Rope trails

A

MORE THAN YOU THINK

History

It is unclear where and when the first ropes course was created. Obstacle courses have been used by the military to train soldiers as far back as the ancient Greeks. These courses, however, were primarily used for the training of extremely fit individuals and not necessarily aimed at the development of the whole person as is common practice on ropes courses today. The use of belay and risk management systems on such courses was limited or often non-existent.

Many practitioners cite Georges Hébert as the originator of the "modern" ropes course. A French naval officer in the early 1900s, Hébert developed his own method of physical education, apparatus, and principles to train in what he called the "Natural Method," which included the development of physical, moral, and "virile" qualities in an outdoor environment. Drawing from his naval background, Hébert patterned some of his obstacles on obstacles found on the decks of ships. "Hébertism" grew during and between the World Wars, becoming the standard for physical education training for the French military. Many ropes courses and challenge course programs in French Canada and Europe are still known as Hébertism courses today.
Marble, Colorado, the site of the first Colorado Outward Bound course, is cited by many as the location of the first ropes course in the USA, although this is highly unlikely. Patterned after a military obstacle course and similar to the course in use at the Outward Bound school in Aberdyfi, Wales, the course was constructed of hemp ropes. Belay systems were minimal or non-existent.

Since the 1980s, ropes course sophistication has evolved considerably. Modern ropes courses incorporate sophisticated belay and safety systems using wire rope, friction devices, and climbing harnesses to manage what before were unmanaged risks. Recent technological advances in pole hardware and climbing equipment along with industry-accepted installation and design practices have greatly reduced the risk to end users and to the natural environment. Modern courses make use of a variety of materials other than trees, including utility poles and steel structures. Today’s courses can be found in a variety of locations, including wooded areas, open fields, or inside heated buildings.

A recent trend of themed courses (e.g. ropes course meets Disney World) has created a whole new genre of challenge course aimed at recreational pay-to-play users. New, mobile high ropes courses (originally designed by Jim Liggett of Ropes Courses, Inc.) and climbing walls built on flat bed trucks have made challenge courses more readily available to the public for recreational purposes and are generating increased publicity. Recent estimates by builders on the ropes-online listserv estimate that there are more than 7,500 challenge courses in the USA and that an additional 200 to 400 are built each year.
Adventure Parks with a more recreational-orientation are booming in Europe and awake a great interest in the USA and around the globe. They are usually designed for a larger volume of visitors and the Forest Adventure Park is very popular. They do not follow a specific educational concept, but see the individual, physical and mental challenge as a predominantly recreational activity. Neither climbing techniques nor special/specific physical fitness experience are necessary. Typical slogans are: Have fun, Test your Courage and Overcome your Own Fears. In an Adventure Park, the participants independently run a variety of trails of increasing difficulty levels. Each trail consists of several poles or trees that are connected by different acrobatic elements.

A High Course can be a pre-fabricated course, built of utility poles, cables, and bolts, that is built by a contractor, or it can be a course that is hand built in a wooded area, where ropes and wire are attached to different trees.

Ropes courses can be
STATIC,

DYNAMIC,

VERTICAL,

AND M-BELAY.

Static course, participants are attached to an upper wire, belay cable, with lanyards (ropes and carabiners) for safety. If the participant dangles, they will be caught by the wire.

Advantages of a static course include needing fewer facilitators, being able to get more participants up on the course at one time, and allowing participants to do multiple elements without having to be lowered and climb back up after each.
dynamic course, participants are connected to a rope, which someone on the ground will be holding onto and belaying the participant on the course. Participants on a dynamic course remain on a belay the entire time: climbing up to the element, doing the activity, and being lowered to the ground after.

vertical course is very similar to dynamic, except that the element is the climb up. Vertical courses can be: vertical obstacle courses with hanging logs, ladders, and tires or alpine towers with their unique hour-glass shape of activities.

M-Belay is the most complicated of the two, and involves to separate belays. Otherwise, it is very similar to a dynamic course.
Usually participants must sign a waiver before being allowed to participate on the course, because of the high risk of injury. Some participants may have a hard time completing the course due to its height and the physical challenge. Courses usually range from 25 feet through 50 feet tall, though some elements can reach upwards of 150 feet plus (as in the redwoods and some jungle courses). In order to climb up onto the course participants usually must climb, such as by using a cargo net or Jacob’s ladder, which could be made of rope, or an artificial climbing wall.

LOW COURSE

courses consist of a series of real and imaginary obstacles designed to challenge groups and individuals to work together to accomplish a task. The classification of low ropes courses can be further broken into several types of activities:

Cooperative Game, Socialization Activity, Ice-Breaker: a fun activity designed to reduce inhibitions and break down barriers. These activities are often not based on a defined task but on a sequence of events. Users are often placed in positions where they are encouraged to try new things that may place them outside their normal comfort zones. Examples include: name games, people to people, raccoon circle...
Group Initiative: problems involving real and imaginary ground-based obstacles (either natural or constructed) that challenge a group to pool their resources and work together to find solutions. Success is achieved only when all members have contributed to the outcome. Examples include: The Muese, Spider’s Web, Carpet Maze, Crocodile Pit, Whale Watch, Peanut Butter River, Ragging River, T.P. Shuffle, Nitro Crossing, and Group Wall.

