



CYPRUS MOUNTAINEERING CLIMBING AND
ORIENTEERING FEDERATION

SPORT-CLIMBING SINGLE PITCH COURSE (SSPC)

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COURSE HANDBOOK

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1 OVERVIEW

1.1 Definitions

<i>CMCOF/ Κ.ΟΜ.Ο.Α.Α.Π</i>	Cyprus Mountaineering Climbing and Orienteering Federation/ Κυπριακή Ομοσπονδία Ορειβάσις Αγωνιστικής Αναρρίχησης και Προσανατολισμού
<i>CTC</i>	Climbing Training Commission
<i>UIAA</i>	Union Internationale des Associations d'Alpinisme (International Climbing and Mountaineering Federation)
<i>CCI</i>	Cyprus Climbing Instructor
<i>SSPI</i>	Sport-Climbing Single Pitch Instructor
<i>RCI</i>	Rock Climbing Instructor (Single-Pitch, Multi-Pitch and Adventure climbing)
<i>SSPC</i>	Sport-Climbing Single Pitch Course
<i>Providers</i>	The persons who will execute the course
<i>Sport Climbing</i>	Lead climbing with rope where the only means of protection you need to place are quickdraws. The bolts are already pre-placed in the rock.
<i>Single Pitch</i>	Single pitch climbing routes can be up to half rope length (around 30 meters) and have an anchor set up at the end. Once the climber reaches the anchor, the belayer lowers him/her down.

1.2 Preface

This handbook contains information for the Sport-Climbing Single Pitch Course (SSPC). It is prepared by the Climbing Training Commission (CTC) of the Cyprus Mountaineering Climbing and Orienteering Federation (CMCOF).

This is an entry course for climbing outdoors with safety, on natural rocks.

Climbing is a highly technical sport, and the safety procedures developed over the years of practice, is an essential part of the sport. These procedures made climbing a sport that can be enjoyed in high safety margin, and in essence a sport that everybody can enjoy.

This course will provide participants with all the necessary skills and knowledge, to go out (without supervision) and climb safely on all organized sectors of the island and abroad.

1.3 Organized Sport climbing sector

An organized sport climbing sector is any sector at which routes have been created using permanent bolts and anchors, and there is sufficient information about the routes, such as difficulty, length, anchor type, etc.

1.4 Acknowledgments

Grateful thanks are due to the UIAA for providing source material.



2 COURSE OVERVIEW

2.1 Aim of the course

The basic aim of the course is to instruct and train the participants in the basic climbing and safety techniques of **Sport-Climbing Single Pitch**.

Upon completion of the course, the participants will be able to climb autonomously, with the highest possible safety, at any organized Single Pitch Sport Climbing sector. Attention given and focused on the safety aspect of the climbing partnership through knowledge at all levels.

An important target is the understanding of the climbing environment and the dangers of rock climbing.

Furthermore, the creation of self-confidence is emphasized, as well as the guidance and training for the improvement of each participant's level.

2.2 Prerequisites for the course

To be eligible to participate on the course candidates must satisfy the following minimum prerequisites:

1. Be 18 years old or older. (In case of minor, it is advised to attend with legal guardian)
2. Be in good general health
3. Have a spirit for adventure
4. Love the outdoors
5. Willing to follow instructor guidance

2.3 Required Equipment List for the Course

The Climbing Instructor will provide all gear, **except for climbing shoes**.

Throughout the course, participants will learn which equipment is essential in order to climb autonomously post-certification.

It is recommended that students purchase necessary climbing gear after the first few days of the course, or upon its conclusion. This will be more efficient for the student.

2.4 Duration of the Course

The duration of the course will be 48 hours (about six days). Full analysis can be found in Appendix I.

2.5 Course Provider to Candidate ratio for the SSPC

2.5.1 Course Provider

The Course provider is CCI (Cyprus Climbing Instructor) registered at the registry of the CTC (Climbing Training Commission).

For this course the CCI must be registered as SSPI or RCI.

The CCI training and qualification is accredited with the Mountain Qualification Label (MQL) awarded by UIAA Training Commission.

2.5.2 Instructor to students' ratios

The students to instructor ratios should not exist six (6) students to one (1) instructor.

3 COURSE CERTIFICATION

The students will be validated at the end of the course.

