harness and tie-in		
Identify non-load-bearing parts of your harness		

Rope Management and Prusiking

Skills	Satisfactory	Proficient
Prusik set tied and adjusted for climber's height		
Chest Prusik backed up every 6'-10'		
Prusik up and down the rope dropping a backpack		

Instructor Name: _____

Notes

Field Trip #2: Rappelling

Rappel

Skills	Needs Impr.	Satisfactory	Proficient
Partner checks Evaluating Anchors			
Safe assembly/ use of the personal anchor system for rappel			
Safe assembly/use of rappel extension			
Safe assembly and use of autoblock			
Use of rappel commands			
Confirmation of stopper knots on rope			
Rappel safely, in control with device			
Rappel while wearing a pack			
Demonstrate a leg wrap on rappel			
Demonstrate a fireman's belay			
Alternate rappel method (Carabiner Brake) demonstrated on ground			
Alternative rappel method (Carabiner Break) demonstrated on the wall			

Concepts and Discussion	Satisfactory	Proficient
Discuss the reasons for alternative rappel		
Discuss extension - why we use this		

Instructor Name: _____

Notes

Field Trip #3: Crevasse Rescue 2:1 Drop Loop

Skills	Needs Impr.	Satisfactory	Proficient
Minimum slack in the rope when traveling as a team			
Arrest the fall as a team			
Probe for crevasses when approaching the middle person			
Build a two-piece anchor with at least one deadman			
Guard any anchor at risk of failure			
Keep all team members anchored at all times			
Meaningful and minimal communication			
Ensure the friction hitch is backed up			
Ensure the pull rope has a break			
Rope management while hauling patient			
Ensure the crevasse lip is padded			
Approach the crevasse, communicate with the patient			
Completes 2:1 set up and is ready to haul patient			
Complete patient rescue to Crevasse lip.			

Concepts and Discussion	Satisfactory	Proficient
When would a rope team use a 3:1 raising system?		
Describe some ways to improvise a snow anchor		

Instructor Name: _____

Notes

Field Trip #4: Snow: Snow Travel Basics (1/4)

Practice and Evaluation of Skills during Snow Field Trip

Skills	Needs Impr.	Satisfactory	Proficient
Assess surrounding terrain before traveling on snow			
Step kicking			
Walking in balance			
Plunge stepping			
Self-belay grip			
Self-arrest grip			
Low dagger position			
High dagger position			
Practice clipping through pickets			

Concepts and Discussion	Satisfactory	Proficient
Discuss the pros and cons of using a leash with your ax		
Discuss route selection strategy for snow travel		
Identify some avalanche terrain traps in your area		
Discuss options for the distance between roped climbers		
How much slack should a team have in the rope?		

Instructor Name: _____

Notes

Snow FT: Self-Arrest (2/4)

Skills	Needs Impr.	Satisfactory	Proficient
Assess run-out before each slide			
Self-arrest w/o ax, using hands/arms only			
Start with head uphill / face down			
Start with head uphill / face up			
Start with head downhill / face down			
Start with head downhill / face up			
Practice all positions on slopes of increasing angle			
Rope-up and practice team-arrest (time permitting)			

Concepts and Discussion	Satisfactory	Proficient
What is more important: self-arrest or not falling?		
Is it always possible to self-arrest, on any slope?		
What terrain conditions make self-arrest more difficult?		

Instructor Name: _____

Notes

Snow FT: Glissading (3/4)

Skills	Needs Impr.	Satisfactory	Proficient
Assess run-out before glissading			
Proper body and feet position			
Proper ice ax position and grip			
Roll into self-arrest to the left side			
Roll into self-arrest to the right side			
How to regulate speed and braking			
Practice glissading on slopes of increasing angle			

Concepts and Discussion	Satisfactory	Proficient
Why would you not glissade on a glacier?		
Why would you not glissade with crampons?		

Instructor Name: _____

Notes

Snow FT: Crampon Technique (4/4)

Skills	Needs Impr.	Satisfactory	Proficient
Assess terrain and decide whether crampons are needed			
Ensure crampons are properly fitted to boots			
Walk with all points on the surface			
Practice duck walking on slopes of increasing angle			
French technique			
German technique			
American/hybrid technique			

Concepts and Discussion	Satisfactory	Proficient
Are crampons always needed for snow travel?		
What are some dangers associated with crampon use?		
Discuss reasons both for and against the use of crampons		

Instructor Name: _____

Notes