

Discussion regarding Course and Category Issues – COF AGM October 2006

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Notes:

- 1) This document proposes a 10-course system for discussion purposes. We do not pretend to have all of the answers, but the information and structure here provide a good framework for discussion, and hopefully, a decision for dealing with the issues described below.
- 2) The last five pages of this document comprises competition format information from the IOF Competition Rules, 2004.
- 3) It cannot be stressed enough that the '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".

Introduction:

We were approached by COF President Charlotte MacNaughton to put together some options for addressing a number of course category issues, namely:

1. M75+ and F75+ age categories were approved at the 2005 AGM; but were not 'assigned' to a specific course;
2. Sprint and Middle distances have been approved as Canadian Championship disciplines, but no Recommended Winning Times (RWT) have been agreed upon;
3. The number of courses to offer for the Sprint discipline has not been decided upon;
4. There are a number of 'weaknesses' with the present allocation of categories to courses (essentially that it is unrealistic for some categories on the same course to achieve the same winning time).

There has been some recent discussion on Attack Point and on the Osquad email distribution list about moving to a system based on "skill-based" categories instead of "age-based" categories (i.e. "Novice-adult", "Sport-adult", "Expert" etc.). We considered that to be beyond the scope of what we were asked to do. Such a fundamental change would require a great deal more discussion.

The Present System:

The present course/category system, in use by the COF since 1997 is shown in Table 1:

Course	1	2	3	4	5	6	7	8
Categories	F-12; M-12	F13-14; M13-14	F15-16; M15-16	F55-64; F65+; M65+	F17-19; F45-54; M55-64	M17-19; F35-44; M45-54	F20-34; M35-44	M20-34
RWT for 1 Day Classic	25	30	45-50	50	50-55	55-60	70	90
RWT for Short	20	25	25	35	25	25	25	30

It is worth recalling the definition of Recommended Winning Time – which is the time a Canadian Champion (for that age category) could be expected to achieve on that course, regardless of whether or not a Canadian Champion is expected to actually attend. It is desirable to have a single definition used across Canada to help ensure consistency in what course planners are trying to achieve. As an aside, it has been suggested that we should be basing our RWTs on what a World Champion would do. We feel there are a few problems with that. Analysis has shown that our course planners have enough difficulty getting some of the course lengths right for a Canadian Champion,

which is arguably more of a “known quantity” than a World Champion. Also – it may result in courses that are simply too long for many of our participants. The Classic distance race from COC 2004 in Whitehorse provides a good example – the course was 13.2 km. The fastest “Canadian” time was Magnus Johansson in 102:36. The slowest finisher was 175 minutes, and there were about 8 DNFs. Likely a World Champion would have completed it in close to 90 minutes, but in hindsight it was perhaps too long. We must remember that not everyone is striving to make it to the WOC; and any course/category system must primarily serve the “bread and butter” participants of our sport.

While this is not the place to rehash all of the pros and cons of this system some explanation is useful. This system was an attempt to address a number of interrelated issues at the time:

- The low numbers of participants in some (5-year) categories;
- The arguably overwhelming number of categories relative to the number of participants in most competitions;
- A desire to simplify the system;
- A desire to have more consistent course setting in terms of achieving Recommended Winning Times.

Discussion of Weaknesses:

The system of allocating categories to courses is not perfect. A perfect system would have separate courses for each age category. At the risk of stating the obvious, the problems stem from the fact that different age categories do not run at the same speed. This is why recommended winning times for some of the courses are given as ranges rather than single targets. For these courses, some of the age categories would be expected to be at the fast end of the range, while others would be at the slow end of the range. A review of some recent winning times from Course 4 demonstrates some of the weaknesses:

Competition	Winning Canadian time: F55-64	Winning Canadian Time: F65+	Winning Canadian Time: M65+
COC 2004 – Day 1	47:24	58:38	40:14
COC 2004 – Day 2	41:09	60:10	34:47
COC 2003 – Day 1	59:10	74:01	46:54
COC 2003 – Day 2	49:54	60:34	44:51
COC 2001 – Day 1	66:34	82:17	51:02
COC 2001 – Day 2	63:58	86:40	71:02
COC 2000 – Day 1	119:58	107:42	133:53
COC 2000 – Day 2	91:30	97:54	89:35

In this case, the M65+ runners very obviously complete Course 4 distinctly faster than both the F55-64 and F65+ runners. So even if a course setter “gets it right” by designing a Course 4 that M65+ runners will do in 50 minutes, it will almost certainly be too long for the other categories on that course. An extreme example is the Day 2 Course from 2004, in which the M65+ winner was 15 minutes *faster* than the 50 minute RWT, yet the F65+ winner was still 10 minutes *slower* than the 50 minute RWT. Secondly, this information tells us that Course 4 is simply too long for F65+. Of the eight examples above, the closest any course setter got to a winning time of 50 minutes for F65+ was Day 1 of 2004, at 58:38. The Day 1 Course 4 from 2000 was arguably more than twice as long as it should have been.

A specific point made about the present system is that perhaps it was mistake to place M17-19 on Course 6 rather than 7.

The Proposed System:

A potential 10-course system (5 courses for Sprint) is shown in Table 2:

Course	1	2	3	4	5	6	7	8	9	10
Categories	F-12; M-12	F13-14; M13-14	F15-16; M15-16	F65-74; F75+	F55-64 M75+	F45-54; M65-74	M45-54; M55-64	F35-44; F17-20;	M17-20; F21-34; M35-44	M21-34
RWT for Long	30	30	50	45-50	45-50	45-50	55	55	70-80	90-100
RWT for Middle	20	20	25	25	25	25	25	30	30-35	30-35
RWT for Sprint	Course 1: 10-12		Course 4: 12-15	Course 2: 12-15		Course 3: 12-15		Course 4: 12-15	Course 5: 12-15	

The above RWTs are based on a number of considerations, including the RWT of the present system; the RWTs given by IOF for elites, and for masters' categories at WMOC; a desire to facilitate the different disciplines being as different as possible; and the survey of older masters provided by Leigh Bailey.

There may still be weaknesses in that some of the categories on the same course would still not be able to achieve the same winning time, but we feel this is an improvement over the existing system, and, as mentioned above, a perfect system would entail separate courses for each category, which would be impractical.

Of course, there can be a lot of discussion about pros and cons of how the categories are allocated and why certain RWT figures are used. For example – Leigh's conclusion (based on his survey of older masters) was that they preferred a 30-minute winning time for the Middle discipline. I have suggested 25, simply to help make the Middle discipline (in theory) more different than the Long. An alternate option regarding the category allocations might be to have M75+ and F75+ on Course 4; and F64-74 and M65-74 on Course 5. There are pros and cons to both. For example an F75+ runner would logically take longer than a F65-74 runner on the same course, but then there would also logically be differences between F75+ and M75+ if they were on the same course. The establishment of the RWT as a range rather than a single figure helps in this regard – that is, ideally the F65-74 runners complete it in 45 minutes, the F75+ runners in 50.

It may seem that there is quite a jump for F15-16 from Course 3 to F17-19 on Course 8, and for M15-16 to go from Course 3 to M17-19 on Course 9. But the progression of courses never has been intended to be a strictly linear progression. In most cases, Course 3 would normally be longer than Courses 4 and 5 (and perhaps 6). Also, although it is a jump in "course number" from 3 to 8 (or 9), the increase in RWT is not that great. And in the case of the Middle distance at least, the increase in distance is minimal. For example for NAOC2006 the middle distance course for 15-16 is 2.8 km. M17-19 is only 800 metres longer, and F17-19 is only 600 metres longer.

One specific course assignment to ponder is M45-54 on Course 7. The M45 winner is likely to be a faster orienteer than the F35 and F17-19 winners, so perhaps M45-54 should be on course 8, either along with or instead of F17-19. On the other hand there is a certain symmetry with M45-54 being on Course 7, especially when the (proposed) 5-course system for the Sprint distance is considered. And, as mentioned above, the course progression is not necessarily meant to be a simple progression in distance and difficulty – there is nothing saying that Course 7 must be shorter than Course 8.

“E” and “A” Categories for F/M20-34 in the Long Distance Discipline?

One suggestion worth considering is introducing (for the Long discipline only) shorter course options for the F/M20-34; called either “A” or “A-Short”. The rationale is that this would give people a chance to run “their age category” without having to be out on the course for 2+ hours. This might also allow the course setter to feel free to set the men's and women's courses as true long distance races without worrying about accommodating those who don't want to run as long. People not wanting to run the “elite” F/M 20-34 course may be more likely to sign up for this other ‘version’ of their age category (i.e. F/M 20-34 A short) than an Open category, and may be more likely to stay with the sport if they weren't forced to be out for so long but still had their own category. It might be argued that this thinking applies to ALL categories, but there are two factors unique to F/M 20-34 that may justify it more than for the other categories. For one thing the age category is 15 years long, so someone must wait longer before dropping to a shorter course. The other is that these courses are simply the longest, most difficult courses and therefore most likely to be “too much” for a more recreational orienteer that is of that age.

If such a scheme were adopted, we could have M20-34E on Course 10; and M20-34A on Course 7; F20-34E on Course 9 and F20-34A on Course 6. The “A” categories would be considered non-Championship categories. Such a scheme may also have the benefit of aligning our top categories with the top courses offered elsewhere in the world (at least in terminology).

Is ten courses too many?

It may be argued that course setters have a difficult enough time trying to set and control eight courses. However, a 10-course system may make some aspects of course setting easier, since it narrows the clientele on any course down, making it easier to focus on their needs, and therefore “get it right” in terms of appropriate distance and technical difficulty. For example the above system would eliminate the Course Setters “conundrum” regarding the existing Course 4 – that is “Do I set for what an M65+ will do, what an F65+ will do or what an F55-64 will do?”

Also, the increase in use of electronic punching has provided some flexibility and changes in our way of thinking about how courses can be set. This may help to decrease the workload. For example, more convoluted courses, courses in a smaller, more restricted area, courses with many legs in common, etc.

While the USOF uses a system of seven colour-coded courses, they usually in fact offer ten courses, when the variations are counted (i.e. green-x; green-y; brown-x; brown-y; red-x; red-y). The COC2006 offered nine courses (7a and 7b).

Finally – from the point of view of a club hosting a “COC Festival” there is little additional work. Under the “present” system, a club hosting a “Short” and a two-day total time Classic would be responsible for a total of 24 courses (three days x 8). With the proposed system of three one-day races there would be a total of 25 courses (10 + 10 + 5).

Going to ten courses might mean that we simply need to manage people's expectations a little more. For example, participants may need to be educated not to expect 100% unique courses – that (for example) Courses 5 and 6 might only differ in the first control, and with Course 6 having an extra section of 3 controls. This of course is not all bad from a competitor's point of view since people like to compare routes and leg splits, especially since the introduction of Sport Ident.

Sprint Discipline:

For the Sprint we have suggested five courses. At both the COC and NAOC in 2006, only four courses were offered (with different category allocations). There have also been a number of recent races offering six courses (BC, Alberta). One reason we propose five courses is simply the “symmetry” of collapsing a 10-course system to a 5-course system. Also, there is a certain logic to the groupings of categories, with ‘natural breaks’ for which age categories are on which of the five courses. The four categories from Courses 9 and 10 that are put on Sprint Course 5 are the ones that are arguably the most interested in comparing splits for example (recognizing it omits F17-19 and F35-44). Five rather than four courses will help with spreading participants out somewhat and helps to keep the start window small. (NAOC 2006 has about 217 starting on only four courses – which produces a long start period, even with one-minute intervals). The RWT range of 12-15 minutes allows (in theory) for the different categories to run the same course – for example for Course 5 the idea would be that M20-34 do it in 12 minutes; F20-34 in 15.

The suggestion to make the RWT for Course 1 10-12 minutes is to facilitate the three disciplines being as distinctly different as possible. In theory, if the course planner is striving for a 10 minute winning time it is less likely to end up being similar to the other two disciplines. The M/F-12 and M/F 13-14 courses are the ones most likely to just end up all being (for example) won in 20 minutes if the course setting is “sloppy” (simply because by definition there is less range built into the RWT of the three disciplines for those categories).

Appendix : Competition Formats (From IOF Competition Rules 2004)

SUMMARY TABLE	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	Very runnable park, streets or forest. 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)	1:15000	1:10000 (or sometimes 1:15000)
Start Interval	1 minute	2 minutes	3 minutes (2 minutes WOC & WCup)	Mass start
Timing	0.1 second (if suitable timing equipment is used)	1 second (0.1 seconds at WOC)	1 second (0.1 seconds at WOC)	Mass start so the finish order is the order across the line.
Winning Time (for Senior Elite competition)	12-15 minutes	30-35 minutes Qualification races are shorter.	Men 90-100 minutes Women 70-80 minutes Qualification races are shorter	30-60 minutes per leg Men Total 135 minutes Women Total 120 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.

COMPETITION FORMAT DESCRIPTIONS

1. SPRINT

1.1 The profile

The Sprint profile is high speed. 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.

1.2 Course planning considerations

In Sprint spectators are allowed along the course. The course planning shall consider this, and all controls must be manned. It may also 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 building temporary stands and 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).

1.3 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.

1.4 Winning time, start interval and timing

The winning time, for both women and men, shall be 12 – 15 minutes, preferably in the lower part of the interval. In WOC and World Cup there is no difference between qualification and final races. The start interval is 1 minute and a time-trial, individual format is used. Timing is to 0.1 second by using electronic means of timing with start gates and a beam finish line. The competitor shall have passed the start gate before having access to the map.

2 MIDDLE DISTANCE

2.1 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.

2.2 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).

2.3 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.

2.4 Winning time, start interval and timing

The winning time, for both women and men, shall be 30 – 35 minutes. In WOC and World Cup the winning time in qualification races shall be 25 minutes. The start interval is 2 minutes and a time-trial, individual format is used. At WOC timing is to 0.1 seconds by using electronic means of timing with start gates and a beam finish line. The competitor shall have passed the start gate before having access to the map.

3 LONG DISTANCE

3.1 The profile

The Long distance profile is physical endurance. 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.

3.2 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 coursesetting techniques, which breaks up grouping of runners. In particular when using a 2-minute start interval, butterflies and other break-up methods should be used. It is also essential to use the terrain as a break-up means, drawing 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).

3.3 The map

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

3.4 Winning time, start interval and timing

The winning time shall be 70 – 80 minutes for women and 90 – 100 minutes for men. In WOC and World Cup the winning times in qualification races shall be 45 minutes for women and 60 minutes for men. The start interval is 3 minutes, but 2 minutes at WOC and World Cup. A time-trial, individual format is used. At WOC timing is to 0.1 seconds by using electronic means of timing with start gates and a beam finish line. The competitor shall have passed the start gate before having access to the map.

4 RELAY

4.1 The profile

The Relay profile is team competition. It takes place in a non-urban (mostly forested) environment. The format is built on a technically demanding concept, more similar to the concept of the Middle than the Long distance. Some elements characteristic of the Long distance, like longer, route-choice legs should occur, allowing competitors to pass each other without making contact. Good Relay terrain has characteristics that make runners lose eye contact with each other (such as denser vegetation, many hills/depressions etc.). Terrain with continuous good visibility is not suitable for the Relay.

4.2 Course planning considerations

The Relay is a spectator friendly event in offering a competition between teams, head-to-head, and with the first to finish being the winner. The Arena layout and the course setting must consider this (e.g. when forking is used, the time difference between alternatives should be small). The competitors should, on each leg, pass the Arena, and if possible runners should be visible from the Arena while approaching the last control. An appropriate number of intermediate times (possibly with in-forest commentators) should be provided (as well as TV-controls shown on screen in the Arena). The mass start format requires a course planning technique separating runners from each other (e.g. forking). For fairness reasons the very last part of a leg shall be the same for all runners on that particular leg. Spectators are not allowed along the course except for parts passing the Arena (including controls at the Arena).

4.3 The map

The standard ISOM specification shall be followed. The map scale is 1:15 000 or 1:10 000. The decision on map scale shall be based on the complexity of the course design (e.g. short legs with controls close to each other may require the larger map scale). When 1:10 000 is used the terrain shall be mapped for 1:15 000 and strictly enlarged as specified by the ISOM.

4.4 Winning time, start interval and timing

The winning time (the total time for the winning team) shall be 120 minutes for the women's relay and 135 minutes for the men's relay. Within the total time, the time for different legs may vary. No leg should be longer than 60 minutes or shorter than 30 minutes. The Relay is a mass start format and consists of three legs for both women and men. In WOC timing shall preferably be made by electronic means, but manual systems may be used. At the finish line there shall be photo-finish equipment to assist in judging the correct placings.