If the validator concludes that the students have solid knowledge of the course material and show competence of climbing autonomously, then they will receive a certification.

3.1 Validator

The validator can be the Course Instructor, or any other CCI registered in the CTC that has the same qualification or higher than the course provider.

3.2 Validation process

The validation will take place on the last day of the course, and the student will receive the certification paper upon demonstrating competence and a comprehensive understanding of the safety processes surrounding the subject matter, to the instructor/validator's satisfaction.

Note: The student and instructor can agree upon an alternative validation date if it better serves the students' needs.

4 COURSES CURRICULUM

The following sessions consist of the curriculum for the Sport Climbing Single Pitch Course.

Each session analysis is at the Appendix I.

Session SC 1: Theory on environmental topics, history of climbing and analysis of climbing, Climbing Terminology

Session SC 2: Climbing equipment

Session SC 3: Mountaineering and climbing ethics

Session SC 4: Knots and Hitches

Session SC 5: Permanent bolts and anchors in sport climbing sectors

Session SC 6: Forces in climbing

Session SC 7: A holistic approach to climbing

Session SC 8: Abseil trial/experience

Session SC 9: Climbing on top rope and basic belaying

Session SC 10: Climbing on Lead and advanced belaying

Session SC 11: Problem solving and safety procedures

Session SC 12: Setting top rope considerations and safety issues

APPENDIX I – Course Session Details

Session SC 1:	Theory on environmental topics, history of climbing and analysis of climbing, Climbing Terminology
Location:	Class or climbing sector
Equipment:	All climbing gear
Goal:	Participants to understand the environment that they will act on during the course, and all old and modern considerations about it.
Overview: Environmental topics: - Where can we go climbing, and the diverse environments we will meet, with their particularities (mountain, seaside, riverside). - Legislation – where can we park, camping, fire, military compounds, rivers. - Protection of the environment, how can we minimize the impact related the human factor, e.g. Toilet, Leave No Trace. - Protection of birds inhabiting the rocks – nesting periods, etc. History topics: - History of climbing in Cyprus and abroad. - Understand what sport/athletic climbing is. Climbing styles: - Free – Aid: Differences and what each type includes. - What is Sport Climbing. Reference to and description of all types of climbing (Adventure (Traditional), Bouldering, Roped Solo, Free Solo, Sport) and their difference to Sport Climbing. - The role of climbing in Mountaineering. - Via-Ferrata. Climbing Terminology: - Lead Climbing, Top Rope, freeing a route, red point, flash, on-sight. - Belayer, Climber, what is a single pitch, bolts, anchors, slack, down climbing, rappel/abseil. - Overhanging, slabs, vertical rocks. - Communication between climbing partners. - Grading in Sport Climbing, use of the grades by the climber.	

Session SC 2:	Climbing equipment
Location:	Class or climbing sector
Equipment:	All climbing gear
Goal:	Participants to understand and learn terminology used in climbing and recognise climbing equipment.
Overview: Climbing equipment: a. Climbing Rope. • Kern mantle (Sheath and core). • Static and dynamic. • Single, double, twin. • Dry / Wet. • UIAA / CE Certification (and meaning). • Strength. • Certification (EN 892 / UIAA 101 / ISO) and meaning. • Sheath slipping / sheath percentage and what it concerns us. • UIAA drop test (80 kg / fall factor 1.7). • Collecting and packing the rope, rope bags. • Rope middle – detection, marking from manufacturer. b. Helmet. • Types. • Certification. • Wearing and adjusting. • Helmet replacement. c. Climbing Harness. • Types/Certification/Production details. • Wearing and adjusting. • Use of the various points and strengths. • Replacement. d. Slings and Cords. • Nylon Slings • Slings from synthetic materials (dyneema, spectra, etc.) • Cords(materials, strengths, sizes) e. Carabiners • Locking and Non-Locking carabiners. • HMS, D-shape, Oval, special carabiners. • Strengths and use of each type. • When is their strength reduced (cross loads, wide loads, 3-way loads). • Maillon Rapide/Quick link. Markings, strength, choice.	



