



## Guidelines for the Introduction to Trad Climbing Programme 2020

### Version Control

Date	Change	Author	Role
29-JAN-2020	Updated dates and edited sign-off sections	Andy Minshull	Training Officer
10-OCT-2019	Updated dates	Andy Minshull	Training Officer

10-MAR-2019	Updated dates in schedule of events and sign-off	Andy Minshull	Training Officer
12-APR-2017	Following EGM acceptance decision	Jon Smith & Training Sub committee	Training Officer 2015-2017 & committee members

## CONTENTS

---

Purpose.....	4
Safety.....	4
Review & Update.....	4
Pathway to Full Membership.....	5
Passport System.....	5
Module1 (White) Required to Access Single-pitch Outdoor Sessions.....	6
Module2 (Yellow) Required to Access Multi-pitch Sessions.....	7
Module3 (Orange) Requirement to move from Associate to Full Member.....	8
Annual New Members' Programme.....	9
Introduction.....	9
Organisation.....	9
Training Officer.....	9
Administration.....	9
Mentors.....	9
Maximum Number of Participants.....	9
Participants.....	9
Programme Content.....	10
Introductory presentation for new members.....	10
Indoor Climbing Wall Session (white).....	10
Single-pitch Outdoor Climbing Sessions.....	10
Multi-pitch Outdoor Climbing Sessions.....	10
Mountain Skills Weekend.....	10
New Members' Programme Dates 2019.....	11
Further Training.....	11
Session Topics, Checklists & Forms.....	12
New Members' Programme Registration Form / Waiver.....	13
Understand the Importance of Warming up and Cooling Down.....	14
Movement Skills.....	14
Climbing Calls and their meanings.....	15
Knots and Hitches.....	16
Equipment.....	17

Building the Belay and the act of Belaying .....	19
Gear Placement Fundamentals .....	20
Interpreting Guidebooks .....	22
Abseiling .....	23
Double Rope Technique .....	24
Dalkey Recommended Climbs for IMC New Members' Programme .....	25
Access and Environment .....	27
Multi-Pitch Climbing (Belaying processes) .....	28
Navigation.....	29
Recommended Equipment Rack for climbing .....	30
Problem Solving .....	30
Application for Full Membership .....	31

## PURPOSE

---

The IMC began a New Members' Programme in the 1950's and this has evolved over that time. These Guidelines are an attempt to summarise that experience in one document.

### INTRODUCTION TO TRAD CLIMBING PROGRAMME REGISTRATION FORM / WAIVER SAFETY

Climbing by its nature entails exposure to risk. Participants are responsible for ensuring they comply with these Guidelines as laid down by the club for the running of the programme. It is important to note that everyone is responsible for their own safety. Lead climbing is not part of this Programme.

Reckless behaviour will not be tolerated. The Training Officer is authorised to remove any participants and mentors from the programme, if he/she feels they have acted inappropriately. He/she has the authority to cancel/curtail any climbing session, should he/she decide to in the interests of the group's safety – for example if weather conditions are unfavourable.

The programme is not suitable for absolute beginners and has the following pre-requisites:

- Tying on to a rope
- Belay skills
- Familiarity with climbing movement

All participants need to be fully paid up associate members of the IMC and have signed a waiver before the start of the programme. Click here to go to the Waiver: [Introduction to Trad Climbing Programme Registration Form / Waiver](#)

### REVIEW & UPDATE

This document should be reviewed and updated annually by the Training officer.

# PATHWAY TO FULL MEMBERSHIP

---

## PASSPORT SYSTEM

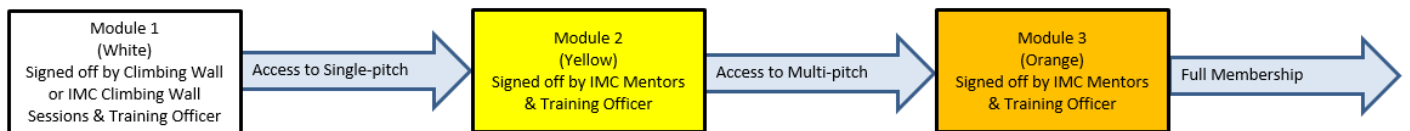
New members join the Club as Associate Members. The criteria for Full Membership are specified in the Club Constitution Section 5.3 as follows;

*The Committee may elect as a Full Member anybody who fulfils the criteria for being an Associate Member, and satisfies the Committee that they are competent in mountain navigation and safety and in leading rock-climbs of at least V.Diff standard.*

These guidelines map a pathway to full membership based loosely on The French Federation of Mountain and Climbing (FFME) Passport System for Rock climbing [http://www.ffme.fr/passeport/les-differents-passeports.html?LPP\\_CATEGORIE=Escalade](http://www.ffme.fr/passeport/les-differents-passeports.html?LPP_CATEGORIE=Escalade).

Progression through the system is controlled by three gates or training/experience modules.

- The white gate controls access to the outdoor single-pitch climbing sessions
- The yellow gate controls access to the multi-pitch climbing sessions
- The orange gate controls access to Full Membership



**Module1 (White) Required to Access Single-pitch Outdoor Sessions**

- I understand that Climbing can be dangerous and may result in personal injury or death. I will remain focused and vigilant when I am climbing. I have read and understood the MI Participation Statement.
- I am healthy and free from any medical condition that would affect my ability to climb safely.
- I can put on a harness without error, without any assistance from anyone, so that it is not twisted, is outside my clothes, with the waist belt tight and over my hips

**As a Climber:**

- I am able to tie my knot at the end of rope without help in accordance with the usual criteria: the rope passes through the tie-in loops and integrates with the leg loops, the figure of eight is correctly threaded tight to the harness and the stopper knot is tight to the eight.
- On preparing to climb I check again, my knot is connected correctly to my harness and my harness is fastened securely and I await the green light from my belayer.
- I communicate with my belayer.

**As a Belayer:**

- I place the rope correctly in the belay device, fasten the carabiner on the belay loop and lock the gate of the carabiner, check carabiner is locked, that the brake rope comes out of the bottom of the belay device to allow a downward brake action, and I await the green light from my partner.
- I place myself near the wall, slightly offset to the right or left of the route
- I handle the rope without hesitation and so as always to keep a hand behind the brake
- I communicate with the climber
- On the climb, I keep the rope tight, without pulling my partner
- I lower my partner at moderate speed without letting the rope slip. The hand on the rope going to the climber is transferred to the braking rope, just below the belay device (two hands are on the braking rope). The original controlling braking hand is brought up to meet this new hand in a series that feeds the rope gradually.
- I stop my partner (substantially the same weight) on demand (or in case of fall) without being unbalanced.

**Syllabus checklist:**

- Registration form / waiver completed \_\_\_\_\_

**Minimum equipment checklist:**

- Climbing Helmet [No helmet, No climbing - Cycling Helmets are not permitted] \_\_\_\_\_
- Harness \_\_\_\_\_
- 2 Large HMS screw-gate Karabiners (One for Belay device, one for attaching Belay or Prusik) \_\_\_\_\_
- Belay device (ATC type or similar, not a figure of eight) \_\_\_\_\_
- Rock-climbing shoes – Entry / Moderate Level, they should be tight but not hurt \_\_\_\_\_
- Gear extractor / Nut key \_\_\_\_\_
- Medium size Sling (Dyneema 10mm x 120cm long when doubled and flattened) \_\_\_\_\_
- Prusik loop (6mm – 1.5m cord tied with Double Fisherman’s Knot) \_\_\_\_\_

[Date: // 2020] [Participant: \_\_\_\_\_]

[Date: // 2020] [Mentor: \_\_\_\_\_]

[Date: // 2020] [Training Officer: \_\_\_\_\_]

**Module2 (Yellow) Required to Access Multi-Pitch Sessions**

- I understand that Climbing can be dangerous and may result in personal injury or death. I will remain focused and vigilant when I am climbing
- I check everything well twice, I buddy check my partner and I await the green light from my companion
- I know how to care for equipment and coil my rope.

*As a Climber in a climbing situation:*

- I am careful not to leave my leg behind the rope
- I find a comfortable position for clipping
- I clip all the quickdraws the right way
- I communicate with my belayer
- I am able to demonstrate climbing outdoors to Severe level as a second

*At the top of the route:*

- I can rig a belay from 2 sound anchors both in reach and out of reach and attach myself securely to them so they are equally weighted and in line with the load on the rope
- I can rig a free descent system (abseil) and place my rope properly through the belay device, backed up with a French prusik as an automatic brake.
- I know how to correctly communicate with the belayer to inform that I am safe, off-belay, climbing, in need of slack, ready to belay etc.

*As a belayer:*

- I prepare the rope so that it feeds smoothly
- I understand the correct orientation of the rope through the belay device at the top and bottom of the climb.
- I stand near the wall, slightly offset to the right or left of the route and possibly after the 3rd anchor point, I move back to follow the progress of the climber,
- I give rope and take slack according to the needs of the climber,
- I hold my partner (substantially the same weight) at an anchor point (or in case of fall) without being unbalanced,
- In case of problems, I communicate with the climber.

*Outdoor Single Pitch Experience:*

- Abseiled using both a retrievable abseil and personal abseil setup
- Participation in outdoor single-pitch climbing sessions. It would be helpful to keep a log of your climbs/mentors for these sessions.

*Syllabus checklist:*

- Understand the Importance of Warming Up and Cooling Down \_\_\_\_\_
- Movement Skills \_\_\_\_\_
- Climbing Calls and their Meanings \_\_\_\_\_
- Knots and Hitches \_\_\_\_\_
- Equipment \_\_\_\_\_
- Building the Belay and the act of Belaying \_\_\_\_\_
- Gear Placement Fundamentals \_\_\_\_\_
- Interpreting Guidebooks \_\_\_\_\_
- Abseiling \_\_\_\_\_
- Double Rope Technique \_\_\_\_\_

[Date: // / 2020] [Participant: \_\_\_\_\_]

[Date: / / 2020] [Mentor: \_\_\_\_\_]

[Date: / / 2020] [Training Officer: \_\_\_\_\_]

### Module3 (Orange) Requirement to move from Associate to Full Member

- I am capable of managing my own safety and others in the Mountains
- I have attended Mountain Skills (MS1 or equivalent training) course and can navigate safely in the hills with a Map and Compass.

As a Climber in a climbing situation:

- I know how to check the condition of the rope and my harness and know the criteria of damage and age and when to scrap
- I am able to demonstrate that I can climb outdoors to V.Diff Level **as a lead climber**
- I can show experience (a catalogue of climbs on different crags, not a single climb) of lead climbing.

*As a belayer:*

- I anticipate the actions of the climber, give rope and take slack without hampering his progress,
- I brake and stop a fall.
- I can belay with two rope systems.

*Syllabus checklist:*

- Access and Environment (videos/presentation)
- Multi-Pitch Climbing (Belaying processes)
- Navigation

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

[Date: / / 2020] [Participant: \_\_\_\_\_]

[Date: / / 2020] [Mentor: \_\_\_\_\_]

[Date: / / 2020] [Training Officer: \_\_\_\_\_]



# ANNUAL INTRODUCTION TO TRAD CLIMBING PROGRAMME

---

## INTRODUCTION

Since the earliest days the IMC has organised a New Members' Programme each year during April/May. Some members may not be able to avail of the programme in their first year of membership so the more inclusive programme name is the Introduction to Trad climbing programme. Many members join the club with significant climbing skills from indoor climbing or sport climbing overseas. The focus of this programme is to introduce the art and craft of seconding traditional rock-climbing routes.

The IMC introductory sessions are not a replacement for formal training in mountaineering and rock-climbing, neither are they suitable for someone who has had no experience with climbing. Anyone looking for experience or professional training should contact a commercial training provider – a list is available on the Mountaineering Ireland website [www.mountaineering.ie](http://www.mountaineering.ie). We are not a training organisation. We do not provide courses for the general public nor do we make profit from any training we organise for our members.

## ORGANISATION

### Training Officer

The Training Officer organises the programme based on these guidelines and may adjust timetables, venues and programme content depending on the resources available, weather and the requirements of participants.

### Administration

Assistant(s) will provide administrative support to the training officer at each session.

## MENTORS

- Must be paid-up Full Members of the Club

## MAXIMUM NUMBER OF PARTICIPANTS

The Training Officer will determine the maximum number of participants that may participate at each stage in the Introduction to Trad Climbing Programme based on the resources available and bearing in mind that a strict limit of a maximum two Participants (Seconding Climbers) per Lead Climber applies on all multi-pitch routes.

## PARTICIPANTS

- Must be paid-up Associate Members of the Club
- Must be at least 18 years' old
- Must be healthy and free from any medical condition that would affect ability to climb safely
- Must have both **read and understood** the MI Participation Statement: **“Mountaineering Ireland recognises that climbing and mountaineering are activities with a danger of personal injury or death. Participants in these activities should be aware of and accept these risks and be responsible for their own actions and involvement.”**
- Must have the basic belay skills and know how to safely tie on, this can be obtained through a climbing wall provider, on any of the club climbing wall evenings or demonstrated in the first climbing wall session.
- Must have the minimum equipment specified. See [Module1 \(White\) Required to Access Single-pitch Outdoor Sessions.](#)
- Must have signed a waiver before the start of the programme.

## PROGRAMME CONTENT

### Introductory presentation for new members

A slideshow/presentation for new and prospective members is sometimes held to introduce the Club and present the Introduction to Trad climbing Programme.

### Indoor Climbing Wall Session (white)

These sessions are held at one of several Indoor Climbing Walls in Dublin. Session topics covered are: Tying on to the Rope, Belay Skills, Knots & Hitches, Warmups and Fundamentals of Movement. At the end of this session participants should satisfy the training requirements of [Module1 \(White\) Required to Access Single-pitch Outdoor Sessions](#)

## Single-pitch Outdoor Climbing Sessions

### *Dalkey Quarry*

The disused quarry on Killiney Hill was the source of granite for the construction of Dun Laoghaire Harbour during the 19<sup>th</sup> Century. The IMC has been climbing here since the 1940's. Very few cities are lucky enough to have such a climbing resource in its suburbs. At the end of these sessions participants should satisfy the training requirements of [Module2 \(Yellow\) Required to Access Multi-pitch Sessions](#).

## Multi-pitch Outdoor Climbing Sessions

Participants will climb as a second on at least one Multi-pitch climb in a Leading On scenario and will gain understanding of multi-pitch climbing (Belaying processes).

## Mountain Skills Weekend

Participants will learn and practice Navigation Skills using Map & Compass.

After climbing through the summer and practicing navigation skills on mountain walks most participants would be expected to satisfy the requirements of [Module3 \(Orange\) Requirement to move from Associate to Full Member](#) by year-end.

## Intro to Trad Climbing Programme Dates 2020

Thursday 19 <sup>th</sup> March 19:00	Awesome Walls	Introductory briefing. Belaying and social session
Tuesday 24 <sup>th</sup> March 19:00	Dublin Climbing Centre	Introductory belaying and social session
Thursday 26 <sup>th</sup> March 19:00	Awesome Walls	Introductory belaying and social session
Tuesday 31 <sup>st</sup> March 19:00	Dublin Climbing Centre	Introductory belaying and social session
Thursday 2 <sup>nd</sup> April 17:00 -21:00	Dalkey Quarry	Trad climbing& Abseil skills
Thursday 9 <sup>th</sup> April 17:00 -21:00	Dalkey Quarry	Trad climbing& Abseil skills
Thursday 16 <sup>th</sup> April From 17:00	Dalkey Quarry	Trad climbing
Thursday 23 <sup>rd</sup> April From 17:00	Dalkey Quarry	Trad climbing
Thursday 30 <sup>th</sup> April From 17:00	Dalkey Quarry	Trad climbing
Thursday 7 <sup>th</sup> May From 17:00	Dalkey Quarry	Trad climbing
Friday 15 <sup>th</sup> -Sunday 17 <sup>th</sup> May	IMC Hut Glendassan	Glendalough Weekend - Multi-pitch Meet

## FURTHER TRAINING

---

These guidelines map a pathway to the basic requirements of Full Membership. This is just the start of the road to becoming a competent all-round mountaineer.

The Training Officer organises further training subsidised by the Club where appropriate as requested by members. This consists of training provided by experienced Full Members and external Professional Training Providers.

Typical training provided in recent years has included;

- Mountain Navigation training
- Train the Trainers
- Movement Climbing Coaching
- Yoga for warm-ups and flexibility
- Formal (BOS –Bord Oiliúnt Sléibhe) courses
  - RCI (Rock Climbing Instructors Award) training
  - MPA (Multi Pitch Award) training
  - MS1 & MS2 Mountain Skills training
- Wilderness First Aid
- Improvers Trad mentoring

## SESSION TOPICS, CHECKLISTS & FORMS

---



# Irish Mountaineering Club

[www.irishmountaineeringclub.org](http://www.irishmountaineeringclub.org)

[training@irishmountaineeringclub.org](mailto:training@irishmountaineeringclub.org)