Trust-building games: activities designed to provide members the opportunity to demonstrate their trust in other members of the group through a series of sequenced actions. Examples include: Willows in the Wind and Trust Fall.

Low Ropes Elements: a series of cables, ropes, and obstacles strung between trees or poles, 12 to 18 inches above the ground, low rope elements present tests of physical strength, stamina, agility, balance, and flexibility, and invite participants to confront such emotional issues as the fear of falling, the fear of failure, and the fear of losing control. Risk is managed by group members who assume critical spotting roles. Examples include: Swinging Balance Beam, Triangle Traverse, Tire Swings, and Mohawk Walk.
Low Ropes Courses
Using cables, ropes and wooden beams strung among trees or poles, teams explore risk taking, leadership and communication. The low ropes course adventure also highlights problem-solving, coaching and collaboration.

The low ropes elements are close to the ground so the perceived risk is low, but still challenging to complete. Participants walk tightropes, negotiate obstacles, climb walls, and pass teammates through a giant web.

Participants gradually expand their comfort zones (sometimes dramatically) and recognize fears that may block personal and professional achievement. Each challenge draws upon team members to actively support each other.

High Ropes Courses

Using harnesses, helmets, cables, ropes and wooden beams strung 20 to 50 feet high among trees or poles, teams explore risk-taking, trust and coaching. Each moment is rich with discoveries, whether you’re climbing, simply encouraging others or on belay.
Portable Ropes Courses

The portable ropes course, Team Performance Challenges, is a series of problem-solving experiences that can be transported nearly anywhere, indoors or outside. The challenges are essentially the same as those found on a low ropes course with the addition of some lower impact activities.

High Ropes Courses Overview

A series of elements and/or obstacles based 15 or more feet off the ground, making use of an overhead or static belay to protect participants. Course can be constructed inoff of a mature stand of trees, utility poles or permanent structures and may make use of any of a number of safety systems. High ropes courses present tests of physical strength, stamina, agility, balance, and flexibility, and they invite participants to confront such emotional issues as the fear of heights, the fear of failure, and the fear of losing control. Course elements can be designed to focus on individuals, partnerships, or small teams.
High Ropes Course Design Overview

Required staff-to-participant ratios for high ropes course elements vary depending on the maturity and skill level of the population served, as well as on program objectives, course design and layout, and time considerations. A minimum 4:1 participant-in-the-air-to-facilitator ratio is a common industry practice, although the actual amount of required supervision will depend on the course layout, objectives, and staff qualifications. Facilitators may be additionally responsible for participants on the ground.

Belay Management Systems

The two most common belay management systems are:

1) static
2) dynamic.

Static systems attach participants to overhead safety cables or tracks via sling lines (adjustable ropes with fasteners at the end). Obstacles on static courses are often designed as traversing activities, and the participants are always required to take an active part in managing their own safety. Once up on the course, participants generally complete several obstacles in a row before coming down by way of ladder or a dynamic element (zip line, big swing, or rappel). Participants who fall are able to self-rescue and continue through the course. Two trained staff members are generally required to supervise a group of up to 16 participants. This number will vary according to course size, layout, population, and the safety procedures implemented.
Dynamic belay courses attach a participant to a climbing rope that runs to a high anchor above the element and back to the ground. As the participant climbs, one or more persons are required to belay (manage the slack and secure the rope in the event a fall) the participant. Dynamic belay courses are frequently higher than static belay courses. Elements may be vertical as well as horizontal, and participants may be required to climb up staples to access elements of the course. Participants who fall are generally lowered all the way back down to the ground by their belayers. One trained staff member is recommended for each active participant unless time allows for other participants to master the required belay skills.

High Ropes Course Options

High ropes course elements can be installed on utility poles, mature trees, or building support structures.

Trees: Early high ropes courses were commonly built in mature trees. Although tree courses require additional annual maintenance and are vulnerable to the forces of weather and disease in ways that seldom affect indoor courses or utility pole courses, they remain the preferred choice for many practitioners because of their environmental and aesthetic appeal. Additionally, mature trees with a stable root system can provide course options that would otherwise be too costly on courses using poles or structural steel.

Utility Poles: Where trees are unavailable, utility poles provide an affordable alternative and generally range from 30 to 60 feet in height. Poles offer both convenience and the ability to fully customize the design and layout of a course. Proper spacing allows the additional convenience of modular activities that can be quickly swapped out to increase the range of available activities. Other Support Options: Many high ropes elements can be attached to building structures including load bearing walls and the roof trusses of most school gymnasiums. Free-standing courses can also be built on steel.
High Ropes Course Design Layout
High Ropes Course can be configured in a variety of ways to meet program goals.
The most common styles are:

1) Linear Courses,
2) Hub & Spoke Courses,
3) Combination Courses,
4) Stand Alone elements.

