



INTERNATIONAL ORIENTEERING FEDERATION

**COMPETITION RULES
FOR
INTERNATIONAL ORIENTEERING FEDERATION (IOF)
SKI ORIENTEERING EVENTS**

(Rules for IOF World Ranking Events)

This version of the competition rules is valid from 1 November 2020.
Subsequent amendments will be published on the official IOF web
site at <http://www.orienteering.org/>

*A vertical line in the left margin indicates a major
change to the previous version (1 December 2019)*

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1. Definitions

- 1.1 Ski Orienteering is a sport in which the competitors navigate independently through the terrain. Competitors must visit a number of control points marked on the ground in the shortest possible time aided only by map and compass. The course, defined by the location of the controls, is not revealed to competitors until they start. Skiing and navigational skills shall be tested in such a way that navigational skill is the decisive element. In ski orienteering the course shall be completed predominantly on skis. Parts may be completed on foot, in which case the competitor must carry appropriately-sized skis, ski sticks and ski boots.
- 1.2 In individual interval start races the competitors navigate and ski through the terrain independently.
- 1.3 In mass start and chasing start races, competitors may often be skiing in close proximity to each other, but the formats still demand independent navigation.
- 1.4 The term *competitor* means an individual of either gender or a team, as appropriate.
- 1.5 Types of orienteering competition may be distinguished by:
 - the time of the competition:
 - *day* (in daylight)
 - *night* (in the dark)
 - the nature of the competition:
 - *individual* (the individual performs independently)
 - *relay* (two or more team members complete consecutive individual races)
 - *sprint relay* (two team members each complete three individual races alternately with each other; the team must include at least one woman)
 - *team* (two or more individuals collaborate)
 - the way of determining the competition result:
 - *single-race competition* (the result of one single race is the final result. The competitors may compete in different races: the A-race, the B-race and so on, with the placed competitors of the B-race placed after the placed competitors of the A-race and so on)
 - *multi-race competition* (the combined results of two or more races, held during one day or several days, form the final result)
 - *qualification race competition* (the competitors qualify for a final race through one or more qualification races in which they may be allocated to different heats. The competition's result is that of the final only. There may be A- and B-finals and so on, with the placed competitors of the B-final placed after the placed competitors of the A-final and so on)
 - *pursuit* (an interval start prologue determines the start times for a chasing start final)
 - the order in which controls are to be visited:
 - *in a specific order* (the sequence is prescribed)
 - *in no specific order* (the competitor is free to choose the order)
 - the length of the race:
 - *Extra long distance*
 - *Long distance*
 - *Middle distance*
 - *Sprint*
 - *other distances*
 - the starting method for the race:
 - *an interval start* (the race is a time trial; the competitor with the fastest

- time is the winner)
- *a mass start* (the competitors start together; the first across the finish line is the winner)
- *a chasing start* (the competitors start at intervals depending on results from previous race(s); the first across the finish line is the winner)

- 1.6 The term *Federation* means a member Federation of the IOF.
- 1.7 The term *event* embraces all aspects of a ski orienteering meeting including organisational matters such as start draws, team officials' meetings and ceremonies. An event, e.g. a World Championships, may include more than one competition.

- WRE 1.13 *IOF World Ranking Events (WRE)* are international events which are accepted by the IOF Council into the official IOF Calendar. They are organised under the authority of the IOF and the Federation of the organiser.
- 1.14 The IOF World Ranking Scheme is a system to rank the World's Elite Ski Orienteers based on their performances in the World Ski Orienteering Championships, World Cups and World Ranking Events.
- 1.15 *The IOF Event Adviser* is the person appointed to control an IOF event. In the case of World Games, World Championship, Junior World Championship, World Masters Championship, World Cup and Regional Championship events the title *IOF Senior Event Adviser* is used.

2. General provisions

- 2.1 These rules, together with the Appendices, shall be binding at the *World Ski Orienteering Championships*, the *World Cup in Ski Orienteering*, the *Junior World Ski Orienteering Championships*, the *World Masters Ski Orienteering Championships*, for W21 and M21 elite classes at *Regional Ski Orienteering Championships*, for *Regional Youth Ski Orienteering Championships* and for W21 and M21 elite classes at *IOF World Ranking Events*. Every rules point with no event abbreviation before its number is valid for all these events. A rules point valid only for one or more of these events is marked with the specific abbreviation(s) in the margin beside the rules point number. Such specific rules take precedence over any general rules with which they conflict.
- 2.2 Where an event is of two types (e.g. if the World Championships also forms a part of the World Cup) the rules for the higher-level event (as defined by the order in 1.8-1.13) shall take precedence.
- 2.3 These rules are recommended as a basis for national rules.
- 2.4 If not otherwise mentioned these rules are valid for individual day orienteering competitions on skis.
- 2.5 Additional regulations which do not conflict with these rules may be determined by the organiser. They need the approval of the IOF Event Adviser.
- 2.6 These rules and any additional regulations shall be binding for all competitors, team officials and other persons connected with the organisation or in contact with the competitors. Any additional regulations shall be published in the final event bulletin.
- 2.7 Sporting fairness shall be the guiding principle in the interpretation of these rules by competitors, organisers and the jury.
- 2.8 The English text of these rules shall be taken as decisive in any dispute arising from a translation into any other language.
- 2.9 In relays the rules for individual competitions are valid, unless otherwise stated.
- 2.10 The IOF Council may decide special rules or norms which shall be followed, e.g.

IOF Anti-Doping Rules, IOF Protocol Guide, International Specification for Ski Orienteering Maps, Principles for Course Planning, Leibnitz Convention.

- 2.11 The IOF Council may allow deviations from these rules and norms. Requests for permission to deviate from them shall be sent to the IOF Office at least 6 months prior to the event.
- 2.12 In exceptional circumstances, due to special snow or weather conditions, in order to maximise fairness, the Organiser with the IOF Event Adviser may allow rule deviations. Such deviations should, if possible, be agreed at a team leaders' meeting.
- 2.13 The IOF Guidelines should be followed. Significant deviations require the consent of the IOF Event Adviser.

3. Event programme

- 3.1 The event dates and programme are proposed by the organiser and approved by the IOF Council.
- WRE 3.9 The events which are selected to be IOF World Ranking Events are chosen by Federations according to criteria determined by the IOF.

4. Event applications

- 4.1 Any Federation may apply to organise an IOF event.
- 4.2 Applications shall be forwarded by the Federation to the IOF Office. The official application form shall be used, and the applications shall contain all requested information and guarantees. When there is no successful applicant, the application period will normally be extended further until a valid application has been received, evaluated and IOF Council have appointed an organiser. Such applications will be handled in the order they are received and appointed as soon as possible. IOF Council may decide not to organise an event if no suitable applications are received in appropriate time.
- 4.3 The IOF Council may impose a service fee on any IOF event. The amount of the service fee shall be announced at least six months before the closing date for applications for that event.
- 4.4 The IOF Council may void the sanctioning of an event if the organiser fails to comply with the rules, the norms, the IOF Event Adviser's directions or the information submitted in the application. The organiser cannot claim damages in this case.
- WRE 4.8 The IOF Council shall indicate, by the end of June prior to the season, each Federation's allocation of WREs for the year in question and the criteria these events must meet. Applications shall be due no later than 30 September prior to the season and shall be approved or rejected by the IOF Council by 31 October the same year.

5. Classes

- 5.1 Competitors are divided into classes according to their gender and age. Women may compete in men's classes.
- 5.2 Competitors aged 20 or younger belong to each class up to the end of the calendar year in which they reach the given age. They are entitled to compete in older classes up to and including 21.
- 5.3 Competitors aged 21 or older belong to each class from the beginning of the calendar year in which they reach the given age. They are entitled to compete in younger classes down to and including 21.

- WRE 5.4 The competition classes are called W21 and M21, for women and men respectively.
- WRE 5.5 The W21 and M21 classes shall be restricted to competitors classified as elite competitors by their Federation or who are selected for the class based on their position in a Federation's ranking scheme.
- WRE 5.6 Should a class have too many entries, it may be split into parallel classes based on the competitors' previous performances.

6. Participation

- WRE 6.1 A competitor may represent only one Federation during any one 12 month period running from November to October.
- WRE 6.2 All competitors shall be citizens of the country of the Federation they are representing. They shall be able to provide either a passport or other valid documentation proving their citizenship.
- 6.4 Competitors participate at their own risk. Insurance against accidents shall be the responsibility of their Federation or themselves, according to national regulations.