Session SC 2:	Climbing equipment
f. Belay devices without brake assistance. • Tuber: all types. • Characteristics, advantages – disadvantages. • Tuber and HMS carabiner relevance. • Why we don't use a D-shape carabiner with the tuber. g. ABD Assisted Braking Devices. • THEY ARE NOT AUTO-BLOCKING. • GRI – GRI, SMART, CINCH, CLICK UP, and others. • Device and carabiner relevance. VERY IMPORTANT for correct functionality! h. Climbing Shoes. i. Quickdraws • Types, analysis of each part. • Carabiner and Sling relevance. • Markings. • Manufacturing details and correct use. • Strength. • Wear from use and replacement.	

Session SC 3:	Mountaineering and climbing ethics
Location:	Class or climbing sector
Equipment:	Books, photos, texts.
Goal:	Participant to understand why ethics are important and follow them.
Overview: a. We do not chip/alter existing holds or create new ones. b. We do not interfere on already existing routes. c. We respect wildlife and keep away from bird nests. d. Respect the environment.	

Session SC 4:	Knots and Hitches
Location:	Class or climbing sector
Equipment:	All climbing gear
Goal:	Participant to learn how to tie any of the knots efficiently.
Overview: a. Figure of eight to tie in (follow-through). b. Figure of eight on a bight. c. Ring bend tie in. d. Stopper knot. e. Clove hitch, with one or two hands. f. Munter hitch, with one or two hands. g. Mule knot. h. Fisherman's knot (single, double, triple). i. Hitches – French Marchard (double direction), single direction hitches (optional)	

Session SC 5:	Permanent bolts and anchors in sport climbing sectors
Location:	Class or climbing sector
Equipment:	All climbing gear
Goal:	Participant to understand safety issues and dangers arise from bolts, and how to keep its self-safe while on rocks.
Overview: a. <u>Bolts</u>: different types, their characteristics, what the climber must look out for (rust, right placement, if the nut is tight, etc.). b. <u>Anchors</u>: i. The right use of the anchor by the climber, techniques for the longevity of the anchor by using a quickdraw for lowering, lowering slow (friction, temperature, higher wear-off). ii. Anchor types and their characteristics, advantages and disadvantages of each. iii. Anchors with and without carabiner for lowering.	

Session SC 6:	Forces in climbing
Location:	Class or climbing sector
Equipment:	All climbing gear
Goal:	To understand what gear to buy, so that they are safe.
Overview: a. Measurement Unit NEWTON, what it means. b. Constant weight, changing weight, e.g. Top rope and Newton. c. Fall Factor. iv. Mathematical calculation, the values and what they mean. v. When the maximum is and what happens in reality. vi. Forces in a single pitch environment. vii. What happens to our rope and what action we should take. d. Peak impact force. Meaning and what information we can get from the values. Why it is good to know.	

Session SC 7:	A holistic approach to climbing
Location:	Climbing sector
Equipment:	All climbing gear
Goal:	Essential knowledge around climbing
Overview: a. Technique on overhangs, vertical and slab rock. b. Bouldering. c. Strategy, tactic and goals in sport climbing. d. Psychology – a very important parameter in climbing. e. Pregnancy, nutrition, avoiding injury/rehabilitation.	

Session SC 8:	Abseil trial/ experience
Location:	Climbing sector
Equipment:	All climbing gear
Goal:	Participant to get an idea what an abseil is. Is not to learn it, just to understand what it is.
Overview: a. Approach and tethering to the anchor/abseil station. b. Use of descender, rope placement in the descender and attaching the descender to the harness. c. Abseiling on a single rope with supervision, back-up belaying by instructor. d. Abseiling on a single rope with a brake (e.g. prusik, friction hitch). The instructor surveys and gives instructions, but the student rappels on his own. (optional transition) e. Using the descender and the brake with a nylon sling (advantages/disadvantages) or using a specialized tether. f. Checking the system and the brake. g. Moving the weight from the tether to the descender. h. Executing the abseil/rappel.	

Session SC 9:	Climbing on top rope and basic belaying
Location:	Climbing sector
Equipment:	All climbing gear
Goal:	Participant to understand what climbing is, and climb in real life, as safe as possible, on top rope, learning all the necessary skills to keep him and his/her partner safe.
Overview: a. Climber – Belayer preparation. b. Partner check/Self check. c. Communication. d. Climbing – movement on the rock and technique. e. How to take in slack for greater safety due to the length of the rope in the belay system. f. How to catch a fall in a top rope scenario. g. How to take in slack in the system. h. Lowering of the climber. i. Top rope belaying with a non-assisted braking device. j. Top rope belaying with an assisted braking device.	