Linear Courses:
Linear courses work well for programs with high volume and the need to keep people moving. Participants begin at one end of the course and work their way through a series of elements, generally exiting the course via a Zip Line, a Big Swing, or a lower-off.

Hub & Spoke Courses:
These courses make efficient use of poles and allow participants to choose from a variety of options.
Combination Course:
These courses combine climbing towers, vertical high ropes course elements, and horizontal traverses. Horizontal traverses can be designed for dynamic-belay or static-belay systems.

Stand Alone Elements:
Courses with stand-alone elements are most commonly designed to make use of dynamic belays. Based on the Project Adventure model, events like the Flying Squirrel, Cat Walk, and Pamper Pole are each set up as individual events to be completed before the group moves on to the next element in the sequence.

8 Pole Linear Course
8 poles (optional Zip Line with 9th pole)
12-24 high elements
Static or dynamic belay
Single or double-decker layout
Cargo net, ladder, or staple climb entry
8 poles (optional Zip Line with 9th pole)
Static, dynamic belay, or combination
Single or Double-decker layout
Vertical and horizontal high course elements

8 poles (optional Zip Line with 9th pole)
Static belay, dynamic belay, or combination
Single or Double-decker layout
Cargo net, vertical element, ladder, or staple climb entry
Vertical and horizontal high elements
Grigri is an auto-locking belay device and self-braking descender in one. To belay a climber, you slide the rope smoothly through the device. If the climber falls, the sudden pull makes the cam pivot, which presses on the rope and stops it running. For lowering the climber off a climb using a Grigri, you operate the handle so as to unjam the rope and you control the running of the rope by varying your grip on the free end of the rope. Although it provides increased safety, the Grigri is not a substitute for vigilance on the part of the belayer, who must remain attentive to the climber at all times. Great for climbing walls and climbing towers.
An auto belay is an automated belay device that eliminates the need for a human belayer holding the other end of the belay rope. In the case of the TRUBLUE Auto-Belay, we use a patented self-regulating braking system, which is enabled by non-contacting magnetic braking technology (an eddy brake). The auto belay takes up the slack as a climber ascends and controls the descent when the climber reaches the top or in the event of a fall. Rather than requiring one human belayer per climber, auto belay devices allow multiple climbers on the wall with one person as a supervisor.

The TRUBLUE auto-belay is engineered and tested to meet the following safety standards:

- Canadian Standard CSA Z259.2.3-99 "Descent Control belayer per climber, auto belay devices allows multiple climbers on the wall with one person as a supervisor."

ALF FALL ARRESTER BLOCK
Fall arrester with automatic return system especially adapted to rope courses
Adapted to both vertical ascent and descent obstacles

RODEOSTOP FALL ARRESTER BLOCK
Fall arrester with automatic return system
Adapted to both vertical ascent obstacles and descent activities

COMPLETE RODEOSTOP FALL ARRESTER
Complete fall arrester with automatic return system especially adapted to rope courses including rope, pulley and karabiner
Adapted to both vertical ascent obstacles and descent activities
Descent rescue device

Descent rescue device to evacuate a person from a height and bring them back to the ground.

Limited weight

When you ropes are frozen or muddy, there is no beating the

Rescue 8 Big enough to handle the largest ropes - two of them. Extended horn on the upper ring prevent rope from sliding up and locking when tying off. Dual holes on the tie-in end allow the 8 to remain attached to the harness while threading the rope, preventing loss of the device in extreme conditions.

The bent form of this figure 8 helps to increase or decrease the friction on the rope so that, depending on the rope diameter, you can vary the braking power. Very light, a useful device with twin ropes.

Belay ARC is engineered to keep your rope running smoothly through the device for quick payouts and long rappels. The ARC will accommodate ropes up to 11mm and comes in a variety of colors. Great for challenge courses and climbing wall programs.

Omega SBG II - A longer rigid stem was incorporated into the design of the Super Belay Gadget II (SBG II). The SBG II maintains a fixed distance from your locking carabiner and allows choice of clip-in point and rigging "V" grooves or "U" slots for your preferred amount of friction and braking power.

The Decelerator is extremely smooth on rappel, locks off a falling climber quickly, and feeds rope like a dream. Cooling channels surround the device, allowing increased surface area and better heat dissipation on rappel.
SLING LINES, WORK POSITIONING LANYARDS, & FALL PROTECTION

STATIC ROPE AND RESCUE LINES

DYNAMIC CLIMBING ROPE

Ideal for high wire Adventure Courses to simultaneously connect a pulley and a karabiner to a lifeline or zipwire.

JUNGLE REWIND LANYARD (CAMP)
Extendable symmetrical Y-shaped lanyard
Permanent tension thanks to its internal elastic

Black symmetrical lanyard (60cm)
To be linked to a harness with a lark’s foot knot
BELAY & RAPPEL DEVICES

PETZL GRIGRI

PETZL REVERSO 3

CMI "8" RING

ASCENDERS & DESCENDERS

PULLEYS AND TROLLIES

TROLLEY BRAKE

ROPE PULLEY

3/8" ZIP LINE TROLLEY
Pullies for a CONTINUOUS LIFELINE
Double sheave pulley for a continuous lifeline system to enable users to carry out horizontal activities and slide down zip lines without manipulating carabiners nor changing equipment. Stainless steel pulley. Adapted to Ø12mm ropes or wire ropes. Sheaves mounted on 3 sets of sealed ball bearings. Delivered with 1 Pillar Steel TS triple lock karabiner.

TRAC Pulley (PETZL)
Double pulley with integrated karabiner for ziplines. Perfectly suited for public use in forest adventure parks. Assembled with Vertigo WL karabiner. Sheaves mounted on 1 set of sealed ball bearings. Specific notches for karabiners, eliminating the risk of contact with zip wire rope.

TRAC PLUS Pulley (PETZL)
Double pulley with integrated karabiner for long ziplines. Perfectly suited for public use in forest adventure parks. Assembled with Vertigo WL karabiner. Sheaves mounted on 1 set of sealed ball bearings. Specific notches for karabiners, eliminating the risk of contact with zip wire rope.

TANDEM CABLE Pulley (PETZL)
Double pulley for use on ropes and wire ropes.

PAM top-pulley karabiner deck
To be fixed on the top of a pulley. It fixes the karabiner onto the pulley thus avoiding friction on the lifeline wire rope.

MINI TRAXION Pulley
Compact and lightweight self-jamming pulley for hauling light loads and people on ropes.

FULL BODY HARNESS:
CHEST HARNESSES
DOUBLE LOCKING SNAP HOOKS

DETACHABLE STEPS

BEAM CLAMPS

GALVANIZED STAPLES

QUICK LINKS

THREADED ROD

EYE & HOOK TURNBUCKLE

EYE & JAW TURNBUCKLE

HOOK & HOOK TURNBUCKLE

JAW & JAW TURNBUCKLE

GROUND ANCHORS

THIMBLE EYELET ANGLE TYPE
The heavy duty type MW washer has been designed specifically for use on bolts in wood assemblies such as poles, cross arms, bridge structures, etc.

**Design:**
MW is a modified double coil washer. The patented chamfer ends provide:
- A substantially leveled position of the nut under full compression.
- Elimination of cocking of bolt.
- Installation of nut or flat washer.

**Function:**
Maintains high integral pressure on the wood components which may shrink or swell during varying weather conditions – yet wood fibers are not crushed.

How integral pressure is maintained:
- Pressure is maintained through travel of the MW between uncompressed and compressed position. See chart below for travel distances.

Galvanized timber bolts sometimes called mushroom head bolts or dome head bolts can be used in both marine and treated wood applications due to the heavy galvanization applied to the bolts. The underside of the over-sized rounded bolt head has four nubs or fins which prevent the bolt from turning in the timber. Timber bolts can be used for many of the same applications as machine bolts and the over-sized head eliminates the need for a washer on the bolt head end.

Bent Eye lags (also referred to as screw thread eye bolts, eye screws, or turned/bent eye lags) have a wood screw thread for use in wood or lag anchors. These bent eye lag screws are intended for light duty applications only and should not be used for angular loads or any loading of human weight.
Hot-dipped galvanized fasteners are much more corrosion resistant than zinc plated fasteners. Great for use with treated lumber. For better corrosion resistance upgrade to Stainless Steel.

5/8" Galvanized Machine Bolts Machine bolts should be used with square, curved square, round washers or Deck Washers and galvanized double coil lock washers. A staple for challenge course and ropes course element construction and maintenance. Diameter: 5/8" Tensile Strength: 12,400 lbs.


5/8" Galvanized Nut Eye bolts Great for belay cable and foot cable attachments on challenge courses and high ropes courses. A Galvanized heavy duty thimble is typically needed for use with each eyebolt. 5/8" Dia. Tensile Strength 17,500 lbs.

5/8" Galvanized Oval Eyebolts Oval eyebolts have a larger opening and are great for use in ropes courses built in trees or poles. Use with 2" curved or square washers and double coil lock washer. A heavy duty thimble will also typically be needed with each eyebolt. Tensile Strength: 12,400 lbs.

5/16" Galvanized Drop-Forged Wire Rope Clip (Cable Clamp) These are heavy duty wire rope clips for use on flexible wire rope. Must use a minimum of two per connection.
Cable Grab

cable grab is constructed from stainless steel and has dual locking cams to control descent and arrest a fall. To be used on 5/16" cable only. Size must match.

Rope & Cable Grabs

Small, lightweight rope-grabbing devices ride a vertical lifeline and automatically lock in place if a fall occurs. When using any rope grab, freefall distance must never exceed 6'. The best way to ensure a freefall of 6' or less is to use a 2' or 3' long lanyard.

These X-Large auto-lock carabiners are ideal for big wall and multi-pitch belay stations where rope management is vital. These X-Large auto-lock carabiners have an amazing amount of clearance, leaving you plenty of room for daisy’s, ropes or whatever else suits your fancy. * Strength: 30kN *

The autolocking gate opens by depressing the spring-loaded green ball on gate allowing locking sleeve to turn; gate automatically returns when released*. Unique, patented Keylock gate uses a key-shaped nose on carabiner and slot-shaped gate to create a strong, snag-free closure. The large gate opening makes it easier to clip in. Made of high-strength aluminum rod stock for superior strength and durability.
Every climber should own a couple of large locking and non-locking carabiners. They can be used in a wide variety of different situations. The Kong Big D with its screw gate lock system is the perfect addition to any rack. Strength: 27kN
K-ADVANCE DOUBLE SAFETY karabiner RED, GREEN or BLUE

Equipped with a double safety aluminium handle, preventing accidental opening

Allows to instore a colour code to improve safety for Adventure Course users

Double safety system

Ships Mast Nets

Net With Border

Borderless Cargo Nets

Climbing Holds
Forged alloy steel, heat treated. 100% proof loaded to 3600 lbs / 16kN Mini. Breaking load: 5000 lbs.

Double Locking Snap Hooks

WIRE ROPE THIMBLE
For Ø12mm wire rope

SOLID WIRE ROPE THIMBLE S412-1/2
To insert a connector and put a lot of tension on the wire rope

Four different sizes are available with holding capacity as high as 40,000 pounds. Three 8-way expanding anchors take full advantage of the available area, with all eight edges wedging into the earth. This anchor should be installed in relatively dry and solid soils. The effectiveness of the anchor is dependent upon the thoroughness of backfill tamping.

Double Helix - No Dig Anchors

The cross-plate anchor is made for installations in holes drilled by power diggers. Because the size of the hole does not affect holding capacity, the hole can be dug by the same auger that is used to dig the holes for utility poles. Cross-Plate anchors are installed in a diagonal bored hole which is undercut so that the anchor is at a right angle to the guy wire. Both anchor and rod trench should be properly back-filled and tamped.

Galvanized Guy Attachment Use with a 5/8” x 6 galvanized lag screw or 5/8” galvanized machine bolt.
Plastic Full Round Yellow Guy Guard / Guy Marker

Plastic Full Round Yellow Guy Guard / Guy Marker Plastic Guy Guards are a must on guy wires used on challenge courses, climbing towers and ropes courses. These guy guards come with Stainless Steel Wrench Down Bolt - includes stainless steel bolt for tightening unto the guy wire with a wrench. Install them at full length on the ground so people and animals can see the cables day or night and not walk into them.

THERMOPLASTIC END CAP
To protect wire rope tips

PROTECTION CAPS
For wire rope clip nuts
Black polyethylene cap 2 sizes

AUTODROPOCK CAP
For Ø16mm threaded red nuts
Black polyethylene autoclocking cap

BLACK THERMOPLASTIC TUBE
For ropes and wire rope protection
Skid resistant surface

SPLIT FOAM TUBE FOR WIRE ROPE CLIPS
To be placed around 2 wire ropes assembled with wire rope clips

PLASTIC COVERING FOR FOAM TUBES
For "ferrule" foam tubes

LONG SPLIT FOAM TUBE
Zip line brake protection

PLASTIC COVERING FOR LONG FOAM TUBES
Plastic cover for a PRO zip line tube
To maintain 2 wire ropes side by side

zinc plated EYE NUT

zinc plated 2 EYE BAR

BRAKE BUFFER

To be installed on a zip wire rope, in front of the brake

RIGHT WAY FOR MAXIMUM ROPE STRENGTH

WRONG WAY: CLIPS STAGGERED

WRONG WAY: CLIPS REVERSED
Wire Rope Splicing Procedures:

**Figure 5**

The preferred method of splicing two wire ropes together is to use interlocking turnback eyes with himbles, using the recommended number of clips on each eye (See Figure 1).

**Figure 6**

An alternate method is to use twice the number of clips as used for a turnback termination. The rope ends are placed parallel to each other, overlapping by twice the turnback amount shown in the application instructions. The minimum number of clips should be installed on each dead end (See Figure 2). Spacing, installation torque, and other

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**CROSBY CLIPS APPLICATION INSTRUCTIONS**

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**NOTICE**

Apply the bridle load and tightening note to the recommended torque. Ropes will stretch and move in diameter when loads are applied. Impact, personnel, and other conditions are based upon the theory being clean, dry, and free of lubrication.
ACTIVITY
Board showing the activity diagram, how to connect onto the trapeze, the number of users on the activity and the level of difficulty.

“TARZAN SWING” PANEL
Board showing the activity diagram, how to connect onto the trapeze, the number of users on the activity and the level of difficulty.
2 different models depending on where you exit the net.

PANEL INDICATING THE EXIT
tarpaulin exit panel with it systems.

SAFETY PANEL “REMAIN CONNECTED” Panel indicating how to connect to the safety loop at an obstacle arrival.

SAFETY LOOP “OK” PANEL
Panel indicating how to connect to the safety loop at an obstacle arrival.

ZIP LINE “DANGER” PANEL
Panel indicating collision risk between a zip line user and pedestrians.

ZIP LINE “DANGER” PANEL Panel indicating collision risk between a zip line user and pedestrians.
NO ENTRY SIGN FOR BRACE
Round "no entry" sign with a hole for adventure and rope course brace cables

DIRECTION ARROW

RESCUE KIT BACKPACK
Kit to evacuate a Ropes Course user at a height: on vertical or horizontal activities, a zip line, a Tarzan Swing or a platform
Includes: 1 backpack + 1 Dero descent rescue device with a 20m rope + 1 I'DS Descender with a 20m rope + 6 Action2 karabiners + 1 K-Classic Karabiner + 1 Lime Straight Karabiner + 1 Spatha L Knife + 3 short lanyards

Trees or poles?
Ropes courses can be built in trees or on utility poles, or a combination of the two. Courses may also be constructed indoors, such as on the trusses of a gymnasium. Each type of course has advantages and disadvantages, and ESI can help you determine what will best meet your needs.
Trees -

Advantages
Trees are esthetically pleasing, and the course will have a feeling of being a part of nature.
The initial cost of a tree course can be significantly less.

Disadvantages
As a part of the ecosystem, trees can be damaged by natural forces or die.
Since the tree is living and growing, any costs saved in initial construction may need to be spent on maintenance and repair over time.
The lay-out of the course is confined to the trees on site, and may require removal of some trees.
Not all tree species are appropriate for ropes course construction.

Utility Poles -

Advantages
Poles are treated and remain constant for a long period of time.
The course lay-out can be designed in any configuration.
Location of course can be chosen, and put on sites without natural resources.
Pole courses generally require less maintenance.

Disadvantages
Poles are not as esthetically pleasing, and the course will be more artificial.
Poles add to the initial cost of course construction.

INSPECTION
entails a complete hands-on inspection of all low and high challenge course elements installed.
This includes but is not limited to an inspection of the following:
Trees –

If trees are used in the construction of your course ESI will note tree size and species, look for damage caused by insects and weather and check for deadfall and root damage.

Utility Poles - If utility poles are used in the construction of the course, they will be inspected for appropriate classification, size, age and damage caused by animals and/or weather.

Structures –

If building or structures are used in the design of your course, ESI will inspect the connections to the structure, monitor for metal fatigue, inspect for broken or cracked welds, etc.

Cable –

All cable used for belay lines, zip lines, guy lines and foot lines will be inspected for appropriate terminations, proper drape, tension, peening and rusting.
Ropes –
All ropes will be inspected for appropriate use, storage and record keeping.

Bolts –
If through bolts are used in the design of your course, all bolts will be inspected for wear, rusting and growth into trees.

Lumber –
All lumber will be inspected for aging and protruding nails or screws. Additionally all lumber used for structural elements like a platform will be inspected for proper attachment technique.
Programming Equipment –
all programming equipment will be inspected for age, wear, and storage and to ensure that proper retirement schedules are kept.

Training Manuals and Policies –
ESI will inspect all training and policy manuals as they relate to the maintenance, use, facilitation, training and record keeping of the high and low ropes course.
ZIP WIRE BRAKE

Spring system brake
Length: 2m
Delivered with protection foam, removable cover, and buffer.
Caution: the brake must be installed on the wire rope prior to installing the wire rope

CLEVIS TURNBUCKLE 1 INCH

To adjust the zip wire rope’s tension
Threaded rods Ø: 1 inch

Ø12mm LANG’S LAY GALVANIZED WIRE ROPE 6x7 FC

SOLID WIRE ROPE THIMBLE 5412-1/2
To insert a connector and put a lot of tension on the wire rope

Tree protection log
Placed between the tree trunk and wire ropes, these logs protect the bark and avoid strangling the tree as it grows.
CL4 treated pine wood
Size: Ø60mmx330mm

DISCOVERY COURSE

Pedestrians, pushchairs and the disabled can access the canopy. This innovative course allows everyone to discover nature from the top of the trees on secured walkways, without a harness, and paths in the forest.
Pulley (ALTUSpro)
for a CONTINUOUS LIFELINE SYSTEM
Double sheave pulley for a continuous lifeline system to enable users to carry out horizontal activities and slide down zip lines without manipulating carabiners nor changing equipment.
Stainless steel pulley
Adapted to Ø12mm ropes or wire ropes
Sheaves mounted on 2 sets of sealed ball bearings
Delivered with 1 Pillar Steel TG triple lock karabiner

COMPLETE TUBE for HORIZONTAL ACTIVITY
Linking element between the metal band and the wire rope
Made for a 7x19 Ø12mm wire rope
COMPLETE CLAMP
To fix the metal band around a tree

METAL BAND for CONTINUOUS BELAY SYSTEM
To be fixed around the tree
Material: stainless steel
Size: 1x40mm
Weight: 720g/metre

ELECTRO-HYDRAULIC CRIMPING TOOL 120kN
For complete tube collar swaging
Power: 102kN
Battery: lithium ion 18V

DIES for CRIMPING TOOL
For complete tube collar swaging
Section: 95mm²

Ø12mm GALVANIZED WIRE ROPE 7x19 WSC
Supporting wire rope for adventure park activities, brace cable, lifeline wire rope
Ø12mm galvanized wire rope
7x19 Wire Strand Core

Ø12mm LANG'S LAY GALVANIZED WIRE ROPE
6x7 FC
High wire adventure course zip line wire rope
Ø12mm Lang’s lay galvanized wire rope
6x7 Fiber Core

PLASTIC COATED WIRE ROPE Ø12mm coated,
Ø10mm without coating
Wire rope for handrail, safety loops
2 colours: red and green
7x19 Wire Strand Core
OUTDOOR CLIMBING TOWERS

Installed on utility poles, usually from three to four poles, with two to four climbing surfaces. Each side can be built with a different style of climbing route (see photos below)

Towers can be anywhere from 25 to 50 feet tall.
Climbing surfaces are covered with artificial climbing holds.
Multiple climbers can participate simultaneously.

Single Faced Tower
This single sided tower can accommodate up to 3 climbers at once.

Double Sided Tower
This double sided tower can accommodate from three to six climbers at once.

Triangle Tower
The triangle Tower can accommodate from six to nine climbers at once.

Quad Tower
This four sided tower can accommodate from eight to twelve climbers at one time.
INDOOR CLIMBING WALLS

Climbing surfaces can be installed on walls, such as on the wall of a gym, auditorium, barn or silo. Indoor structures allow for year-round climbing, and a controlled environment in which to learn skills. Climbing walls are a great addition to a physical education program.

NATURAL ROCK CLIMBING WALLS

Created from fiberglass reinforced concrete, Natural Rock is the closest thing you can get to the real rock. Each Natural Rock installation is unique in its design, form and features. Natural rock has so many natural holds that artificial ones aren’t needed. The Natural Rock climbing surface is seamless and available in granite, sandstone and limestone textures. Color options include RedRock, BeighRock and GreyRock created to mimic true rock color.

ROCK WALL PANEL SYSTEMS

A true rocklike wall, The Evolution climbing panels catapult climbing walls to new heights. The sub-frame structure is completely engineered and constructed from a metal frame designed to exceed current Climbing Wall Association (CWA) standards. Each panel is then connected to the frame creating an exciting climbing surface. Each panel is designed with 12 anchor points and was sculpted by an artist to mimic a natural form with contours and curves always present.
PLY-FORM CLIMBING WALLS

Regardless of skill level or age, every climber will be challenged by our PlyForm wall. The low cost PlyForm wall is built with a wood sub frame and sheeted with coated plywood. The results are endless in variety of climbing features, including: overhangs, incline walls, cracks, corners, ledges, dihedrals, mantles, chimneys and more.

BASIC CLIMBING WALLS

This basic options is great for programs that want to incorporate climbing, yet have a very limited budget. The Basic Wall entails the installation of climbing holds directly to an existing wall at your location (inside or outside).

PLY-FORM TRAVERSE CLIMBING WALLS

The PlyForm Traverse Wall is created from wood framing and texture coated plywood. Two anchors are installed per square foot. A eight foot by 20 foot traverse wall come with three color coded climbing routes created from 200 climbing holds. Each colored route represents a different level of difficulty (easy, medium and hard).
Non-slip, galvanized treads and 42” high railing

Perfect Auto-Belay device for climbing walls with heights ranging from 12’ - 32’ tall
What is an Auto-Belay?

Chances are that you've at least heard about auto-belay systems which has led you to this web page. “Belaying” is a climbing term that describes the process of taking up slack in a climber’s safety line as they ascend, and then safely lowering the climber when they either fall or wish to descend. This process is managed by a “Belay Partner” in traditional rock climbing. The term “Auto-Belay” is used to describe a device that replaces the “Belay Partner” with a mechanical device.

How does the Auto-Belay work?

The Spectrum Sports Intl auto belay safety system is an air/oil hydraulic apparatus. As a climber ascends, air pressure works upon the device in a manner that collects any slack in the climber’s safety line. When the climber descends, oil flow thru the device is restricted in a manner that safely slows the rate of descent. Four generations of design evolution, 3rd party engineering, and millions of safe cycles worldwide have proven that the Spectrum Sport Intl Auto-Belay device is the safest and most reliable on the market.
New professional ropes course association launched in USA
(The Outdoor Network, 16 March 16, 2004)

A ropes course is a challenging outdoor personal
development and team building activity which
usually consists of high and/or low elements.
Low elements take place on the ground or only a
few feet above the ground. High elements are
usually constructed in trees or made of utility
poles and require a belay for safety.

Ropes courses are referred to using several different names,
including Challenge Courses, Ropes Challenge Courses,
Teams Course, and Low Ropes as well as more idiosyncratic
names such as Challenging Outdoor Personal Experience
(Project COPE) course (used by the Boy Scouts of America).
An Adventure Park (or “European-Style” Adventure Park,
Tree-Top Adventure course) has a more recreational purpose.
Other related terms include Obstacle Courses, Assault
Courses and Commando Courses, although these terms also
have slightly different meanings, often more associated with
military training than with education and training for the
general public.
What is a Ropes Challenge Course?

Rope Challenge Courses (also called Ropes Courses and Challenge Courses) are "artificial mountains". 

ropes courses can be considered within the broader category of climbing activities which includes rock climbing, mountain climbing, ice climbing, indoor climbing, etc.
Ropes Challenge Courses are proving appealing in Western societies because they offer convenient access to adventure-type activities within urban environments.

A Ropes Challenge Course is nothing more than a prop, i.e., a bit of fancy equipment (a few trees or poles in the ground with a couple of wires and rope strung inbetween).

Ropes Challenge Course programs typically involve small groups of participants over an intense period of hours or days,
The value of ropes course use is recognized in a broad range of activities, including education, recreation, therapy, and organizational development.

Ropes Challenge Courses can be used with school students through to adults and are readily adaptable to a wide variety of cultures, settings, and people with different abilities.
2-1/4" stainless steel bolt for climbing holds
Stainless Steel Axle: Stainless Steel Max. Diameter: 1/2”/12.5mm

Shear Reduction Device

This revolutionary half-sheave design creates a lighter block that attaches parallel to a cable, using less hardware. Stainless Steel sideplates, 3” Aluminum sheave, n/a, and n/a axle. Extra thick sideplates and multiple stainless rivets for maximum strength and protection.

Stainless Steel sideplates, 3” Aluminum sheave, Bushing, and Stainless Steel axle. Sheave locking bolt allows sheave to be reversed, extending the useful life.
For cable or rope. Stainless Steel sideplates, two 2" Steel sheaves, Bearing, and Stainless Steel axle.

Zipline Brake Block

The striking surface is crafted from ultra-high molecular weight polyethylene, noted for it's exceptional wear resistance.

Low Rope Elements
- Acid River
- All Aboard
- Alligator Pits
- Commitment Bridge
- Fidget Ladder
- Mohawk Walk
- Nitro Crossing
- Porthole
- Up and Over Log
- Spider’s Web
- Suspended Log
- Whale Watch
- Team Wall
- Tire Traverse (Vertical)
- Tire Traverse (Horizontal)
- Triangle Traverse
- Track Walk/Zig Zag
High Ropes Elements
- Catwalk
- Climbing Tower
- Two-Line Bridge
- Three-Line Bridge
- Horizontal Ladder
- Suspended Log
- Leap of Faith
- Flying Squirrel
- Helix Jibe
- Multi-Line Traverse
- Giant's Swing
- Giant's Ladder
- Come-Along
- Inclined Log
- Zipline

Indoor Climbing Elements
- Cargo Net
- Centipede Ladder
- Dangle Duo/Giants Ladder
- Firecracker Ladder
- Flying Squirrel
- Leap of Faith
- Ropeline Ladder
- Rappel Platform
- Traverse Wall
- Traverse Wall w/ Pad System
- Climbing Wall
- Vertical Playpen

Canopy Tours
The Ultimate Nature Experience
Continuous Belay Systems

These belay systems allow participants to be on one track or cable while keeping the other free for instructors to access any part of the ropes course. Alternatively, the second track/cable can be used to achieve an even higher volume of participants.

This technology has been thoroughly developed and is quite reliable. We are one of the first companies to integrate this technology from the very successful Exponent System in Belgium to the US. You connect the participant to the safety tether, and they cruise throughout the course without the usual transfer to deal with or staff to belay. There are limitations on the course design, but this is a great technology for programs that are recreationally focused.

Vertical Play Pen
Description:

This element can be set up for one or two climbers. The playground version usually offers a variety of routes to the top. If two participants climb together they can assist each other on the way up.

Dangle Duo

Description:

One or two climbers work together to climb up to the top rung of the ladder. Use of the side support cables for climbing is discouraged. Participants should be encouraged to find other ways to provide assistance to each other (it is possible to have three of four climbers at a time when the element is set up as a Dangle Trio or Dangle Quad.)
Pole Courses

Description:
Pole Courses are built on large poles (telephone poles). Advantages to a pole course are ease of site selection and longevity. Pole courses allow you to customize your course to your site, allowing for variety and creativity. These courses are also low-maintenance.
Description:

Tree Courses are aesthetically pleasing and integrate beautifully into existing environments.

Utilizing existing environments can be more economic to build. Tree Courses are beautiful, but do have some limitations including, limited design choices, loss of trees equals loss of course or elements.

Belay Systems

Dynamic Systems

This system requires the support of one or more persons and typically incorporates a rope that travels from the belayers up to a shear reduction device and down to the participant. A dynamic system can be either fixed or mobile. These systems allow for a more direct connection from the instructor to the participant. Participants are not directly involved with their safety system.

Self-Belayed Systems (Static)

This system allows more freedom of movement for the participant and more responsibility. This style of system often requires the participant to transfer from one belay cable to another as they move through the course. Most current systems use lobster claws and require ground school training before moving into the course.
V-Tower is a unique design providing for simultaneous viewing of all climbers. Four climbers scale the 35' tower with a Pamper Plank dismount. Auto-Belay ready. Access prevention is provided by removable handholds.