## Participation Statement

**“Mountaineering Ireland recognises that climbing and mountaineering are activities with a danger of personal injury or death. Participants in these activities should be aware of and accept these risks and be responsible for their own actions and involvement.” I am aware that climbing and mountaineering are activities with an inherent danger of personal injury or death. I understand the nature of the activity and accept the risk involved.**

### Personal Details

Please complete the form in BLOCK CAPITALS

First Name:	<input type="text"/>	Surname:	<input type="text"/>
Male / Female:	<input type="text"/>	Mobile:	<input type="text"/>
		Email:	<input type="text"/>

Address:

Eircode:

### Declaration of fitness

**I certify that to the best of my knowledge, I do not suffer from a medical condition which might have the effect of making it more likely that I be involved in an accident which could result in injury to myself or others.**

### Declaration of fact

**I also confirm that the above information is correct and if any information changes I will notify the club.**

**I have read and acknowledge Mountaineering Ireland’s participation statement.**

Signature:	<input type="text"/>	Date:	<input type="text"/>
------------	----------------------	-------	----------------------

Verification of IMC Membership:

## UNDERSTAND THE IMPORTANCE OF WARMING UP AND COOLING DOWN

- Aerobic low-intensity – 5mins – Increases the temperature of the muscles, guards against injury and makes the body receptive to exercise
- Loosen up all joints with dynamic stretching. Pay attention to shoulders, neck, ankles, wrists and fingers
- Start your session with Easy Climbing
- At the end of your climbing session make time to Cool Down – Stretching gently avoids potential tightness and stiffness and aids recovery for the next time
- Video Warming up for Climbing [https://www.youtube.com/watch?v=XbuE\\_ZkTizI](https://www.youtube.com/watch?v=XbuE_ZkTizI)

The Importance of Warming up and Cooling Down has been explained/demonstrated and understood

[Date: / / 2020] [Participant: \_\_\_\_\_]

[Date: / / 2020] [Mentor: \_\_\_\_\_]

## MOVEMENT SKILLS

- Footwork: Edging, Smearing, Hooking, Jamming
- Handholds: Crimps vs Open hand, Palming, Finger Locks, Hand and Fist Jams
- Body Position
  - Understand how we transfer our weight over our centre of gravity (Belly Button) to make progress in an upward (or sideways) direction
  - Friction Slabs, body away from the rock, allows weight to be on the feet
  - Vertical Rock, keep body close to the rock.
  - Overhanging rock, Turn sideways, using the outside edge of foot (twist knee in) allows a longer reach and keeps the body close to the rock.
  - Hang with straight arms, particularly when clipping gear. Let your skeleton do the work
  - Climb with a level of dynamic movement. Drop your body and then push from the “hips” rather than just static reach
  - Place feet “softly” onto the footholds. Use the toes rather than all of the foot.
  - Old adage, climb with your feet pushing you up the rock, hands are for balance.
- Video: Climbing Technique <https://www.youtube.com/watch?v=EudegwgU3cA>

Demonstration and coaching on basic climbing movement has been received

[Date: / / 2020] [Participant: \_\_\_\_\_]

[Date: / / 2020] [Mentor: \_\_\_\_\_]

## CLIMBING CALLS AND THEIR MEANINGS

- Lead Climber: Safe! (Arrived at the top of the climb, and have attached to Anchors)

Second Belayer: Off Belay! (Have taken the rope out of the Belay device)

- Lead Belayer: Taking in! (Belayer Pulling up the slack rope)

Second Climber: That's Me! (Climber acknowledges he is tight on the rope)

Lead Belayer: Climb when ready! (The Belayer has you on Belay)

Second Climber: Climbing!

Lead Belayer: OK! (Belayer acknowledges, only now is it safe to climb).

- Climber: Take in! (Please Pull in the Rope)

Climber: Slack! (Please let out a small amount of Rope)

Climber: Take! (About to Fall off, please don't drop me)

Climber: Below!! (I just pulled off a rock or dropped some gear, mind your head)

Climber: Rope Below! ... (Wait 3 seconds) Below! (Throwing a rope down)

Demonstrate knowledge of Climbing Calls

[Date: // 2020] [Participant: \_\_\_\_\_]

[Date: // 2020] [Mentor: \_\_\_\_\_]

## KNOTS AND HITCHES

- Re-Threaded Figure of Eight, with Stopper Knot
  - Used for tying on to the end of the rope
  - The rope loop (often called the tie-in loop) should be fist sized
  - The Stopper knot should be close to the figure8
  - Dress the knot (tighten and make it look neat)
  - Video Tying in – Figure of 8 <https://www.youtube.com/watch?v=mwPhouNbIfU>
- Figure of Eight on the bight
  - Used to create a loop, for connecting to a crab
  - Used to connect the rope to the tie-in loop (anchoring yourself to belay)
- Double Figure of Eight on the bight
  - Similar to above but provides two loops, useful for rigging bottom ropes.
- Clove Hitch
  - Connects a rope or sling to a crab
- Italian Hitch
  - Used for belaying with an HMS crab (when you drop belay device)
  - Used for direct belay
  - Tied of Italian Hitch used to tie-off a stuck climber (releasable)
- Double Fisherman’s Knot
  - Used to tie two ropes together. Used to create Prusik loop
- Overhand to join two ropes
  - Effective as long as the knot is pulled tight and has tails at least 60cm
  - Slightly less prone to jamming in crack when retrieving abseil rope
- Overhand knot on the bight
  - Replaces the Alpine Butterfly
  - Useful for rigging fixed ropes, and for tying in the middle of the rope
- French Prusik
  - Used as an autobloc, primarily used in protecting abseil, and in emergency systems such as escaping the system or assisted hoist. Video [https://www.youtube.com/watch?v=u0YxU5C\\_KrQ](https://www.youtube.com/watch?v=u0YxU5C_KrQ)
- Klemheist
  - Variation of the French Prusik, difference can’t be released when loaded, one direction, useful for ascending rope, can be tied with a sling if no prusik loop is available. Start from bottom and work up the rope

How to tie the rope into my harness has been demonstrated

Ability to tie a Clove Hitch to connect to an anchor has been demonstrated

Ability by one method to tie two ropes together has been demonstrated

[Date: // 2020] [Participant: \_\_\_\_\_]

[Date: // 2020] [Mentor: \_\_\_\_\_]



## EQUIPMENT

- Harness, understand the function of the belay loop (recommend separate belay loop rather than climbing wall style), gear loops, good sizing (flat hand should just be able to pass between the waist loop) where it is positioned on the body (belly button), adjustable leg loops very useful in winter, Ziploc buckles also useful feature.
  - Video: <https://www.youtube.com/watch?v=H22lihITZzg>
- Ropes
  - Identify and understand the use of static vs dynamic ropes, single vs half vs twin ropes.
  - Understand Kernmantel Construction (twisted braids of nylon yarn, allows the rope to stretch) gives ropes elasticity and minimizes the impact force on a falling climber and protection or anchors in the system.

*UIAA impact force test requires dynamic rope to be designed to limit the maximum dynamic load due to a falling weight of 80kg to 12kN when dropped 4.8 meters onto a 2.8 meter section of rope.*
  - Understand the care of rope and lifespan
  - Understand how to coil and carry rope
- Slings, made from two materials and their properties
  - Thicker, cheaper, heavier traditional slings made from strong Nylon webbing. As thicker they offer a greater safety margin should the sling be dragged over a sharp edge. Very limited stretch.
  - Thinner, lighter slings made from Dyneema, a mix of Polyethylene and Nylon. Weight for weight stronger than steel, less susceptible to UV degradation than Nylon. Doesn't stretch (has no dynamic properties) Much lower melting point 110C compared to Nylon 225C makes it susceptible to melting from rope friction.
  - Sizes of slings can be confusing. Sold as metric sizes where the length is measured when they are doubled and flat, but many still refer to the circumference size in feet. Three common sizes;
    - Short sling (60cm, 4ft) are useful for extenders, (show how to clip two Karabiners)
    - Long sling (120cm, 8ft) useful for spikes & threads, equalizing two anchors and long extenders, usually carried doubled across the chest with locking Karabiner
    - Extra Long sling (240cm, 16ft) useful for very large blocks, and equalising two anchors far apart or three anchors. (show how to carry 2x doubled and twisted onto Krab)
- Karabiners (or Carabiners (US Spelling) or Krabs)
  - Two main Types; Snaplinks (for quick draws) and Locking (including auto-locking)
  - Two main Shapes; D-Type (strongest shape which automatically aligns the rope along the back-bar), and HMS (Pear shape), used for Belay, and for Clove and Italian Hitch connections (HMS is the strongest shape for a wide load)
  - Loading strengths for the three possible loads; along the back-bar (major axis), cross-loaded (minor axis) and open-gate are stamped onto each Krab
- Belay devices, though there are three main types we only include Standard-Passive (ATC/Stich-plate) style
  - Works by putting a bend in the rope that creates enough friction to hold a fall
  - Usually one side provides more friction for belaying, less friction for abseil
  - Lighter than assisted braking types (gri-gri) and can be used with one or two ropes

- Quick draws
  - Two snaplinks connected by a tape-sling, sizes 10-30cm
  - Has a fixed bottom crab (prevents rotation) which is used to attach the rope.
  - Used in minimizing drag, preventing protection from being lifted/pulled out, used to attach wires, bolted sport routes and extend hexes and friends.
- Wires
  - Wedges of metal attached to a wired loop, (recommend 2 sets 1-10 common Wild-Country, DMM walnuts)
  - Be aware of the Small Cam action, 3 points of contact, deep seating, very small (micro/pea nuts) 2kN strength, useful for certain climbs need to be grouped, the very large useful in places like Fair Head.
- Hexes: Usually start where your largest Wires finish. Large Camming action, three ways to place for different size. Useful for horizontal Cracks. Personal preference is to carry Friends, but nothing beats a well-placed Hex.
- Tri-cams: Work by rotation and tighten. Size3 useful in Dalkey Bore holes. Can be used as Passively like a standard nut or actively (like a Cam) see <http://www.climbing.com/skills/tricams-101-a-guide-to-using-this-tool/>
- Cams (Often called Friends after the original devices), spring loaded, expensive but essential equipment. Black Diamond Camelots, Wild Country Friends, DMM Dragons all very popular and all recommended, stocked in Ireland

Suggestion to buy in sets (1, 2, 3), (0.5, 1.5, 2.5), share with climbing partner. Particular sizes found most useful by certain climbers (Size 1, my favourite, but Friend Size 3 CAM very useful in Dalkey boreholes).

Note: Whilst manufacturers have aligned on colours/sizes for nuts, they have not for cams. This can be a little confusing when people talk in Friend sizes to a DMM owner

- Nut Key, used to remove stuck wires, demonstrate good removal technique rather than just pulling on all wires
- Prusik loop. 6mm accessory cord, used primarily as an auto block for protecting abseil.

The use and suitability of climbing equipment has been explained/understood

How to coil a rope has been demonstrated

How to don my harness and complete checks on myself and my climbing partners has been demonstrated.

[Date: // 2020] [Participant: \_\_\_\_\_]

[Date: // 2020] [Mentor: \_\_\_\_\_]

## BUILDING THE BELAY AND THE ACT OF BELAYING

- Video: How to Belay <https://www.youtube.com/watch?v=i5kTsLaw0Vk>
- Direct Belay 100% of the load is on the anchors, commonly a “secure” rock, tree, bolt with HMS crab and Italian Hitch
- Indirect Belay, commonly a waist belay, with your body providing the friction and most of the load. Used quickly to give confidence on topping out. Quite hard to hold any but the shortest of falls (keep slack out of rope).
- Semi-Direct
  - Typical rock climbing belay, used with a harness and sound anchors
  - Small amount of load only, passed onto Climber, rest passed onto anchors through rope
  - HMS karabiner with Belay device connected to tie-in Rope loop
- Building the Belay
  - Anchors in reach, connect using a Clove Hitch on a Locking Crab
  - Anchors out of reach, loop rope back to Climber; attach to HMS crab connected to tie-in loop via clove Hitch ( 2 max per HMS crab or 1 for D-Type) or rethreaded Figure8 on the bight through the tie-in loop
  - ABC – Anchors, Belayer & Climber all in line (in both the horizontal and the vertical plane). Forces transferred directly onto the Anchors
  - 3 Anchor essentials
    - Anchors Independent. One failed anchor should not affect any other.
    - Anchors ideal angle 60degrees or less. (60=58%, 90=71%, 120=100%)
    - Anchors equally loaded, equals rope in tension to all anchors.
- Act of Belaying
  - Stance when belaying a lead climber from below, close to the rock, to prevent the anchors being pulled, just out of the fall line of the climber.
  - Stance when belaying a second from above, position so you can visually see the climber.
  - The dead rope comes out of the bottom of the belay device when belaying a lead climber or bottom roping; invert the belay so the dead rope comes out the top when belaying a second from the top of the climb
  - Bring the ropes from the anchors together to one side of the body, usually the right side if you are right handed and prefer belaying with the dead rope in the right hand. Allows the load to transfer to the anchors.
  - Make sure the brake arm is free to allow backward move to lock off the belay
    - How to Tie off the Belay Video:  
<http://www.ukclimbing.com/articles/page.php?id=3295>
- Using a Rigging Rope
  - Building a typical bottom rope, 2 anchor system, Minimum equipment (safety chain)
  - Bringing in a third anchor with overhand knot (or bringing two ropes together with figure of eight knot and HMS crab and clove hitch).
  - Creating a Personal abseil (2 points with overhand knot) for repeated descents

Ability to build a belay with a rigging rope for bottom roping with 2 and 3 anchors equalised has been demonstrated

Ability to build a belay with climbing rope for a top rope (lead climbing) with anchors in and out of reach

Ability to belay a climber in bottom and top roping environment

Ability to hold a fall demonstrated

[Date: // 2020] [Participant: \_\_\_\_\_]

[Date: // 2020] [Mentor: \_\_\_\_\_]

## GEAR PLACEMENT FUNDAMENTALS

- Checking the Rock Quality around the gear is most important
  - Avoid loose flakes or blocks, check for movement or hollow sounds
  - Look for fractures
  - You want solid and clean rock
- Slings
  - Rock spikes, trees, belay spikes
  - Threaded, chock-stones
  - Be conscious of angles (ideal 60 degrees or less)
  - Be conscious that they are static, always connected to climber through a rope
  - Do not larks foot, use of overhand knot & clove hitch
  - Bringing two/three anchors together using slings
- Wires
  - Placed into either vertical or horizontal crack
  - Ideal placement is where the crack is wide at top and tapers in towards bottom, with the rear of the crack being a little wider than the outside edge
  - Look for two points of contact on the concave (small side), the more rock to metal contact the better
  - Can be placed sideways in tapering cracks and provide a further wire size (i.e. no7 wire becomes a size 8), but not as stable
  - When placed in horizontal cracks place the convex (large side) down most to take advantage of the slight cam action
  - When placing, keep wire on crab, allows you select the correct size (comes with practice) and seat the wire by tugging on the other wires in the direction of fall. When tugging be thoughtful to the second who has to remove it
  - Two wires placed in horizontal crack in opposition, using an extender to join them together to a single connection point
  - In desperation, wires they can be stacked, convex to concave faces to create a larger wire
- Hexes (RockCentrics)
  - Hexes twist when loaded creating a camming effect (becoming larger)
  - The cam is greatest when the smaller edge (convex on modern hexes) is placed downwards (e.g. in horizontal cracks)
  - They have two sizes for camming and a third large size for a tapering crack
- Camming Devices
  - Understanding of good placement is in the mid-range of cam, too tight they might jam, too wide they may fail to grip the rock (larger cams have a wider range of grip)
  - Orientation of the stem of the cam is in line with the direction of fall (Down and slightly out)
  - All four lobes of the cam should be touching the rock at a similar angle
  - Retrieval: Do not just pull, instead pull trigger and push stem as in a hypodermic syringe)
  - Work better on certain rocks: Granite, Gritstone, Dolerite. Do not trust on Limestone as it provides less friction and has been shown cams can fail even when well seated
  - Can work well in parallel and even slight flared cracks. Avoid placing in cracks that get wider at the back as they can “walk” backwards making retrieval difficult
  - Flexible stem allows horizontal placement in cracks and pockets and Dalkey boreholes.
  - Some modern cams have lugs to allow use as passive device
  - Often used as first piece of protection on the lead, as they (along with threaded slings) can take a multi-directional pull and stop the gear from being pulled out from a Belayer who is standing too far back

- Note that cams are levers that multiply the downward force outward, so using one against a dubious flake or at the very edge of the crack on friable rock (check rock quality) is dangerous
- Be aware of placing cams where there is a lot of loose “grit”. Micro particles of rock in contact with the cams can cause them to slip.
- Video Basic Cam Placements <https://www.youtube.com/watch?v=hNnfGHKgAMI>
- Video Crack School Gear Placements <https://www.youtube.com/watch?v=BnVJ2blHbLs>

Placement and removal of passive and active (cams) devices has been demonstrated/understood

Selecting good anchors for belays and runners for lead placement has been demonstrated/understood

[Date: / / 2020] [Participant: \_\_\_\_\_]

[Date: / / 2020] [Mentor: \_\_\_\_\_]

## INTERPRETING GUIDEBOOKS

- Understanding British Grading System
  - Adjectival Grade: Overall difficulty of the climb taking into account all factors which lend difficulty to a pitch including technical difficulty, length of sustained effort, protection quality, rock quality, exposure and other less tangible aspects - for a climber leading the route on sight in traditional style
  - Technical Grade: Climbing difficulty of the hardest move or short sequence of moves on the route, without regard to the danger of the move or the stamina required
- Understanding Route Descriptions and Topos
  - Gary's Glossary of physical features that define a route <http://goo.gl/R9UJVH>
- Source of Access Information
  - Access Restrictions
  - How to get the Crag.
  - And How to get down (descent) after finishing the climb (often overlooked)

The use of Guidebooks and Grading Systems has been explained/understood

[Date: // 2020] [Participant: \_\_\_\_\_]

[Date: // 2020] [Mentor: \_\_\_\_\_]

## ABSEILING

- Unless you are abseiling down a sea cliff, tie a knot in the ends of the abseil rope before you throw it down (depends on circumstance)
- Using a belay device and French Prusik as an autobloc, crab clipped to leg loop
- Using an Italian hitch (when you have dropped your belay device)
- Backing up an abseil from the bottom for a nervous or novice climber by pulling the rope tight
- Retrievable Abseil
  - In situ anchor has to be trusted (Maillon connected to a bolt chain or “tat” of known history)
  - Backing up the first (usually the heaviest) abseiler with unloaded independent anchors if there is doubt on the safety of the anchor
  - Importance of clipping both ropes
  - Identify which rope to pull from the bottom (while at the top)
  - First person down does a test pull of a foot of rope (check that it will pull)

Ability to abseil safely with a French Prusik and a belay device

Ability to abseil safely with a French Prusik and an Italian Hitch

[Date: / / 2020] [Participant: \_\_\_\_\_]

[Date: / / 2020] [Mentor: \_\_\_\_\_]

## DOUBLE ROPE TECHNIQUE

- Primary advantage is being able to arrange protection on a climb that zigzags
- Runners can be placed so you are removing Angles a single rope would create
- Angles not only create rope drag due to added friction, they heighten the chance that the runners would fall out if leader or second takes a fall.
- Runners can be placed either side and with careful management the ropes can run in relatively straight lines.
- Psychologically feel better when pulling rope for crucial clip, not increasing the likelihood of long fall
- Retreating from climb through abseil more efficient. You have the full length of the rope when joined together rather than just half rope length with a single rope.
- Tying into anchors is also more straightforward. If you have two anchors, one rope can be clipped into each, and even 3<sup>rd</sup> and 4<sup>th</sup> anchors are simple.
- Offers greater safety while connecting anchors (protected on belay should single anchor fail)
- Belaying is only a little more complex. Paying out an individual rope requires you to slacken (not remove) your grip on the controlling (dead) ropes. Splitting the two ropes between your fingers requires practice but allows you to pay out and take in
- Twists develop in the two ropes each time you turn a full circle, so be attentive on belays.
- Severe Twists can affect running belays (can pull runners out when leader takes in rope).
- Twists can be removed by reversing (spin around the other way) the circle.
- You naturally tie the ropes left and right to your harness. Make sure your belayer/partner ties on the same way.
- When looking at the climb, before you set off, plan where you might place runners and which rope you will use so that you avoid ropes being crossed (Knitted)
- Double rope technique allows you to place crucial runners that might be impossible with single rope.
- Careful placement (and extending) of two ropes can prevent occasions when one rope may be cut by a sharp rock edge in a fall.
- Protecting a second, particularly on a traverse that is underneath you can be achieved by leaving one rope unclipped on lead (will be straight above and protecting the seconding climber)
- Rescue techniques such as hoisting are simplified by having two ropes (often can ape up one rope while being kept tight on the second)
- See video Get out on Rock: Double Rope [https://www.youtube.com/watch?v=Eyy\\_oWLtmTY](https://www.youtube.com/watch?v=Eyy_oWLtmTY)

Ability to belay safely with two ropes and a belay device

[Date: / / 2020] [Participant: \_\_\_\_\_]

[Date: / / 2020] [Mentor: \_\_\_\_\_]



## DALKEY RECOMMENDED CLIMBS

Route	Num	Ascent details/date/Mentor
Winders Crack D 11m	150	
Mitre (with the Diff Corner Variation) D 23m (Multi-Pitch)	9	
Tower Ridge D 40m (P1 21m, P2 19m) (Multi-pitch)	59	
Slabs Wall D 16m	284	
Eliminate A VD 15m	208	
Eliminate B Dash VD 15m	211	
Paradise Lost VD 17m	116	
Porcupine VD 17m	271	
Drinkers Delight VD 15m	286	
Yorkshire Pudding S 4a 20m	260	
Honeypot Crack S3c (needs a dry spell to be climbable)	262	
Giant Staircase S (3c,3a) 26m (P1 20m, P2 6m) Multi-Pitch	49	
Grave S 3c 14m	87	
Oggie S 4a 17m	272	
"D" Route S 4a 24m	128	
Diphthong S 4a 14m	283	
"F" Route HS 4b 18m	132	
Levitation HS 4b 14m	113	
Hiatus HS 4b 14m	276	
Charleston HS 4b 15m	100	

Dirty Dick VS 4b	182	
Jameson 10 VS 4b 12m	175	
Street Fighter VS 4c 12m	205	
Mahjongg VS 4c 12m	111	
Scavenger VS 4c 18m	124	

## ACCESS AND ENVIRONMENT

Ireland possesses a rich natural heritage in its mountains and cliffs. Protecting the outdoors for the current and future generations should be of deep importance to all.