Session SC 10:	Climbing on Lead and advanced belaying
Location:	Climbing sector
Equipment:	All climbing gear
Goal:	Participant to progress its climbing in the lead environment, learning all the advance techniques required to keep the climbers safe, to enjoy the activity.

Overview:

- Learning the correct placement of quickdraws on bolts and rope to the quickdraws. Consequences of wrong placement.
- Evaluating the route's dangers – falling, rope position relative to the climber's legs, length of the fall depending on the distance of the climber to the last quickdraw, landing spot after a fall. Role of the rock's face and angle on this subject.
- Tying in to the rope by the climber.
- Climber preparation – placing of the necessary gear on the harness.
- Communication.
- Partner check/Self check.
- Free climbing styles: on sight, red point.
- Climbing – movement on the rock and technique, placing quickdraws on the bolts and rope in the quickdraws.
- Placing the rope in an anchor with a carabiner (with gate). Or placing a quickdraw instead of using the carabiner, in order to reduce the wear to the anchor's carabiner.
- Communication and preparation to be lowered to the ground using a tuber.

Advanced belaying:

- Spotting position.
- The first three bolts and the dangers. Special precautions to take.
- Dynamic belaying and correct braking/catch of a fall.
- Weight difference between climber and belayer, problems and solutions.
- Communication.
- Belaying the lead climber with a non-assisted braking device.
- Belaying the lead climber with an assisted braking device.
- Lowering the climber with a tuber, lowering speed, heat and wear on the anchor.
- Experience – knowledge and skills the belayer needs to master.
- Severity of the belayer's role.

Session SC 11:	Problem solving and safety procedures
Location:	Climbing sector
Equipment:	All climbing gear
Goal:	Participants to understand and know how to efficiently and safe solve unforeseen situations that might arise while climbing.

Overview:

1. Retreating from a route.
 - a. Retreating from a glue-in bolt or expansion bolt.
 - b. Redundancy matters of retreating from a single bolt and solutions.
2. Learning to pass the rope through and anchor with a closed carabiner gate.
 - a. When the rope fits double.
 - b. When the rope doesn't fit double.
3. Unlocking and locking the belay device in different situations when belaying the climber.
 - a. Learning to lock and unlock the belay device.
 - b. Learning to solve the problem caused by a knot in the rope while belaying.
4. Clip stick
 - a. Learn correct use on ground and when.
 - b. Learn correct use while on route, hanging from a bolt.
5. Via-Ferrata (introduction). (optional)
 - a. Introduction to the basic principle of being tied in on two points.
 - b. Tethering to a rope (vertical, diagonal or horizontal) with or without a brake.
 - c. Passing a knot or a bolt/support structure.
 - d. Ladders.

Session SC 12:	Setting top rope considerations and safety issues
Location:	Climbing sector
Equipment:	All climbing gear
Goal:	Participants should master setting top ropes for themselves, and how to clean the anchor safely.
Overview: - Matters of double safety/redundancy and wear of the anchor. - Placing a top rope with a locking carabiner on the anchor. - Placing the top rope through the anchor's carabiner and leaving the quickdraw on the previous/last bolt. - Placing the top rope through two opposite facing quickdraws, one on each bolt of the anchor. - Placing a top rope on an anchor resulting in high friction and how to eliminate it. If this isn't possible then top rope climbing is bad for our rope and possibly even dangerous. - Placing the top rope on traversing or overhanging routes. Safety matters for climber and belayer. - How to clean the anchor based on the setting configuration of it.	



APPENDIX II – Program Details [Template]

SPORT-CLIMBING SINGLE PITCH COURSE

Course Provider:

Qualifications of instructor:

Course Details:

	Date	Time	Duration	Sessions	Location
Day 1					
Day 2					
Day 3					
Day 4					
Day 5					
Day 6					
Day 7					
Day 8					

* All The above information may change before or during the Course duration

Session SC 1: Theory on environmental topics, history of climbing and analysis of climbing, climbing terminology

Session SC 2: Climbing equipment

Session SC 3: Mountaineering and climbing ethics

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Session SC 11: Problem solving and safety procedures

Session SC 12: Setting top rope considerations and safety issues

Course Cost:

Provider Contact Details:

Application Submission: By email

Application Deadline: