**Avalanche and Snow Science Workshop.
*Putting theory into practice.***

**Certificated by Swiss Mountain Training levels 1 & 2 and run in collaboration with the European Avalanche School.**

**Designed for active ski tourers, off piste skiers and snow boarders.**This is a comprehensive 5-day course to prepare the student for independent travel in avalanche terrain. We examine the avalanche phenomena and how by careful risk assessment we can minimise our exposure to the avalanche.
A notable addition to this course is that we look in depth at the snowpack and how to document and analyse the snow. This knowledge enables us to have a deeper understanding of the snowpack and gives us the tools to continue to learn about the developments of the snowpack.

**Instructors:**

Terry Ralphs, Steve Jones. IFMGA mountain guides, SMT instructors.

**Venue:** Leysin, Switzerland. **Date:** 18th to 22nd January 2021, 5 days.

**Ratio:** 1:4 (minimum) 6 (maximum) students per instructor.

**Cost:** CHF895 (not included: cancellation and medical insurance, accommodation and ski pass).

**Programme** (Presentations in bold)

Day 1.

Introduction: experience/ expectations of students. Course aims and outline.

*Theory*
**Case study- setting the scene
The avalanche phenomena -**unstable snow types, slope, trigger
**Avalanche Rescue. Essential rescue theory and equipment.
Rescue video**

*Fieldwork*

Transceiver check protocol

Observations re. avalanche hazard evaluation.

Terrain: estimating slope angles

Avalanche rescue practical: Single and multiple burials. DVA search, probing and shovelling.

*Review*

Companion rescue procedures. Discussion: other specialist equipment, ABS and the human factor.
Avalanche and weather bulletin.

Day 2.

*Theory***Weather observations and their relevance to avalanche hazard.
European Avalanche Hazard scale, interpreting avalanche bulletin/ weather forecast
Assessment and decision framework 3X3. White risk app and web resources.
Understanding basic snow science
Planning and preparation**

*Fieldwork*

Key avalanche hazard observations. Are conditions as you expected?

Group management: Transceiver/equipment check. Organisation on/off piste. Group dynamics.

Snowpack analysis and snow stability tests (compression/ shear tests) NB spatial variability

*Review*Plot snow profile and summarise data. Discussion: How does this fit into the bigger picture?

Planning: Avalanche bulletin and weather forecast.

Day 3. *Theory***Weather Systems and Snow characteristics - maritime & continental climates, seasonal progression of snow, effects of climate change**
**Avalanche terrain, recognising avalanche start zones, paths and runout zones.
Heuristic traps
Planning and preparation overview***Field work*Group and risk management
Further snow profile and stability tests
 *Review.*

*S*now profile analysis and avalanche risk forecast for the next day
3x3 planning for the next day: Avalanche bulletin & weather forecast. Information from mapping, guidebooks, local knowledge.

*Day 4.*

*Theory***Planning and preparation**

 *Fieldwork -* SKI TOUR practical application of 3x3 decision making framework.

Local evaluation: weather observations, visibility, warning signs, avalanche problems? Terrain and human factors? Is the tour appropriate? Revise plan if necessary.
3x3 checklist on arrival and on each slope. Conditions, terrain, human factors. Do assumptions match reality?
Group management and risk evaluation

*Review*

Trip evaluation: were there any surprises? Anything you would do differently next time?Planning for off piste skiing day: Avalanche bulletin & weather forecast. Information from mapping, guidebooks, local knowledge.

Day 5.

*Theory***Planning and preparation**
**Rescue video review**

*Fieldwork -* OFF PISTE practical application of 3x3 decision making framework.

Local evaluation: weather observations, visibility, warning signs, avalanche problems?
Terrain and human factors? Are our planned runs appropriate?
Group management and risk evaluation
Rescue scenario

*Review/debrief*

Tour and rescue evaluation.
Course debrief.