- MI Good Practice Guide  
<http://www.mountaineering.ie/accessandenvironment/GoodPracticeGuide/default.aspx>
- Leave No Trace  
<http://www.mountaineering.ie/accessandenvironment/LeaveNoTrace/default.aspx>

The access and conservation issues and participation statement has been explained/understood

[Date: / / 2020] [Participant: \_\_\_\_\_]

[Date: / / 2020] [Mentor: \_\_\_\_\_]

## MULTI-PITCH CLIMBING (BELAYING PROCESSES)

- **Leading Through**, common practice where two people alternate the lead climbing
- First person climbs to belay, connects to anchors.
- Is aware of the direction of the next pitch and takes a stance capable of belaying this
- Is aware of where the second will stand on arrival, connect a spare crab to either the central point or to the anchors, for the second to be made safe and receive the gear.
- Often take a stance which is facing the rock, hanging gently off the anchors is the best position that orientates you for the belay on the next pitch
- Pull in the slack rope (taking in), lap the rope across the ropes that go to the anchors in decreasingly sized loops or lap onto a ledge or behind a rock spike
- When the second arrives, takes their rope(s) and clove hitch him to the spare crab(s)
- Lock off the belay plate with a slippery hitch and half hitch
- Provide the lead gear to the second. Clip this onto an accessible rope
- Second may provide a spare jacket to the belayer
- Consult the guidebook for information on the next pitch and understand the next belay
- The belayer may need to re-orientate the belay device to make sure rope is running through correctly and able to brake a fall
- Once back on belay, the new leader unclips from the anchors and starts to climb
- It is of utmost importance that the leader gets a piece of protection (first runner) in early to avoid falling past the belay and the associated load transferred to both climber and belayer. It is preferable for the new leader to clip a high runner that forms part of the belay if no runners are obvious. This can be unclipped by the belayer once the new leader has placed several more secure runners if it creates rope drag.
- **Leading On**, where just one person leads all the pitches: Be conscious of where your second will need to stand to belay you and equip the belay with spare crabs accordingly
- Often creating a central attachment point with a large sling and two crabs is the most efficient mechanism rather than build a belay using the Rope. But remember always tie to this central point with your rope and never allow slack that provides a shock load to a sling.
- Run the ropes through so that the rope to the leader is on the top of the pile if not using the lap coil or if Leading On

Have participated as a (second) climber on a Multi-pitch climb in a Leading On scenario

[Date: // 2020] [Participant: \_\_\_\_\_]

[Date: // 2020] [Mentor: \_\_\_\_\_]

- Reading the map
  - Setting the map
  - Contour Interpretation
  - Taking a Grid reference
- Compass skills
  - Grid and Magnetic Bearing
  - Taking a Bearing from the map (Map to Compass)
  - Putting a Bearing onto the map (Compass to Map, to find your position)
  - Walking on a bearing, calculating distance (timing, pacing)
- Videos
  - Taking and Using Bearings <https://www.youtube.com/watch?v=wwnt9oZvy3o>  
  
Distance, Timing and Pacing [https://www.youtube.com/watch?v=FB31B\\_Hi2HE](https://www.youtube.com/watch?v=FB31B_Hi2HE)
  - Map Setting <https://www.youtube.com/watch?v=JAzxID-igb8>
  - Self-Location <https://www.youtube.com/watch?v=YIOeu1BOScs>
  - Mountain Features <https://www.youtube.com/watch?v=YiUL3eJ0FO4>

The ability to navigate using a Map and Compass has been explained/understood

[Date: // 2020] [Participant: \_\_\_\_\_]

[Date: // 2020] [Mentor: \_\_\_\_\_]

## RECOMMENDED EQUIPMENT RACK FOR CLIMBING

It is not expected that participants purchase a full rack of climbing equipment. It is most common to start by sharing the equipment when climbing, and people who have been climbing a long time often have more equipment than they need or can carry.

A typical rack for climbing depends on the type and length of the climb. This is a typical rack (some people prefer hexes / Rockcentrics to cams/friends).

- Two sets of wires (1-11)
- Six friends (0.5,1,1.5,2,2.5,3)
- 10 quickdraws (mixed lengths)
- 2 short 60cm slings equipped with 4 Krabs, used as longer extenders
- 2 medium 120cm slings with 2 locking Krabs
- 1 large 240cm sling for the Belay with a locking Krab
- 2 HMS Krabs
- Belay Device
- Nut Key
- Prusik loop

## PROBLEM SOLVING

These are problem solving scenarios from the SPA and MPA courses and are not expected to be mastered in the limited time of the IMC Introduction to Trad Climbing' Programme

- Escaping the system
  - Video: <http://www.ukclimbing.com/articles/page.php?id=3472>
- Accompanied Abseil (Rescuing a stuck climber from above). Using a Y-hang (sling)
- Prusiking up a rope
  - Video: <http://vimeo.com/17690181>
- The Second, has climbed above the gear placed on lead and needs to be lowered using slack in the dead rope.
- Assisted hoist
  - Video: <http://vimeo.com/17691243>
- Passing a knot on an abseil
- Passing a knot during a lower

## APPLICATION FOR FULL MEMBERSHIP

A link to download this form is available at: <http://www.irishmountaineeringclub.org/member-info/>



# Irish Mountaineering Club

[www.irishmountaineeringclub.org](http://www.irishmountaineeringclub.org)

[secretary@irishmountaineeringclub.org](mailto:secretary@irishmountaineeringclub.org)

I wish to apply for acceptance as a Full Member of the Irish Mountaineering Club.

<b>Applicant Name:</b>	
<b>Applicant Address:</b>	

**Signed:**

**Date:**

<b>Summary description of your competency in mountain navigation &amp; safety</b>

<b>Summary description of your competency in leading rock climbs of at least V.Diff standard</b>

**Signatures of two proposing Full IMC Members**

**Proposer 1:**

**Proposer 2:**

*Please send completed applications to the Membership Officer:* [membership@irishmountaineeringclub.org](mailto:membership@irishmountaineeringclub.org)