Orienteering Canada
Course and category guidelines for Championship Events:
North American Orienteering Championships
Canadian Orienteering Championships
Western Canadian Orienteering Championships
Eastern Canadian Orienteering Championships

This revised document was approved by the Orienteering Canada Board in April 2017

Long Course	1 Beginner	2 Novice	3 Nov. +	4 Int.	5 Veteran	6 Advanced	7 Expert	8 Expert+	9 Master	10 Master+	11 Elite
Technical Difficulty	1	2	2	3	4	5	5	5	5	5	5
Categories	M10 W10	M11-12 W11-12	W13-14 M13-14 W15-16B† M15-16B†	W15-16 M15-16	M75+ W75+ W80+ M80+ W85+ M85+	W55+ W65+ W17-20B† M17-20B†	W45+ M65+	M55+ W35+ W21B† W17-18	W19-20 M45+ M21B† M17-18	M19-20 W21E ** M35+	M21E
RWT for Long *	30-35	30-35	30-35	50-55	45-50	50-55‡	50-55	55-60	55-60	90-100	90-100

Middle Course	1 Beginner	2 Novice	3 Nov. +	4 Int.	5 Veteran	6 Advanced	7 Expert	8 Expert+	9 Master	10 Master+	11 Elite
Technical Difficulty	1	2	2	3	4	5	5	5	5	5	5
Categories	M10 W10	M11-12 W11-12	W13-14 M13-14 W15-16B† M15-16B†	W15-16 M15-16	M75+ W75+ W80+ M80+ W85+ M85+	W55+ W65+ W17-20B† M17-20B†	W45+ M65+		M55+ W35+	M45+ W21B† W17-18	W19-20 W21E M35+ M21B† M17-18	M19-20 M21E
RWT for Middle *	20-25	20-25	20-25	25-30	30-35	30-35‡	30-35	30-35	30-35	30-35	30-35

Sprint Course	1	2	3	4	5	6
Categories	M10 W10	M11-12 W11-12 W13-14 M13-14 W15-16B† M15-16B†	W75+ M75+ W80+ M80+ W85+ M85+	W45+ W55+ M65+ W65+ W17-20B† M17-20B†	W15-16 M15-16 W17-18 W19-20 W21E W35+ M55+ W21B†	M17-18 M19-20 M21E M35+ M45+ M21B†
RWT for Sprint *	12-15	12-15	12-15	12-15	12-15	12-15 (15+ for M45)

*   Since there are multiple classes on each course, it can be difficult to meet the RWT (Recommended Winning Time) for all classes. Course designers should use their best judgement and aim to have all winning times within the specified range.

** For W21E on the long course for WRE events default to the IOF Recommended Winning Times (70-80)

†   Non-competitive age classes for which medals are not awarded, but for which public recognition of achievement is expected (e.g. called onto podium)

‡   Design the RWT for the veteran age classes, not for the B classes.

Keep in mind that this 'course/category' structure is only one of three components to "getting it right" – the other two being "getting the course lengths right according to the structure" and "designing the courses in accordance with the terrain and course criteria for that specific discipline".

Open and Group Classes

Open categories may be established at the discretion of the organizers.

Beginner and Group categories may be established at the discretion of the organizers.

Course Progression

The table below shows the progression through the courses as skill and age advance

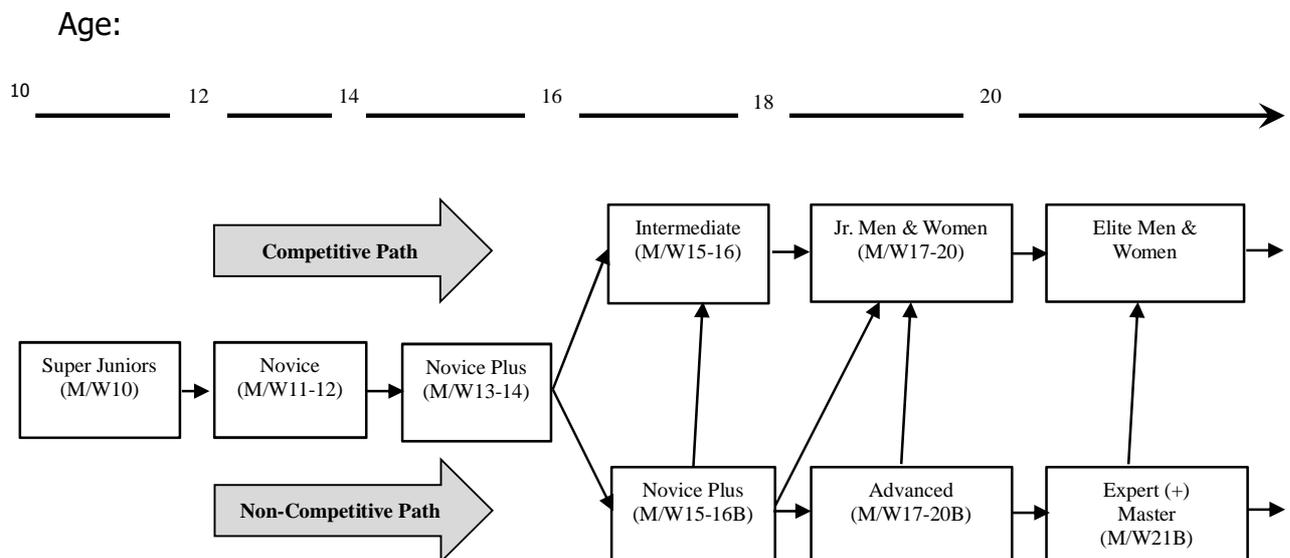| Physical Difficulty:	Short & Easy	Short	Medium	Long and Difficult	Extra Long & Difficult
TD1 ‡	Super Juniors (MW10) Beginner				
TD2		Youth (MW10-12) Novice	Youth (M/W13-14) Novice		
TD3			Youth (M/W15-16) Intermediate		
TD4		Veteran			
TD5			Advanced (W55+, W65+)	Junior Women (W17-20) Junior Men (M17-18) Expert Expert Plus	Elite Men (M21) Elite Women (W21) Junior Men (M19-20)

‡ TD = Technical Difficulty

The rationale for earlier changes can be read at:
www.orienteering.ca/pdfs/2006/2006agm/Course_Category_guidelines_withAGMamendments.pdf

Orienteering Categories Development Path

This flowchart is an alternative way to show how people can move through the categories, and progress from non-competitive to competitive classes.

Age:

10   12   14   16   18   20

Competitive Path

Intermediate (M/W15-16)   Jr. Men & Women (M/W17-20)   Elite Men & Women

Super Juniors (M/W10)   Novice (M/W11-12)   Novice Plus (M/W13-14)

Non-Competitive Path

Novice Plus (M/W15-16B)   Advanced (M/W17-20B)   Expert (+) Master (M/W21B)

Appendix A: Technical Difficulties

Technical Difficulty Description	Participants	Terrain & Map	Legs	Skills Required
TD1 – Beginner *This course can never be <u>too</u> easy!* • Controls on distinct line features - roads, tracks, paths (and walls and fences where they are better e.g. in some open areas) • Controls 2-5m beyond, and visible from, junctions rather than on the junctions themselves so that they automatically put competitors onto the right path for their next leg • Routes between controls follow line features; no junctions to negotiate between controls • Controls close together • No route choice problems - line features follow virtually the straight line between controls. Beginners will have more than enough problems with the map itself - trying to relate all those colours and funny symbols to the ground. For TD1, the course must not add to their problems - it should serve as a guided tour, allowing them to learn how to read the map. The controls are used to keep them on route (hence the idea of putting the controls just beyond a junction where necessary, guiding them into the 'exit') - they should almost fall over them, not have to search for them. If in doubt, make the course too easy – everybody should be successful. Failure on a course at this stage may mean the loss of that competitor to orienteering.	The beginner course is most often used by beginners, families, and children aged 10 and under. The course should be planned with easy legs and control locations that will ensure successful course completion.	Beginner courses must follow simple, linear features, such as roads, trails, fields, fences, and streams. If it is not possible to create a complete course along handrails, flagging may be used to direct participants on some legs. Detailed contours, dense forest and vegetation, and dangerous areas should be avoided. Dangerous pits and ruined fence wire on the ground should be taped with bright flagging tape. 1:7,500 scale is recommended for forest orienteering courses.	The legs on a beginner course, including the start, should have no route choice and a minimum of orienteering problems. The legs should utilize cart tracks, trails, small trails, edges of fields, and fences. The legs should not be longer than 300m and a control should be placed at every decision point to prevent participants from going past important turns.	To successfully complete the beginner course, participants should understand the basic map colours and commonly used symbols. A compass can be used to orient the map and participants must make decisions at each control point.
TD2 – Novice Controls on distinct line features (i.e. not on linear marshes, vague vegetation boundaries, streams in areas of other, smaller, unmarked streams, etc.), or on raised point features immediately visible from an adjacent line feature • Routes between controls follow line features; no more than two junctions to negotiate between consecutive controls. Try for a variety of line features to make the course more interesting. • Controls close together • No route choice problems. TD2 courses should be TD1 for the first two or three legs, allowing confidence to be built up. Anyone competing on a TD2 course should already have done some TD1 courses. The TD2 courses should then be starting the process of teaching them how to use the information on the map - for instance in deciding which path to follow out of a junction.	The participants on a novice course are often adult beginners, families, and experienced children aged 11 and older.	The terrain and map requirements for a novice course are the same as for a beginner course. 1:7,500 scale may be considered for forest orienteering courses.	The legs of a novice course may be slightly longer than the legs on a beginner course. Some legs may require participants to make simple route choice decisions on linear features. Controls do not have to be placed at every decision point but there should be no more than two decision points per leg.	To successfully complete a novice course, participants should be able to follow a variety of line features (handrails), make decisions at decision points that are not identified by a control.
TD3 – Intermediate	The participants on	The intermediate course should	The legs of an intermediate	To successfully

Technical Difficulty Description	Participants	Terrain & Map	Legs	Skills Required

• Controls may be on prominent point features:
  o raised features (knolls, boulders etc.) reasonably close to an attack point on a line feature
  o sunken features (pits, depressions etc.) adjacent to attack points on line features
• 'Catching' line features behind those controls which are not themselves on line features
• Simple route choice problems, with the quickest routes being direct through runnable terrain to good catching features; but slightly longer alternatives using line features must be available
• legs vary in length
Now the competitors should be able to read much of the information on the map, so the courses are teaching them the techniques of the sport - route choice, running direct to a catching feature instead of following line features, using contours for navigation, etc.
At TD3, the planner should encourage simple use of contour detail - contouring, following ridges/valleys - on the quickest routes whilst not requiring the use of contour features as attack points. These routes should also require simple compass work - map orientation, and the following of rough compass bearings (e.g. heading NW) but not accurate bearings nor compass and pacing**.**
	an intermediate course include experienced young teenagers, families, and recreational adults.	provide participants with the opportunity to get comfortable leaving major handrails for short periods. Participants can be made to feel more secure off-trail by having a catching feature just past the control site to keep participants from over-shooting. Navigation using large, distinct contour features may be introduced but areas with detailed contours should still be avoided.
		
		1:10,000 scale is recommended for all forest orienteering courses.
			course should contain simple route choices utilizing major handrails leading to distinct attack points. Routes should be planned so that participants may attempt a shorter overland route or a longer route with many handrails depending on their level of confidence. The legs of an intermediate course should vary in length and may have multiple decision points.	complete an intermediate course, participants should be able to use a compass bearing from an attack point to a control, use a compass to take short cuts between two line features, read prominent contour features, and make simple route choice decisions.

TD4 – Veteran The technical difficulty of TD 4 is the same level as TD5 with the exception that the courses should not pass through highly detailed areas, traverse steep hills or cross fences where there are no crossing points. Courses are shorter than all the TD5 courses, and depending on terrain, may also be shorter than TD2 and TD3.	The participants on the veteran course are very experienced, but older orienteers, ages 75+. Running speeds may be slow.	Same as TD5, but care should be taken to avoid overly complex map areas that maybe difficult to read. 1:7,500 scale is recommended for forest orienteering courses to accommodate older eyes.	Same as TD5, however avoid traversing steep hills or other excessively rugged terrain. Legs should not be straight up or down hills, and should avoid steep traverses. Avoid areas with tricky footing (slippery or rocky).	Same as TD5, however consideration should be given to physical limitations of veteran competitors.
TD5 – Expert & Elite • Controls on any features particularly those demanding careful map read-ing to locate • Controls far from obvious attack points or catching features, so that er-rors are expensive; but with the map permitting accurate navigation into the control • Course as a whole contains legs demanding a range of different tech-niques. Hard, but fair - competitors should be pushed to the limits of navigational skill, not into the realms of chance (e.g. trying to find a pit on a compass bearing, the pit and marker being visible from 10m and the reliability of the bearing being 20m). The technical difficulty of the course as a whole is the same as the technical difficulty of its hardest leg, although most of its legs should be of the required technical difficulty.	The participants on these courses are experienced, physically fit orienteers.	Theses course should use detailed terrain that requires the utilization of precision and rough map reading skills. 1:10,000 scale is required for all forest orienteering courses and 1:15,000 for Elite and Junior (M/W17-20) long distance events.	The legs on these courses should provide the maximum number of route choice problems. Vary the legs to force the participants to change techniques and running speed. Some climb is desirable, although the total amount of climb should not exceed 4% of the course length. Avoid legs that go up a hill and then straight back down on the next one. The most orienteering challenge should be the fastest route for those who execute the required skills.	To successfully complete a long advanced course, participants should be able to navigate over long distances using only contours, precision orienteer using map reading or compass skills, use the appropriate skills for the leg, concentrate over long periods of time and while physically tired.

Appendix B: Competition Formats
(Adapted from IOF Competition Rules 2017)

	Sprint	Middle Distance	Long Distance	Relay
Controls	Technically easy.	Consistently technically difficult.	A mixture of technical difficulties.	A mixture of technical difficulties.
Route Choice	Difficult route choice, requiring high concentration.	Small and medium scale route choice.	Significant route choice including some large-scale route choices.	Small and medium scale route choice.
Type of Running	Very high speed.	High speed, but requiring runners to adjust their speed for the complexity of the terrain.	Physically demanding, requiring endurance and pace judgment.	High speed, often in close proximity to other runners who may, or may not, have the same controls to visit.
Terrain	Predominantly in very runnable park or urban (streets/buildings) terrain. Some fast runnable forest may be included. Spectators are allowed along the course.	Technically complex terrain.	Physically tough terrain allowing good route choice possibilities.	Some route choice possibilities and reasonably complex terrain.
Map	1:4000 or 1:5000	1:10000‡ (or sometimes 1:15000) 1:7500†	1:15000‡ 1:10000* 1:7500†	1:10000 (or sometimes 1:15000)
Start Interval	1 minute	2 minutes	3 minutes (2 minutes WOC & WCup)	Mass start
Winning Time (for Senior Elite competition)	12-15 minutes	30-35 minutes Qualification races are shorter	Men 90-100 minutes Women 90-100 minutes Qualification races are shorter	30-40 minutes per leg. Men and Women Total 90-105 minutes
Summary	Sprint orienteering is a fast, visible, easy-to-understand format, allowing orienteering to be staged within areas of significant population.	Middle distance orienteering requires fast, accurate orienteering for a moderately long period of time. Even small mistakes will be decisive.	Long distance orienteering tests all orienteering techniques as well as speed and physical endurance.	Relay orienteering is a competition for teams of three runners running on a virtually head-to-head basis with a first-past-the-post winner. Exciting for spectators and competitors.

† Recommended map scale for TD1 and TD4; may be considered for TD2.

‡ Approval by the Orienteering Canada Technical Committee is required for map scale deviations other than those listed here.

* Recommended map scale for TD3 and TD5 (except for MW21E and MW17-20); may be considered for TD2.

SPRINT DISTANCE

The profile
The Sprint profile is <u>high speed</u>. It tests the athletes' ability to read and translate the map in complex environments, and to plan and carry out route choices running at high speed. The course must be planned so that the element of speed is maintained throughout the race. The course may require climbing but steepness forcing the competitors to walk should be avoided. Finding the controls should not be the challenge; rather the ability to choose and complete the best route to them. For example, the most obvious way out from a control should not necessarily be the most favourable one The course should be set to require the athletes' full concentration throughout the race. An environment that cannot provide this challenge is not appropriate for the Sprint.

Course planning considerations
In Sprint spectators are allowed along the course. It may be necessary to have guards at critical passages alerting spectators of approaching competitors and making sure that competitors are not hindered. The start should be at the Arena and spectator sites may be arranged along the course. The spectator value could be enhanced by having an on-course announcer. Both spectator sites and sites for media/photographers shall be announced at the Arena. The course must be planned to avoid tempting competitors to take shortcuts through private property and other out-of-bound areas. If there is such a risk, a referee should be at such locations to prevent possible attempts. Areas so complex that it is doubtful whether a competitor can interpret the map at high speed should be avoided (e.g. when there are complex three-dimensional structures).

The map
The ISSOM specification shall be followed. The map scale is 1:4000 or 1:5000. It is crucial that the map is correct and possible to interpret at high speed, and that the mapping of features that affect route choice and speed are accurate. In non-urban areas, the correct mapping of conditions reducing running speed, both to degree and extent, is important. In urban areas, barriers hindering the passage must be correctly represented and drawn to size.

MIDDLE DISTANCE

The profile
The Middle distance profile is technical. It takes place in a non-urban (mostly forested) environment with an emphasis on detailed navigation and where finding the controls constitute a challenge. It requires constant concentration on map reading with occasional shifts in running direction out from controls. The element of route choice is essential but should not be at the expense of technically demanding orienteering. The route in itself shall involve demanding navigation. The course shall require speed-shifts e.g. with legs through different types of vegetation.

Course planning considerations
The course should be set to allow competitors to be seen by spectators during the course of the race as well as when finishing. The start should be at the Arena and the course should preferably make runners pass the Arena during the competition. The demand on selection of Arena is subsequently high, providing both suitable terrain and good possibilities to make runners visible to spectators. Spectators are not allowed along the course except for parts passing the Arena (including controls at the Arena).

The map
The standard ISOM specification shall be followed. The map scale is 1:10 000. The terrain shall be mapped for 1:15 000 and then be strictly enlarged as specified by ISOM.

LONG DISTANCE

The profile
The Long distance profile is <u>physical endurance</u>. It takes place in a non-urban (mostly forested) environment, and aims at testing the athletes' ability to make efficient route choices, to read and interpret the map and plan the race for endurance during a long and physically demanding exercise. The format emphasizes route choices and navigation in rough, demanding terrain, preferably hilly. The control is the end-point of a long leg with demanding route choice, and is not necessarily in itself difficult to find. The Long distance may in parts include elements characteristic of the Middle distance with the course suddenly breaking the pattern of route choice orienteering to introduce a section with more technically demanding legs.

Course planning considerations
The course should be set to allow competitors to be seen by spectators during the course of the race as well as when finishing. Preferably, the start should be at the Arena and the course should make runners pass the Arena during the competition. A special element of the Long distance is the long legs, considerably longer than the average leg length. These longer legs may be from 1.5 to 3.5 km depending on the terrain type. Two or more such long legs should form part of the course (still requiring full concentration on map reading along the route chosen). Another important element of the Long distance is to use course setting techniques, which breaks up grouping of runners.—Butterfly loops are on such technique. (Butterfly loops are one such technique for breaking up a group of runners. The terrain itself should be used as a break-up method by putting the course through areas with limited visibility. Spectators are not allowed along the course except for parts passing the Arena (including controls at the Arena).

The map
The standard ISOM specification shall be followed. The map scale is 1:15 000.