7. Costs

- 7.1 The costs of organising an event are the responsibility of the organiser. To cover the costs of the competition(s), the organiser may charge an entry fee for competitors and an accreditation fee for non-competitors (team officials, media etc.). This fee shall be kept as low as possible and shall be approved by the IOF Event Adviser. For an event with several competitions, as an alternative to a total fee for the whole event, the organiser must offer competitors the option of an accreditation fee plus a fee for each competition entered.
- 7.2 Each Federation or individual competitor is responsible for paying the entry fee as specified in the invitation. The time limit for paying the entry fee shall not be earlier than 6 weeks prior to the event. Late payment may be subject to an additional fee.
- 7.3 Late entries and changes shall be accepted by the organiser if possible, and may be charged an additional fee.
- 7.5 Each Federation or individual competitor is responsible for defraying the expenses of travel to the event, accommodation, food and transport between the accommodation, event centre and competition sites. If the use of official transport to the competition sites or other service provided by the organisers is compulsory, the entry fee shall include these costs.
- 7.6 The travelling costs of the IOF appointed Event Adviser and Assistant/s, to and from the venue, shall be paid by the IOF. Local costs during controlling visits and the event days are paid by the organiser or the organiser's Federation according to national agreements.
- 7.7 All costs of IOF Event Advisers and Assistants appointed by a Federation shall be paid by the organiser or the Federation according to national agreements.
- 7.9 If the event (or part of the event) has to be cancelled, the organiser may retain a minimum proportion of the entry fee in order to cover committed costs. If the event (or part of the event) has to be relocated incurring extra costs, an additional entry fee may be charged.

8. Information about the Event

- 8.1 All information and ceremonies shall be at least in English. Official information shall be given in writing. It may be given orally only in response to questions at

team officials' meetings or in urgent cases. Any changes to information published in the last Bulletin must be given in writing.

- WRE 8.9 Information from the organiser shall be given in the form of two bulletins. Bulletin 1/2 shall be available on the internet via the IOF web site. Bulletin 3 is provided to all competitors.
- WRE 8.11 Bulletin 1/2 shall be available 4 months before the event; Bulletin 3 shall be available 1 week before the event.
- WRE 8.12 Bulletin 1/2 (preliminary information and invitation) shall include the following information:
- organiser and the names of the event director and controller(s)
 - address and telephone/ e-mail address/web page for information
 - venue
 - dates and types of the competitions
 - classes and any participation restrictions
 - general map of the region
 - embargoed areas
 - any peculiarities of the event
 - official entry form
 - latest date and address for entries
 - entry fee for competitors (see 7.1)
 - latest date and address for the payment of the entry fees
 - types and cost of accommodation and food
 - description of any transport offered
 - directions for obtaining entry permits (visas)
 - details of opportunities for training
 - description of terrain, altitude, climate and any hazards
 - event programme
 - the punching system to be used
 - scales, vertical contour intervals and any additional or modified map symbols
 - expected winning time
- WRE 8.13 Bulletin 3 (event information) shall include the following information:
- detailed programme of the event, including start lists
 - details of the terrain
 - summary of entries received
 - any permitted deviations from the rules
 - address and telephone/ e-mail address of the competition office
 - transport schedule
 - map size
 - the length, total climb, number of controls and number of refreshment controls
 - the time limits for Complaints
 - the location for making Complaints
 - maximum skiing times
 - names and Federations of jury members

9. Entries

- 9.1 Entries shall be submitted according to the instructions given in Bulletin 2. At least the following details shall be supplied for each competitor: family name and first name, gender, year of birth, Federation. The names of the team officials shall be supplied. Late entries shall be accepted by the organiser if possible, and may be charged an additional fee.
- 9.2 A competitor may only enter one class in any one competition.
- 9.3 The organiser may exclude competitors or teams from starting if their entry fee is not paid and no agreement has been reached about payment.

10. Travel and transport

- 10.4 The use of official transport to a competition site may be declared compulsory by the organiser.

11. Training and model event

- 11.1 Training opportunities shall be offered before the competition if requested.
- 11.2 On the day prior to the first competition of an event, the organiser shall put on a model event to demonstrate the terrain type, map quality, different types of tracks, control set-up, refreshment points and marked routes.
- 11.3 Competitors, team officials, IOF officials and media representatives shall be offered the opportunity to participate in the model event.
- 11.4 If deemed necessary by the IOF Event Adviser, further model events shall be organised.
- 11.5 If deemed appropriate by the IOF Event Adviser, the model event may be organised on the day of the competition.

12. Starting order, heat allocation and qualification

- 12.1 In an *interval start*, the competitors start singly at equal start intervals. In a *mass start*, all competitors in a class start simultaneously; in relays this applies only to the team members skiing the first leg. In a *chasing start*, the competitors start singly at start times and intervals determined by their previous results.
- 12.2 The starting order shall be approved by the IOF Event Adviser. The start draw may be public or private. It may be made by hand or by a computer.
- 12.3 The start list shall be published on or before the day prior to the competition and before any team officials' meeting that must be held according to Rule 13.1. If a qualification race is organised on the same day as the finals, the start list for the finals shall be published at least one hour before the first start.
- 12.4 The names of all competitors and teams correctly entered shall be drawn, even if a competitor has not arrived. Entries without names (blanks) are not considered for the draw. If the starting group allocations have not been received by the deadline, the organiser shall allocate the competitors into starting groups. If an already allocated competitor is placed into a restricted group, the organiser should contact the Federation in question to clarify the other team members' group allocation.
- 12.5 In extreme weather conditions (e.g. heavy snowfall), the organiser and the IOF Event Adviser may decide to postpone the start. In such weather in a chasing start race the organiser and the IOF Event Adviser may decide that an interval start procedure should be used instead. In this case the starting list will be in reverse order of the result list of the first part of the competition.
- 12.17 For an interval start, the normal start interval is 2 minutes for Long distance, 2 minutes for Middle distance and 1 minute for Sprint. In special cases, the organiser and the IOF Event Adviser may decide shorter or longer start intervals.
- WRE 12.21 The competitors start according to the IOF World Ranking list. The organiser should use a list published no more than 1 week before the event. The best ranked start last. Competitors without World Ranking points start first in random order. If two athletes have equal ranking, the one with the highest single score starts last.

13. Team officials' meeting

- WRE 13.4 There are no team officials' meetings.

14. Terrain

- 14.1 The terrain shall be suitable for setting competitive ski orienteering courses. The objectives of the Leibnitz convention shall be considered when choosing the terrain and event arena, and in designing the courses. That may involve the use and reuse of existing skiing arena facilities with major track systems.
- 14.2 When deciding terrain for, and planning major IOF ski orienteering events, the criteria given in Appendix 9 “Guidelines for use of terrain for Major Ski Orienteering Events” shall be followed.
- 14.3 The competition terrain shall be embargoed as soon as it is decided. If that is not possible, then arrangements for access to the terrain must be published as soon as possible. The guidelines in Appendix 9 should be followed.
- 14.4 Permission for access into embargoed terrain shall be requested from the organiser if needed.
- 14.5 Any rights of nature conservation, forestry, hunting, etc in the area shall be respected.

15. Maps

- 15.1 Maps, course markings and additional overprinting shall be drawn and printed according to the IOF *International Specification for Ski Orienteering Maps*. Deviations need approval by the IOF Council.
- 15.2 Errors on the map and changes which have occurred in the terrain since the map was printed shall be overprinted on the map if they have a bearing on the event.
- 15.3 Maps shall be protected against moisture and damage.
- 15.4 If a previous orienteering map or ski orienteering map of the competition area exists, links to high-resolution colour copies of the most recent edition must be made available for all competitors prior to the competition.
- 15.5 On the day of the competition, the use of any map of the competition area by competitors or team officials is prohibited until permitted by the organiser.
- 15.6 The competition map must not be larger than required by a competitor to ski the course. The map shall only be printed on one side of the paper.
- 15.8 The IOF and its member Federations shall have the right to reproduce the event maps with courses in their official magazines or on their websites without having to pay a fee to the organiser.

16. Courses

- 16.1 The IOF *Principles for Course Planning* (see Appendix 6) and the Leibnitz Convention (see Appendix 8) shall be followed.
- 16.2 The standard of the courses shall be worthy of an international ski orienteering event. The navigational skill, concentration and skiing ability of the competitors shall be tested. All courses shall call upon a range of different orienteering techniques. Courses for sprint shall require, in particular, a high level of concentration throughout the course, detailed map reading and frequent decision making. Courses for Long distance shall require route choice, while courses for Middle distance may represent a mix of the requirements for sprint and Long distance courses.
- 16.3 The length of the courses shall be given in two ways:
 - as the length of a straight line from the start via the controls to the finish deviating for, and only for, physically impassable obstructions (high fences, impassable cliffs etc.), prohibited areas and marked routes
 - following the shortest sensible route choice from the start via the controls

to the finish.

- 16.4 The total climb shall be given as the climb in metres along the shortest sensible route.
- 16.5 The total climb of a course should not exceed 6% of the length of the shortest sensible route choice.
- 16.6 For qualification races, the courses for the parallel heats shall be as nearly as possible of the same length and standard.
- 16.7 In relay competitions, the controls shall be combined differently for the teams, but all teams shall ski the same overall course. Generally the winning times for each leg should be as equal as possible. However, in specific cases (mixed relays, different ages etc.) leg lengths may be different. However, the sum of the winning times of the legs shall be kept as prescribed. All teams must ski the different length legs in the same sequence. In a sprint relay, the organiser shall specify which legs must be skied by a woman.
- 16.8 In individual competitions, the controls may be combined differently for the competitors, but all competitors shall ski the same overall course.

17. Restricted areas and routes

- 17.1 Rules set by the organising Federation to protect the environment and any related instructions from the organiser shall be strictly observed by all persons connected with the event.
- 17.2 Out-of-bounds or dangerous areas, forbidden routes, line features that shall not be crossed, etc shall be marked on the map. If necessary, they shall also be marked on the ground. Competitors shall not enter, follow or cross areas, routes or features drawn with the following symbols:
 - ISOM
 - ISOM 520 Area that shall not be entered
 - ISOM 708 Out-of-bounds boundary
 - ISOM 709 Out-of-bounds area
 - ISOM 711 Out-of-bounds route

 - ISSkiOM
 - ISSkiOM 301.2 Body of water that shall not be crossed
 - ISSkiOM 809 Forbidden route, crossable
 - ISSkiOM 814 Forbidden route, forbidden to cross.
- 17.3 Compulsory routes, crossing points and passages shall be marked clearly on the map and on the ground. Competitors shall follow the entire length of any marked section of their course.

18. Control descriptions

- 18.1 Control descriptions are not used in ski orienteering.

19. Control set-up and equipment

- 19.1 The control point shown on the map shall be clearly marked on the ground and be equipped to enable the competitors to prove their passage.
- 19.2 Each control shall be marked by a control flag consisting of three squares, about 30 cm x 30 cm, arranged in a triangular form. Each square shall be divided diagonally, one half being white and the other orange (PMS 165).
- 19.3 All controls must be situated on tracks shown on the competition map.
- 19.4 Each control shall be identified with a code number, which shall be fixed to the control so that a competitor using the marking device can clearly read the code.

Numbers less than 31 may not be used. The figures shall be black on white, between 5 and 10 cm in height and have a line thickness of 5 to 10 mm. Horizontally-displayed codes shall be underlined if they could be misinterpreted by being read upside down (e.g. 161).

- 19.5 The control number and code number shall be printed on the map as specified in the IOF *International Specification for Ski Orienteering Maps*.
- 19.6 To prove the passage of the competitors, there shall be a sufficient number of marking devices in the immediate vicinity of each flag. Two control flags may be used, if there are two punching devices, one on each side of the track.
- 19.7 If the estimated winning time is more than 45 minutes, refreshments shall be available at least every 30 minutes at the estimated speed of the winner.
- 19.8 At least pure water of suitable temperature shall be offered as refreshment. If different refreshments are offered, they shall be clearly marked.
- 19.9 All controls for which there are security concerns shall be guarded.

20. Punching systems

- 20.1 Only IOF approved electronic punching systems may be used, as per Appendix 3.
- 20.2 Competitors shall have the possibility of practising with the electronic punching system at the model event.
- 20.3 Competitors shall be responsible for punching their control card at each control using the punching device provided. If one unit is not working, or appears not to be working, a competitor must use the backup provided and will be disqualified if no punch is recorded.
- 20.4 The control card must clearly show that all controls have been visited.
- 20.5 A competitor with a control punch missing or unidentifiable shall not be placed unless it can be established with certainty that the punch missing or unidentifiable is not the competitor's fault. In this exceptional circumstance, other evidence may be used to prove that the competitor visited the control, such as evidence from control officials or cameras or read-out from the control unit. In all other circumstances, such evidence is not acceptable and the competitor must be disqualified. In the case of traditional (non-contactless) SPORTident, this rule means that:
 - If a competitor punches too fast and fails to receive the feedback signals, the card will not contain the punch and the competitor must be disqualified, even though the control unit may have recorded the competitor's card number as an error punch
 - It is permitted for the organiser to read the backup from any control. A competitor can require the organiser to read the backup from a control, subject to a payment of 20 EUR (or the equivalent in local currency). If the control is found to contain a complete (non-error) punch; the competitor shall be recorded as having punched that control correctly and the fee will be returned; otherwise the fee shall be retained by the organiser.
- 20.6 Competitors who lose their control card, omit a control or visit controls in the wrong order shall be disqualified.
- 20.7 If two contactless control cards are used, then both shall be carried on the same arm. If there are missing punches in the first card that is read out, then the punches from the two cards shall be merged to form the punching record.
- 20.8 A back-up punching method shall be provided to allow a competitor to record their visit in the case of a failure of either a control card or of a punching device.

21. Equipment

- 21.1 As long as the rules of the organising Federation do not specify otherwise, the choice of clothing shall be free.
- 21.2 Start number bibs shall be clearly visible and worn as prescribed by the organiser. If placed on the leg, the bibs shall not be larger than 20 cm × 24 cm with figures at least 10 cm high. The number bibs may not be folded or cut.
- 21.3 During the competition the only navigational aids that competitors may use are the map provided by the organiser, and a compass.
- 21.4 Competitors shall use or carry their own skis and ski poles from the start via the controls to the finish. However, competitors may exchange or leave damaged equipment along the course.
- 21.5 Every team shall have the chance to have skis, bindings, ski boots, ski poles and other equipment deposited at the arena, and for longer distances, at one or more pre-determined places. It is only allowed to change undamaged ski equipment in these designated areas, and no assistance (e.g. from a coach) is permitted during the change. There may be a specific area in the arena for undamaged ski change. However, poles may be exchanged everywhere except in areas (e.g. close to the mass start point) where the organiser has ruled that this is not allowed.
- 21.6 Competitors shall not use or carry telecommunication equipment between entering the pre-start area and reaching the finish in a race, unless the equipment is approved by the organiser. GPS-enabled devices (watches etc.) can be carried provided that
 - they have no map display
 - they have no telecommunication ability
 - they are not used for navigation purposes.

However, the organiser has the right to specifically forbid the use of such equipment. The organiser may require competitors to carry a tracking device and/or a GPS data logger.

22. Start

- 22.1 In individual competitions, the start is normally an interval start. In relay competitions, the start is normally a mass start.
- 22.2 For an interval start, a simultaneous start or a chasing start, the start must be prepared so that two or more competitors may start side by side. The first 100-200 metres must be prepared to a width of at least three metres. For a mass start, the “Guidelines for mass-start events” shall be followed. For a chasing start, the “Guidelines for chasing start and pursuit competitions” shall be followed.
- 22.4 The start may be organised with a pre-start before the time start. If there is a pre-start, a clock showing the call-up time to team officials and competitors shall be displayed there, and the competitors’ names shall be called or displayed. Beyond the pre-start, only starting competitors and media representatives guided by the organiser are allowed.
- 22.5 At the start, a clock showing the competition time to the competitors shall be displayed. If there is no pre-start, competitors’ names shall be called or displayed.
- 22.6 The start shall be organised so that later competitors and other persons cannot see the map, courses, route choices or the direction to the first control. If necessary, there shall be a marked route from the time start to the point where orienteering begins.
- 22.7 The competitor is responsible for taking the right map. The competitor’s start number or name or course shall be indicated on or near the map so as to be visible

to the competitor before he/she starts.

- 22.8 The point where orienteering begins shall be shown on the map with the start triangle and marked in the terrain by a control flag but no marking device. If the track is wide, two control flags may be used, one on each side of the track.
- 22.9 For an interval start, and for a simultaneous start, competitors shall receive the map 15 seconds before the start in all distances. For mass starts competitors shall receive the map 15 seconds before the start. For chasing starts the competitors shall take their map themselves after the time start.
- 22.10 In competitions with mass or chasing starts a camera shall record the start. Competitors who start too early or look at the map too early shall be given a 2 minute time penalty.
- 22.11 Competitors who are late for their start time shall be permitted to start. Their new start time must be recorded.
 - In a mass or chasing start, the competitor shall be started as soon as possible.
 - In an interval start, if the competitor is at the start line less than half the start interval after their start time, they shall start immediately.
 - In an interval start, if the competitor is at the start line more than half the start interval after their start time, they shall start at the next available half start interval.
- 22.12 Competitors who are late for their start time through their own fault shall be timed as if they had started at their original start time. Competitors who are late for their start time through the fault of the organiser shall be timed from their new start time
- 22.13 The changeover between the members of each relay team takes place by touch. The changeover must be organised so that the outgoing team member collects the map.
- 22.14 Correct and timely relay changeover is the responsibility of the competitors, even when the organiser arranges an advanced warning of incoming teams.
- 22.15 With the approval of the IOF Event Adviser the organiser may arrange mass starts for the later legs for relay teams that have not changed over.
- 22.16 Once a relay team has accepted its disqualification no further members of that team shall be allowed to start.

23. Finish and time-keeping

- 23.1 The competition ends for a competitor when crossing the finishing line.
- 23.2 The route from the last control to the finish shall be bounded by tape or by rope. The last 200 m of the course before the finish, and before the exchange zones in relays, should be as straight as possible and prepared to a width of at least 6 m, if possible 9 m. The last 100-150 m will be the finish zone. The beginning of this zone must be clearly marked with a coloured line. This zone must be separated into at least 2 lanes (each of width 3 m) that must be clearly marked and highly visible but not interfering with the skis. Once the competitors enter the finish zone they must remain in their lane unless they are overtaking another competitor.
- 23.3 The finish line shall be at least 6 m wide (if possible 9 m) and shall be at right angles to the direction of the finish lanes. The exact position of the finish line shall be obvious to approaching competitors.
- 23.4 After crossing the finish line, or completing the changeover, competitors shall hand in the control card or download recorded data. If required by the organiser, they shall also hand in their competition map.
- 23.5 The finishing time shall be measured at one of the following times:
 - when the competitor's front foot crosses the finish line

- when a competitor punches at the finish line
- if a light beam is used for timing, when the competitor breaks the beam which shall be mounted between 0.2 metres and 0.4 metres above the snow level
- when a transponder, carried by the competitor, crosses the finish line.

Times shall be rounded down to whole seconds. Times shall be given in hours, minutes and seconds or in minutes and seconds only.

- 23.6 The timekeeping systems shall measure times of competitors in the same class, relative to each other, with an accuracy of 0.5 seconds or better.
- WRE 23.7 Punching at the finish line may be used as a timekeeping system.
- 23.10 In competitions with mass or chasing starts, finish judges shall rule on the final placings and a jury member shall be present at the finish line. The placings in a close finish are determined by the competitors' front foot crossing the finish line.
- 23.12 With the approval of the IOF Event Adviser, the organiser may set maximum skiing times for each class.
- 23.13 There shall be medical facilities and personnel at the finish, who are also equipped to work in the forest.

24. Results

- 24.1 Provisional results shall be announced and displayed in the finish area or the assembly area during the competition.
- 24.3 The official results shall be published no more than 4 hours after the latest allowable finishing time of the last starter. They shall be handed out on the day of the competition to each team manager and to accredited media representatives.
- 24.4 If the finals of a qualification race competition take place on the same day as the qualification races, the results of the qualification races shall be published no more than 30 minutes after the latest allowable finishing time of the last starter.
- 24.5 The official results shall include all participating competitors. In relays, the results shall include the competitors' names in the order in which they raced, and times for their legs as well as the course combinations that each skied.
- 24.6 If an interval start is used, two or more competitors having the same time shall be given the same placing in the results list. The position(s) following the tie shall remain vacant.
- 24.7 If a mass start or chasing start is used, the placings are determined by the order in which the competitors finish. In relays this will be the team member skiing the last relay leg.
- 24.8 In relays where there are mass starts for later legs, the sum of the individual times of the team members shall determine the placings of the teams that have taken part in such mass starts. Teams taking part in mass starts for later legs are placed after all teams which have changed over and finished in the ordinary way.
- 24.9 Competitors or teams who exceed the maximum time shall not be placed.
- 24.17 The results shall be published on the internet and electronically submitted to the IOF on the day of the race.
- WRE 24.18 The World Ranking point calculation method for each season is decided by the IOF Council no later than the end of June prior to the season.
- 24.19 The results must be based on competitors' times for the whole course. It is forbidden to eliminate sections of the course on the basis of split times unless the section has been specified in advance (e.g. a short section containing a busy road crossing).

25. Prizes

- 25.1 The organiser shall arrange a dignified prize-giving ceremony.
- 25.2 Prizes for men and women shall be equivalent.
- 25.3 If two or more competitors have the same placing, they shall each receive the appropriate medal and/or diploma.

26. Fair play

- 26.1 All persons taking part in an orienteering event shall behave with fairness and honesty. They shall have a sporting attitude and a spirit of friendship. Competitors shall show respect for each other, for officials, journalists, spectators and the inhabitants of the competition area. The competitors shall be as quiet as possible in the terrain.
- 26.2 Except in the case of an accident, seeking to obtain or obtaining assistance from other competitors or providing assistance to other competitors during a competition is forbidden. It is the duty of all competitors to help injured competitors.
- 26.3 Doping is forbidden. The *IOF Anti-Doping Rules* apply to all IOF events and the IOF Council may require doping control procedures to be conducted. It is the responsibility of competitors to obtain any required TUE (therapeutic use exemption) certificate.
- 26.4 The organiser should publish the venue of the competition in advance. If the venue is not made public, all officials shall maintain strict secrecy about the competition area and terrain. In any case, strict secrecy about the courses must be kept.
- 26.5 Any attempt to survey or train in the competition terrain is forbidden, unless explicitly permitted by the organiser. Attempts to gain any information related to the courses, beyond that provided by the organiser, is forbidden before and during the competition.
- 26.6 The organiser shall bar from the competition any competitor who is so well acquainted with the terrain or the map, that the competitor would have a substantial advantage over other competitors. Such cases shall be discussed and decided after consultation with the IOF Event Adviser. (See Appendix 9)
- 26.7 Team officials, competitors, media representatives and spectators shall remain in the areas assigned to them.
- 26.8 Control officials shall neither disturb nor detain any competitor, nor supply any information whatsoever. They shall remain quiet and shall not help competitors approaching controls. This also applies to all other persons in the terrain, e.g. media representatives.
- 26.9 Having crossed the finish line, a competitor may not re-enter the competition terrain without the permission of the organiser. A competitor who retires shall announce this at the finish immediately and hand in the map and control card. That competitor shall in no way influence the competition nor help other competitors.
- 26.10 A competitor who breaks any rule, or who benefits from the breaking of any rule, may be disqualified. Alternatively, for a minor rule infringement, an appropriate time penalty may be imposed.
- 26.11 Non-competitors who break any rule are liable to disciplinary action.
- 26.12 The organiser must stop, and postpone or cancel a race if at any point it becomes clear that circumstances have arisen which make the race dangerous for the competitor, officials or spectators.
- 26.13 The organiser must void a race if circumstances have arisen which make the race significantly unfair.

- 26.14 Participation in betting relating to an orienteering event is prohibited for competitors in the event, the team officials and the event officials. They are also prohibited from supporting or promoting betting relating to the event. Additionally, they must not participate in any corrupt practices related to betting. Such practices include fixing the result, manipulating any aspect of the results, failing to perform in order to benefit, accepting or offering bribes and passing on inside information.

27. Complaints

- 27.1 A Complaint may be made about infringements of these rules or the organiser's directions.
- 27.2 Complaints may only be made by team officials or competitors.
- 27.3 Any Complaint shall be made in writing to the organiser as soon as possible. A Complaint is adjudicated by the organiser. The complainant shall be informed about the decision immediately.
- 27.4 There is no fee for a Complaint.
- 27.5 The organiser may set a time limit for Complaints. Complaints received after this time limit will only be considered if there are valid exceptional circumstances which must be explained in the Complaint.

28. Protests

- 28.1 A Protest may be made against the organiser's decision about a Complaint.
- 28.2 Protests may only be made by team officials or competitors.
- 28.3 Any Protest shall be made in writing to the organiser no later than 15 minutes after the organiser has informed the complainant of the decision about the Complaint. Protests received after this time limit may be considered at the discretion of the jury if there are valid exceptional circumstances which must be explained in the Protest.
- WRE 28.5 There is no fee for a Protest.

29. Jury

- 29.1 A jury shall be appointed to rule on Protests.
- 29.2 The IOF Council decides for which events it shall appoint the jury. If the IOF is not appointing the jury, the Federation of the organiser shall appoint the jury.
- 29.3 The jury shall consist of 3 or 5 voting members, according to Rules 29.10–29.14, from different Federations. The IOF Event Adviser shall lead the jury but has no vote.
- 29.4 A representative of the organiser may participate in jury meetings but may be asked to leave before the jury comes to its decision. The representative of the organiser has no vote.
- 29.5 The organiser shall act according to the jury's decisions, e.g. to reinstate a competitor disqualified by the organiser, to disqualify a competitor approved by the organiser, to void the results in a class approved by the organiser or to approve results declared invalid by the organiser.
- 29.6 The jury is competent to rule only if all members are present. In urgent cases preliminary decisions may be taken if a majority of the jury members agree on the decision.
- 29.7 If a jury member declares him- or herself prejudiced or if a jury member is unable to fulfil his or her task, the IOF Event Adviser shall nominate a substitute. The IOF Event Adviser shall make the final decision regarding any potential conflict-of-

interest.

29.8 Arising from its ruling on a Protest, the jury — in addition to instructing the organiser — may recommend that the IOF Council excludes a person from some or all future IOF events in the case of a major violation of the rules.

29.9 Decisions of the jury are final.

WRE 29.14 The jury shall consist of 3 voting members, if possible from different Federations.

30. Appeals

30.1 An appeal may be made against infringements of these rules if a jury is not yet set up, or if the event is over and the jury has dispersed. No appeal may be made against a jury decision. An appeal may only be made against a jury decision if there has been a serious procedural error in the operation of the jury.

30.2 An appeal may only be made by Federations.

30.3 An appeal shall be made in writing to the IOF Event Adviser appointing body as soon as possible.

30.4 There is no fee for an appeal.

30.5 Decisions about an appeal are final.

30.6 The IOF Council shall deal with the appeal.

31. Event control

31.1 All events, for which these rules are binding, shall be controlled by an *IOF Event Adviser*. The IOF Event Adviser shall be appointed within 3 months of the appointment of an organiser.

31.2 The IOF Council shall decide for which events it will itself appoint the IOF Event Adviser.

31.3 If the IOF Event Adviser is appointed by the IOF, he or she is the official representative of the IOF to the organiser, is subordinate to the IOF Council and communicates with the IOF Office.

31.4 The Federation of the organiser shall always appoint an independent national controller. This controller shall assist the IOF Event Adviser appointed by the IOF. If the IOF does not appoint an IOF Event Adviser for the event in question, the controller appointed by the Federation will be the IOF Event Adviser. The controller appointed by the Federation need not come from the same Federation.

31.5 All IOF Event Advisers shall hold the IOF Event Adviser's licence. No IOF Event Adviser or IOF Event Adviser's Assistant may have any responsibility for a participating team.

31.6 The IOF Event Adviser shall ensure that rules are followed, mistakes are avoided and that fairness is paramount. The IOF Event Adviser has the authority to require adjustments to be made if he or she deems them necessary to satisfy the requirements of the event.

31.7 The IOF Event Adviser shall work in close collaboration with the organiser, and shall be given all relevant information. All official information sent to the Federations, such as bulletins, shall be approved by the IOF Event Adviser.

31.8 As a minimum, the following tasks shall be carried out under the authority of the IOF Event Adviser:

- to approve the venue and the terrain for the event, including reserve area
- to look into the event organisation and assess the suitability of the proposed accommodation, food, transport, programme, budget and training possibilities
- to assess any planned ceremonies

- to approve the organisation and layout of start, finish and changeover areas
 - to assess the reliability and accuracy of the time-keeping and results producing systems
 - to check that the map conforms with the IOF standards
 - to approve the courses after assessing their quality, including degree of difficulty, control sitings and equipment, chance factors and map correctness
 - to check any course splitting method and course combinations
 - to assess arrangements and facilities for the media
 - to assess arrangements and facilities for doping tests
 - to approve the official results
- 31.9 The IOF Event Adviser shall make as many controlling visits as he or she deems necessary. The visits shall be planned in agreement with the appointing authority and the organiser. Immediately after each visit, the IOF Event Adviser shall send a brief, written report to the IOF Event Adviser appointing body with a copy to the organiser.
- 31.10 One or more assistants may be appointed by the IOF Event Adviser appointing body to help the IOF Event Adviser, particularly in the fields of mapping, courses, financing, sponsoring and media.
- 31.11 The IOF Event Adviser appointing body has the authority to revoke the appointment of the IOF Event Adviser.

32. Event reports

- 32.1 No more than 3 weeks after the event, the organiser shall submit a short report to the IOF Event Adviser along with complete result lists.
- 32.2 No more than 4 weeks after the event, the IOF Event Adviser shall send a report to the IOF Event Adviser appointing body. The report should include any significant features of the event and details of any Complaints or Protests.

33. Advertising and sponsorship

- 33.1 Advertising of tobacco and hard liquor is not permitted.
- 33.2 Advertising on track suits or other clothing which are worn by team members during the official ceremonies shall not exceed 300 cm². There is no restriction to the amount of advertising on the competitors' competition clothing or equipment except for the start number bibs.

34. Media service

- 34.1 The organiser shall offer the media representatives attractive working conditions and favourable opportunities to observe and report on the event.
- 34.2 As a minimum, the organiser shall make available to media representatives the following:
- hotel accommodation of medium standard, to be paid for by the users
 - start lists, programme booklet and other information on the day prior to the competition
 - opportunity to take part in the model event
 - weather-protected, quiet working space in the finish area
 - result lists and maps with courses immediately after the competition
 - internet access to be paid for by the users
- 34.3 The organiser shall make every effort to maximise media coverage as long as this does not jeopardise the fairness of the event.
- 34.4 The organiser must facilitate access to the competition area for media personnel. The organiser may need to provide transport.

35. Cold weather safety

- 35.1 There are three main factors to be considered by the organiser and the IOF Event Adviser regarding cold weather safety: the temperature; the duration of the exposure; and the clothing and other protection against cold weather. These factors together with any other relevant information such as the 'wind chill factor' must be taken into consideration when a decision is made regarding cold weather.
- 35.2 If the temperature level is between minus 15° C and minus 20° C at any point of the course, recommendations regarding cold weather protection must be given to competitors and competition officials. Adequate controls must be established to ensure that the recommendations are being followed and the competitors' health and safety are protected.
- 35.3 If the temperature in a major portion of the course is minus 20° C or below, the competition shall be delayed or cancelled. Such decision is to be made jointly by the organiser and the IOF Event Adviser.

Appendix 1: General competition classes

1. Age classes

- 1.1 Competitors are divided into classes according to their gender and age. Women may compete in men's classes.
- 1.2 Competitors aged 20 or younger belong to each class up to the end of the calendar year in which they reach the given age. They are entitled to compete in older classes up to and including 21.
- 1.3 Competitors aged 21 or older belong to each class from the beginning of the calendar year in which they reach the given age. They are entitled to compete in younger classes down to and including 21.
- 1.4 The main competition classes are called W21 and M21, for women and men respectively.
- 1.5 For competitors younger than 21, the classes W20 and M20, W18 and M18 and so on with intervals of 2 years are used. For older competitors, the classes W35 and M35, W40 and M40 and so on with intervals of 5 years are used.
- 1.6 Each class may be divided into subclasses according to the difficulty and/or length of the courses. Subclasses according to difficulty and course lengths are named E (elite)—if applicable, A, B, C and N (novice). Subclasses according to course lengths only are named S (short) and L (long).
- 1.7 Elite (E) classes may only be provided for age classes 18, 20 and 21. They shall be restricted to competitors classified as elite competitors by their Federation or who are selected for the class based on their position in a Federation's ranking scheme.

2. Parallel classes

- 2.1 Should a class have too many entries, it may be split into parallel classes. Splitting of elite classes should be based on the competitors' previous performances. Other classes than elite classes should be split so that competitors from the same club, district or Federation are equally distributed among the parallel classes.

Appendix 2: Agenda for team officials' meeting

As much information as possible should be put in Bulletin 4, leaving the minimum of information to be transmitted verbally at the team officials' meeting.

1. Opening

2. Roll-call

- max two representatives per federation

3. Presentation of officials

- Organizer's officials
- Jury members

4. Time schedule

- If not according to the program

5. Transport to competition centre

6. Competition centre (overhead transparency diagram)

- Parking
- Change facilities and showers
- Ski waxing and temperature info
- Gliding test
- Warming-up tracks
- Pre-start
- Prohibited areas

7. Waxing facilities

- Rooms
- Electricity
- Ski profiles
- Tables

8. Equipment controls in terrain

- Common or separate controls, W/M
- Location expressed as percentage of course length
- Team bags to be delivered: where, when

9. Courses

- Length (straight line and shortest sensible route choice)
- Number of control
- Intermediate times (kms of course length)
- Total climb
- Estimated winning times
- Altitude above sea level
- Refreshment controls, (kms of course length)
- Forkings?

10. Tracks

- Specifications of different tracks
- Kind of preparation
- Number of crossings per square km
- Latest preparation

- Track qualities, present situation

11. Map Type

- Scale and contour interval
- Size, trimmed down
- Special symbols
- When are they returned?

12. Special points to disclose

- Hazardous areas
- Prohibited areas
- Directions about prohibited roads and similar routes
- Any differences from normal IOF standards

13. Control card

- Type to be used

14. Start procedure (overhead transparency diagram)

- Start method
- Starting commands
- Taking maps, when?
- Distance time start to start point

15. Loop and map change procedure (overhead transparency diagram)

- Marking of maps
- Handing in used maps
- Taking new map
- Refreshment and equipment service

16. Finish procedure

17. Weather forecast

- Weather lately
- Forecast for the competition time
- Wind
- Snow
- Temperature
- Sun

18. Other matters

19. If there are any changes to the information in Bulletin 4 or if there are decisions taken during the team officials' meeting, these changes should be given in writing to all teams.

20. Closing

Appendix 3: Approved punching systems

[Competition Rule 20.1 states that ‘Only IOF licensed electronic punching systems may be used’.]

- The only fully approved control punching systems (November 2020) are:
 - the *Emit* Electronic Punching and Timing system
 - the *SPORTident* system
 - the *Emit* Touch Free Punching system
 - the *SPORTident* AIR+ system
- Details of the currently licensed versions along with any provisionally approved systems are shown on the IOF web pages
- The use of any other control punching system requires prior approval of the IOF Rules Commission.
- With respect to the *Emit* EPT system, the label attached to the competitor’s electronic control card for back-up marking must be such that it will survive the conditions likely to be encountered during a competition (including immersion in water). It is the competitor’s responsibility to ensure that the back-up card is marked so that it can be used if the electronic punch is missing.
- With respect to the traditional *SPORTident* system, a backup needle punch must be present at each control. It is the competitor’s responsibility to ensure that the electronic punch is in the e-card by not removing the e-card until the feedback signal has been received. If, and only if, no feedback signal is received, the competitor must use the backup punch.
- The control card must clearly show that all controls have been visited. A competitor with a control punch missing or unidentifiable shall not be placed unless it can be established with certainty that the punch missing or unidentifiable is not the competitor’s fault. In this exceptional circumstance, other evidence may be used to prove that the competitor visited the control, such as evidence from control officials or cameras or read-out from the control unit. In all other circumstances, such evidence is not acceptable and the competitor must be disqualified. In the case of non-contactless *SPORTident*, this rule means that:
 - If one unit is not working, a competitor must use the backup provided and will be disqualified if no punch is recorded
 - If a competitor punches too fast and fails to receive the feedback signals, the card will not contain the punch and the competitor must be disqualified (even though the control unit may have recorded the competitor’s card number as an error punch).
 - It is permitted for the organiser to read the backup from any control. A competitor can require the organiser to read the backup from a control, subject to a payment of 20 EUR (or the equivalent in local currency). If the control is found to contain a complete (non-error) punch; the competitor shall be recorded as having punched that control correctly and the fee will be returned; otherwise the fee shall be retained by the organiser.

Appendix 4: Guidelines for mass-start events

Mass start is a spectator-friendly format offering a competition between skiers, head-to-head, and with the first to finish being the winner.

Mass-start with forking consisting of three or four loops can be used for Middle and Long distance events. In women's classes, the use of two loops is also possible.

Each loop shall have at least one, preferably more, common control points, and part of the loop between those controls should be independently forked.

An important element of the mass start is to have a long leg to the first control(s) to allow skiers separation before the control. The Arena layout and the course setting must consider this (e.g. forking shall be used, the time difference between alternatives loops should be small). The competitors should pass the Arena and, if possible, skiers 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 a screen in the Arena. The mass start format requires a course planning technique which separating skiers from each other (e.g. forking).

For fairness and for spectator interest, at the end of the race there should be an unforked part, which should not be more than 1/5 of the length of the whole course. This can be arranged by having a common last part of the third loop or a common shorter fourth loop. However the first part of the third loop should be forked. In women's classes there may be only two loops, but in that case there shall be at least three independently forked parts making minimum of 8 different course combinations.

In the case of poor snow conditions, the competition should be changed to an interval start if the minimum requirements for mass-start forking cannot be satisfied.

Different forkings should not differ significantly in length or height to improve intermediate time keeping and thereby increase the spectator-friendliness. Course combinations should be randomly allocated to the start numbers. In IOF major events skiers from the same nation shall not have the same course from start to finish. This should be checked after the draw. The best skiers should be spread across the different forking combinations.

The start area should be wide. Starting rows should be arranged in a way that competitors in the same starting group are in the same row. At least the first controls should be planned to avoid bi-directional skiing in narrow tracks. Start times and competition areas for different classes need to be planned to avoid unnecessary traffic jams or meeting of large groups in the common tracks.

All controls should be wide with several punching units. The first and later common controls should have the punching units very widely spaced. Turning at controls should be avoided in course-setting for all mass-start races as far as possible and especially in the beginning and in the last common part. Controls should not be placed so that they are approached at high speed from different directions. The course setting should aim to avoid traffic jams at the first control.

The starting procedure in all individual Mass Starts and all Relay Starts is uniform in all IOF Events. Competitors are positioned in rows based on their ranking with the best athletes/teams in front. For a mass start (individual or relay) the organiser can choose between two alternative methods to distribute the maps. One method is to deliver the rolled or folded map into the athlete's left hand behind his back between 90 and 45 seconds before the start and on the signal the athletes are allowed to move the map from behind into their map holder. The second method is to have one member of staff for each two athletes and give the maps to the athletes 15 seconds before the start. At the start signal, competitors can start skiing.

It's the competitor's own responsibility to take the right map at a map change. The competitor who takes a wrong map shall be disqualified. For such situations the organiser shall have spare maps and list of course combinations to quickly provide correct loops to the competitors.

Starting from a minimum of 100 m before the finish, there should be at least two, preferably three, separate finish lanes. A competitor has finished when the top of the front ski boot has passed the clearly marked finish line. The finish line should be video recorded, if possible, to decide any unclear cases. At least one jury member shall be at the finish.

Spectator-friendliness shall be an important objective. Common controls should be used as radio controls, from where the current standing should be reported to the speaker.

Appendix 5: Guidelines for chasing-start and pursuit competitions

Chasing start.

Text from the rules:

- If chasing start is used, the placings are determined by the order in which the competitors finish.
- The competitors start at intervals depending on results from previous race(s); the first across the finish line is the winner
- In a chasing start, the competitors start singly at start times and intervals determined by their previous results.
- In competitions with chasing starts, finish judges shall rule on the final placings and a jury member shall be present at the finish line.
- In competitions with chasing starts, a camera shall record the finish.

The chasing start should be in the arena. The competitor starts, then picks up the map from a “map wall” (the maps should not be handed out manually).

Pursuit competition

Pursuit is a competition format where an interval start prologue determines the start times for a chasing start final.

The prologue is a sprint distance race (winning time 10-15 minutes).

To determine the start list for the chasing start final, the organiser uses the prologue result list. The winner of the prologue starts first and the remaining competitors start with an interval equal to the time differences from the prologue.

Those prologue competitors who are more than 10 minutes after the prologue winner, or who were not placed in the prologue, start in a mass start 10 minutes after the last starter in the chasing start final. The time gap between the last chasing starter and the mass start can be adjusted so the mass start is executed some minutes before the first competitor have completed the first loop (depending on the terrain and the course structure).

The result list for the pursuit is determined by the order across the finishing line. Any competitors who started in the mass start are ordered by their elapsed time and in any case are placed after those who started in the true chasing start.

Competitor who were not placed in the prologue can take part in chasing start. Such participants start in the mass start line-up behind those who had successfully finished the prologue but are more than 10 minutes after the winner. Competitors who were not placed in the prologue are not placed in the overall results.

GPS tracking is important for a high quality event and should be used in pursuit competitions.

Course planning considerations

The format for the chasing start final should be according to the Middle distance mass start format, where the distance is extended so the winning time should be 50-60 min. The chasing start final courses must be forked, and the last part shall be same for all skiers.

The forking method should be by 2 loops with map change in the arena. The last part (10 min) of the second loop should be without forking. This could be achieved by a common third loop.

Appendix 6: Principles for course planning

1. Introduction

- 1.1. Purpose
- 1.2. Application of these principles

2. Basic principles

- 2.1. Definition of ski orienteering
- 2.2. Aim of good course planning
- 2.3. Course planner's golden rules

3. The ski orienteering course

- 3.1. Terrain
- 3.2. Definition of a ski orienteering course
- 3.3. The start
- 3.4. The course legs
- 3.5. The controls
- 3.6. The finish
- 3.7. The track system
- 3.8. The elements of map reading
- 3.9. Route choices
- 3.10. The degree of difficulty
- 3.11. Competition types
- 3.12. Specific requirements
- 3.13. Map exchange
- 3.14. What the course planner should aim for

4. The course planner

1. Introduction

1.1. Purpose

These principles aims to establish a common standard for the planning of ski orienteering courses in order to ensure fairness in competition and to safeguard the unique character of the sport of ski orienteering.

1.2. Application of these principles

Courses in all international ski orienteering events must be planned in accordance with these principles.

2. Basic principles

2.1. Definition of ski orienteering

Ski orienteering is a sport in which competitors visit a number of points marked on the ground, controls, in the shortest possible time aided only by map and compass. Skiing and navigational skills shall be tested in such a way that a navigational skill is the decisive element. Parts may be completed on foot, in which case the competitor must carry appropriately-sized skis, ski sticks and ski boots. Orienteering on skis may be characterised as skiing navigation.

2.2. Aim of good course planning

The aim of course planning is to offer competitors courses correctly designed for their expected abilities. Results must reflect the competitors' technical and physical ability.

2.3. Course planner's golden rules

The course planner must keep the following principles in mind:

- the unique character of ski orienteering as skiing navigation
- the fairness of the competition
- competitor enjoyment
- the protection of wildlife and the environment
- the needs of media and spectators

2.3.1. Unique character

Every sport has its own character. The unique sport of ski orienteering is to find and follow the best route through the competition terrain against the clock. This demands ski orienteering skills: accurate map reading, route choice evaluation, compass handling, concentration under stress, quick decision making, skiing on different types of tracks, etc.

2.3.2. Fairness

Fairness is a basic requirement in competitive sport. Unless the greatest care is taken at each step of course planning and course setting, luck can easily become significant in ski orienteering competitions. The course planner must consider all such factors to ensure that the competition is fair and that all competitors face the same conditions on every part of the course.

2.3.3. Competitor enjoyment

The popularity of ski orienteering can only be enhanced if competitors are satisfied with the courses they are given. Careful course planning is therefore necessary to ensure that courses are appropriate in terms of length, physical and technical difficulty, control siting, etc. In this respect it is particularly important that each course is suitable for the competitor doing that course.

2.3.4. Wildlife and the environment

The environment is sensitive: wildlife may be disturbed and the ground as well as the vegetation may suffer from overuse. The environment also includes people living in the competition area, walls, fences, cultivated land, buildings and other constructions, etc.

It is usually possible to find ways to avoid interference with the most sensitive areas without damage. Experience and research have shown that even large events can be organised in sensitive areas without permanent damage if the correct precautions are taken and the courses are well planned.

It is very important that the course planner ensures that there is access to the chosen terrain and that any sensitive areas are discovered in advance.

2.3.5. Media and spectators

The need to give a good public image of the sport of ski orienteering should be a permanent concern for a course planner. The course planner should endeavour to offer spectators and the media the possibility to follow as closely as possible the progress of a competition without compromising sporting fairness.

There should be a “forest” control near the stadium so that the media can easily take “forest” pictures.

Spectators should be provided with internet access at the stadium.

3. The ski orienteering course

3.1. Terrain

The terrain must be chosen so that it can offer fair competition to all competitors. To safeguard the character of the sport, the terrain should be skiable and suitable for testing the ski orienteering skills of the competitors.

3.2. Definition of a ski orienteering course

A ski orienteering course is defined by the start, the controls, and the finish. Between these points, which are given precise locations in the terrain and correspondingly on the map, are the course legs over which the competitor must orienteer.

3.3. The start

The start should be so situated and organised that:

- there is a warm up area
- waiting competitors cannot see route choices made by those who have started

The point from which orienteering on the first leg begins is marked in the terrain by a control flag with no marking device and on the map by a triangle. The competitors should be faced with orienteering problems right from the start.

3.4. The course legs

3.4.1. Good legs

The course legs are the most important elements of a ski orienteering course and will largely determine its quality. Good legs offer competitors interesting map-reading problems and lead them through good terrain with possibilities for alternative individual routes.

Within the same course (depending on competition types) different types of legs should be offered, some of them based on intense map-reading and others containing more easily skied route choices. There should also be variations with regard to length and difficulty to force the competitor to use a range of orienteering techniques and skiing speeds. The course planner should also endeavour to give changes in general direction for consecutive legs as this forces the competitors to re-orient themselves frequently.

It is preferable for a course to have a few very good legs joined by short links designed to enhance the legs rather than a larger number of even but lesser quality legs.

3.4.2. Fairness of legs

No leg should contain route choices giving any advantage or disadvantage which cannot be foreseen from the map by a competitor under competitive conditions. Legs which encourage competitors to cross forbidden or dangerous areas must be avoided.

3.5. The controls

3.5.1. Control sites

All controls must be situated on ski tracks or open prepared areas shown on the competition map. The exact placing of a control on the ground, and the point marked on the map, must be indisputable. The controls must be visited by the competitors in the given order, if the order is specified, but following their own route choices. This demands careful planning and checking to ensure fairness.

It is particularly important that the map portrays the ground accurately in the vicinity of the controls, and that the control is placed accurately along the track.

Controls, including refreshment points, map changes etc., must not be sited on steep and difficult downhills. Turning at controls should be avoided in course-setting as far as possible, especially in the beginning, in the last common part and in the part where forking methods mean that the same control is visited several times. Controls should not be placed so that they are approached at high speed from different directions.

Touch-free punching systems may have a limit to the speed that an athlete can pass and secure a punch so touch-free controls should not be on steep slopes.

The tracks at the control sites shall be sufficiently wide for competitors to pass.

3.5.2. The function of the controls

The main function of a control is to mark the beginning and end of an orienteering leg.

Sometimes controls with other specific purposes need to be used as, for example, to lead competitors around dangerous or out of bounds areas.

Controls can also serve as equipment, refreshment, media and spectator points.

3.5.3. The control flag

The control equipment must be in accordance with the rules for IOF events.

3.5.4. Fairness of control sites

Control flags should not be hidden.

It is necessary to choose control sites with great care and notably to avoid the effects where incoming competitors will block the track for the outgoing competitors.

3.5.5. Proximity of controls

Controls on different courses placed too close to one another can mislead competitors who have navigated correctly to the control site. Controls on the same track (without overprinted track crossings between) shall not be sited within 100 m of each other. Further, only when the controls are sited distinctly different in the terrain as well as on the map, should controls be placed closer than 50 m.

3.5.6. The control description

Control descriptions are not used in ski orienteering. All controls must be situated on tracks shown on the competition map. The exact placing of a control on the ground, and the point marked on the map, must be indisputable.

3.6. The finish

At least the last part of the route to the finish line should be a compulsory marked route.

3.7. The track system

The track system should be planned taking into consideration the following objectives:

- competition format
- terrain, especially height differences
- varying use of different skiing techniques
- the demands of course planning

Track preparation should be done taking into consideration the following objectives:

- fairness by giving equal conditions for all participants
- safety
- map-terrain accuracy especially with regard to track crossings

When preparing competition tracks and depicting the track system in the competition map, specific attention should be paid to the dashed line tracks. For elite orienteers, it is important for their route choices that they know whether it is possible to skate up-/downhills on a dashed line or not. The track standard requires that it is not possible to skate on a dashed line track in normal conditions. Therefore a dashed line track must be max. 1.2 m wide and must not be widened in uphill or downhill sections. If such widening is necessary for safety or other reasons, that part of the track must be depicted with a whole line on the map indicating clearly that the track is widened, wider than 1.2 m and the competitors can thus skate up the hills.

3.8. The elements of map-reading

On a good ski orienteering course, competitors are forced to concentrate on navigation throughout the race. Sections requiring no map-reading or attention to navigation should be avoided unless they result from particularly good route choices.

3.9. Route choices

Alternative routes force competitors to use the map to assess the terrain and to draw conclusions from it. Route choices make competitors think independently and will split up the field, thus minimising "following".

3.10. The degree of difficulty

For any terrain and map, a course planner can plan courses with a wide range of difficulty. The degree of difficulty of the legs can be varied by making them follow line features more or less closely.

Competitors should be able to assess the degree of difficulty of the navigation and the skiing to a control from the information available on the map, and so choose the appropriate technique.

Attention should be paid to the competitors' expected skill, experience and ability to read or understand the fine details of the map. It is particularly important to get the level of difficulty right when planning courses for novices and children.

3.11. Competition types

The different competition formats require different characteristics from the courses. To standardise the formats and thus give the competitors fair expectation of what the event would require of him/her, the course setter is required to follow the following guidelines and principles

a. Extra Long Distance:

- i. Winning times: 2.15-2.35 h for men and women. (Other classes 150 % of Long distance times).
- ii. Recommended mass start with 3-6 loops with 1-3 forking controls on the loop; usage of butterfly loops allowed.
- iii. The event and the course highlights (1) route choices, (2) physical endurance, and (3) ability to pace the event in the most economical way to maintain strength until the finish.
- iv. Less dense track system, very long legs (5-6 km) between controls.

b. Long distance:

- i. Winning times: 1.25-1.35 h for men and women.
- ii. Individual start with 2 minute intervals or mass start with forking and different loops. Several map changes and public controls at the start/finish area.
- iii. The event and the course highlights (1) route choices, (2) pacing of orienteering with route choices (fast skiing) and dense track systems with a lot of map reading, (3) physical endurance and ability to ski fast on ski orienteering tracks.
- iv. A blend of long route choice legs (3-4 km) between controls and challenging map reading/orienteering on dense track system areas (200-400 m between the controls).

- c. Middle Distance:
- i. Winning times: 40-45 min for men and women. (Other classes: 50 % of Long distance times). For mass start (extended distance), winning times: 50-60 min for men and women.
 - ii. Individual start with 2 minute intervals or mass start with 3 loops with 1-3 forking controls on the loop; Several map changes and public controls at the start/finish area.
 - iii. The event and the course highlights (1) map reading, (2) precise and smooth navigation on dense track systems, (3) ability to ski fast on ski orienteering tracks, (4) physical endurance.
 - iv. The course has short (< 1 km; in average 350-400 m) legs between the controls and a very dense track system. A mass start (extended distance) should have some longer route-choice legs allowing competitors to pass each other without having visual contact.
- d. Sprint Distance:
- i. Winning times: 10-15 min for men and women. (All other classes the same).
 - ii. Individual start with 1 minute start intervals. No forking, but a preference to use public controls at the start and finish area.
 - iii. The event and the course highlights (1) precise and smooth navigation on dense track systems, (2) high speed map reading, (3) high speed skiing on ski orienteering tracks, (4) route choices.
 - iv. The course has an even mix (50%/50%) of longer route choice legs and short legs in a very dense track system.
- e. Relay:
- i. 3 legs – leg winning time 30-35 minutes both men and women.
 - ii. Mass start with 3 legs with 2-3 forking controls on the loop; preferably public controls at the start/finish area half way of the leg.
 - iii. The event and the course highlights (1) map reading, (2) precise and smooth navigation on dense track systems, (3) ability to ski fast on ski orienteering tracks, (4) physical endurance.
 - iv. The course has short (< 1 km; in average 350-400 m) legs between the controls and a very dense track system.
 - v. Basically characteristics of a slightly shorter Middle Distance race.
- f. Sprint Relay:
- i. Two competitors in a team. 6 legs (three legs per competitor) – leg winning time 6-8 minutes both men and women. At least one woman in a team; specific men's and women's legs. The organiser decides which legs must be skied by a woman.
 - ii. Mass start with 6 legs with 1-2 forking controls on the loop; Preferably public controls at the start/finish area half way of the leg.
 - iii. The event and the course highlights (1) precise and smooth navigation on dense track systems, (2) high speed map reading, (3) high speed skiing on ski orienteering tracks, (4) route choices.
 - iv. The course has an even mix (50%/50%) of longer route choice legs and short legs in a very dense track system.
 - v. Basically the characteristics of a slightly shorter Sprint race.

- 3.12. Course planning must account for specific requirements of the type of competition considered. For instance, course planning for sprint ski orienteering must call on detailed map reading and on a high degree of concentration at full speed throughout the entire course. Course planning for relays and mass-start events should incorporate a good and sufficient forking/splitting system (see Appendix 4: Guidelines for mass-start events). Course planning should consider the need for spectators and media to be able to follow closely the progress of the competition.
- 3.13. When planning a map exchange there must be sufficient space for several competitors to exchange maps simultaneously. At a mass start (individual and relay) the skiers/teams with the best ranking are assigned the maps closest to the next starting point so as not to hinder subsequent runners in taking their maps.

3.14. What the course planner should aim for

3.14.1. Know the terrain

The course planner should be fully acquainted with the terrain before he or she plans to use any control or leg. The planner should also be aware that on the day of the competition the conditions regarding map and terrain could be different from those which exist at the time the courses are planned.

3.14.2. Get the degree of difficulty right

It is very easy to make courses for novices and children too difficult. The course planner should be careful not to estimate the difficulty just on his or her own skill at navigating or on his or her skiing speed when surveying the area.

3.14.3. Use of fair control sites

The desire to make the best possible legs often leads a planner to use unsuitable control sites. Competitors seldom notice any difference between a good and superb leg, but they will immediately notice if a control leads to unpredictable loss of time due to a hidden control site or flag, ambiguity, etc.

3.14.4. Placing controls sufficiently apart

Even though the controls have code numbers they should not be so close to each other as to mislead competitors who navigate correctly to the control site on their course.

3.14.5. Avoid over-complicating the route choices and making too dense a track system.

The planner may see route choices which will never be taken and thereby may waste time by constructing intricate problems, whereas the competitors may take a "next best" route, thus saving time on route planning.

The track system should be planned so that it will be possible to "open" it after heavy snowfall within a reasonable time.

3.14.6. Courses that are too physically demanding and too long in difficult weather conditions.

Courses should be set so that normally fit competitors can ski over most of the course set for their level of ability. The total climb of a course should normally not exceed 4% (max 6%) of the length of the shortest sensible route.

Consideration must be given to the altitude and the major part of the course should be below 1800 metres above sea level. The organiser can apply for exemption from this altitude restriction and must clearly state this fact in Bulletin 1.

The physical difficulty of courses should progressively decrease as the age of the competitors increases in Masters classes. Special care must be taken that for classes M70 and over and W70 and over, the skiing is not too technically or physically demanding.

4. The course planner

The person responsible for course planning must have an understanding and appreciation of the qualities of a good course gained from personal experience. He or she must also be familiar with the theory of course planning and appreciate the special requirements of different classes and different types of competitions.

The course planner must be able to assess, on site, the various factors which can affect the competition, such as the conditions of the terrain, the quality of the map, snow conditions, the presence of participants and spectators, etc.

The course planner is responsible for the courses and the running of the competition between the start and the finish line. The course planners' work must be checked by the controller. This is essential because of the numerous opportunities for error which could have serious consequences.

Appendix 7: IOF resolution on good environmental practice

At its meeting on 12/14 April 1996, the Council of the International Orienteering Federation, acknowledging the importance of maintaining the environmentally friendly nature of orienteering, and in accordance with the GAISF Resolution on the Environment of 26 October 1995, adopted the following principles:

- to continue to be aware of the need to preserve a healthy environment and to integrate this principle into the fundamental conduct of orienteering
- to ensure that the rules of competition and best practice in the organisation of events are consistent with the principle of respect for the environment and the protection of flora and fauna
- to co-operate with landowners, government authorities and environmental organisations so that best practice may be defined
- to take particular care to observe local regulations for environmental protection, to maintain the litter-free nature of orienteering and to take proper measures to avoid pollution
- to include environmental good practice in the education and training of orienteers and officials
- to heighten the national Federations' awareness of worldwide environmental problems so that they may adopt, apply and popularise principles to safeguard orienteering's sensitive use of the countryside
- to recommend that the national Federations prepare environmental good practice guidelines specific to their own countries

Appendix 8: The Leibnitz Convention

We, the Members of the IOF, attending the 20th IOF General Assembly in Leibnitz, Austria, on the 4 August 2000, hereby declare that

"It is of decisive importance to raise the profile of the sport to further the spread of orienteering to more people and new areas, and to get orienteering into the Olympic Games. The main vehicles to achieve this are:

- to organise attractive and exciting orienteering events which are of high quality for competitors, officials, media, spectators, sponsors, and external partners
- to make IOF events attractive for TV and Internet

We shall aim to:

- increase the visibility of our sport by organising our events closer to where people are
- make our event centres more attractive by giving increased attention to the design and quality of installations
- improve the event centre atmosphere, and the excitement, by having both start and finish at the centre
- increase television and other media coverage by ensuring that our events provide more and better opportunities for producing thrilling sports programmes
- improve media service by better catering for the needs of media representatives (in terms of communication facilities, access to runners at start/finish and in the forest, continuous intermediate time information, food and beverages, etc)
- pay more attention to promoting our sponsors and external partners in connection with our IOF events

We, the Members of the IOF, expect that these measures shall be considered by all future organisers of IOF events."

Appendix 9: Guidelines for use of terrain for Major IOF Ski Orienteering Events

1. The proposed competition area, including the reserve area, shall normally be embargoed immediately after the organiser has appointed. If that is not possible, then arrangements for access to the terrain must be published as soon as possible. Information on embargoed areas shall be given in the bulletins and also be available on Internet via the IOF web site.
2. Areas can be embargoed only for orienteering activity, i.e. allowing the use of permanent tracks without a map. However, after the preparation of the small track system for the race, the competition area shall be fully embargoed.
3. In parallel, a colour copy of the most recent orienteering and / or ski orienteering map shall be sent to all relevant Ski Orienteering Federations. Copies shall also be sent to the IOF Office, see § 8.3 and 8.4. The most recent map(s) should also be available on Internet on the web site of the Organiser.
4. When embargoed areas have been announced, it is forbidden for all potential competitors, trainers, team leader etc to visit these areas, unless permission is specifically given by the organiser and the IOF Event Adviser.
5. The objective of the embargoing of a competition area is to limit the advantage any competitor with local knowledge on the terrain and the map might have. An effort shall be made to give all competitors as equal conditions as possible, at the same time as meeting the modern ski orienteering event objectives for easily accessible areas close to town centres, use of established ski arenas, spectator and media friendly events etc.
6. Track and course setting shall be made in a way such that the advantage any local competitor might have will become marginal.
7. In this context, the organiser should, if deemed appropriate by the organiser and the IOF Event Adviser, organise training possibilities / “a survey trip” in the competition terrain one year prior to the event (winter, with main tracks). If deemed relevant for WSOC, training possibilities / “survey trip” shall be arranged in conjunction with / Pre-one year before WSOC.
8. Track and course setting and the competition order should be made so that competitors who have participated in earlier competitions in the same event do not have a significant advantage over those who have not.
9. If the area allowed for training is in the vicinity of restricted areas, the boundary of the restricted area shall be clearly marked in the terrain.
10. Violation of the Rules / Guidelines to gain advantage (e.g. unauthorised training, surveying) of the terrain, knowledge of the maps, courses etc, beyond what is provided to all competitors, is forbidden and shall lead to barring from the event.

11. The organiser shall bar from the competitions a competitor who, despite the guidelines given above, is deemed to have a substantial advantage over other competitors. Such cases shall be discussed and decided after consultation with the IOF Event Adviser.

Significant changes to the previous version (December 2019)

References are to the 2020 rule numbers unless otherwise stated.

- 19.6 Two flags may be used at a control if there are two punching devices.
- 20.7 Clarification that merging of two cards is only required if the first card to be read out does not have a complete record.
- 22.8 Two flags may be used at the start point.