ORIENTEERING EVENT ORGANIZER HANDBOOK C-MEET

VICTORIA ORIENTEERING CLUB
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Version 2.0   2019

INTRODUCTION

General

1.   Orienteering can be great fun from a participant's perspective, but behind the scenes it is essential to have a dedicated group of club members, who organize these events for everyone to enjoy. If you have been active in orienteering for a little while, the opportunity to help out or take the lead in organizing an event can bring on a new challenge. It can also turn into a great learning opportunity as you get to experience the sport from an entirely new perspective. By helping to organize an event, you will be surprised how much it can expand your overall understanding of the sport of orienteering as well as improve your orienteering skills, which is always a good thing.

2.   If you are reading this reference manual, you likely have expressed an interest in helping the Victoria Orienteering (VicO) Club organize future events. First of all, thank you very much for stepping forward and taking on this task. Maintaining an active orienteering club with many events to enjoy throughout the year can only happen through the generous contributions of club members. These awesome volunteers are essential to maintaining an active and exciting yearly schedule of orienteering events.

3.   Orienteering events are grouped into three main categories. These include A-Meets (also known as Canada Cup Events), B-Meets and C-Meets, which are described as follows:

   a.   A Meets (Canada Cup) - these are provincial, regional or national competitive events that include several courses classified by the age and gender of participants;

   b.   B Meets - these are usually club-level competitions that are offered once or twice a year and are typically organized around a four course format including beginner, intermediate, advanced and expert;

   c.   C Meets - these are mainly fun, recreational and/or competitive events conducted at the club level. These events typically only include one or two courses such as a beginner and an advanced course. They can also include interesting variations such as score, night and memory orienteering.

4.   This reference book has been designed to help you plan and organize club-level orienteering activities that are categorized as C-Meets and is intended to be an introduction to course planning and event organizing. This reference book will contain information to help you understand all of the different events that can be offered, provide advice on how to approach planning your event and tips on effective course design. In addition, you will find information on how to print maps and run your event.

5.   This is the first version of this reference book and feedback is always welcome. Suggestions and comments can be submitted to Linda Hildebrandt, Victoria Orienteering Club Trainer.

CHAPTER 1
# GENERAL INFO - ORIENTEERING EVENTS

Overview:

- Types of Orienteering Events
- Classification of Courses
- Rules and Ethics of Orienteering

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General

1.   By now you have probably attended several Victoria Orienteering (VicO) club events to know that orienteering events and competitions can be organized around a number of different formats. Switching formats can keep things interesting and provide variety. The four most common formats are:

    a.   Classic / Point to Point - In this format,   orienteers must find control points in consecutive order. This is the most common competition format. Missing one control during a competition will result in the orienteer being assigned a mis-punch, which unfortunately also means they are disqualified can no longer be counted in the final standings.
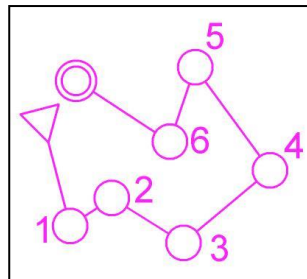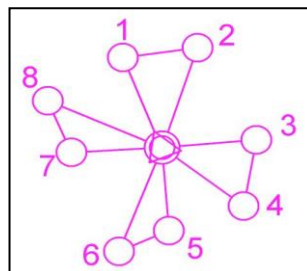

    b.   Score Orienteering - In score orienteering a large number of control points have been situated in a given area. The aim in score orienteering is for the orienteer to visit as many control points as possible in any order within a given time limit (i.e. 2 hrs). Each control is normally assigned a point value. More difficult controls earn the highest point value. Clever route choice and strategy are important factors in a score orienteering event.
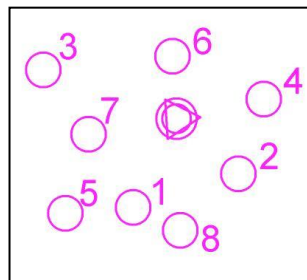
    c.   Line Orienteering - In this format, the course is shown as a line drawn on the map. Orienteers must follow this line precisely in order to discover 'hidden' controls along route. This format can be a useful as a training tool, or can be used as a competitive event for those new to orienteering. It can be used to introduce young children to orienteering, but can also be fun for adults in an area that contains a vast trail network.
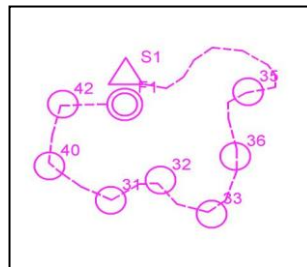
    d.   Relay Orienteering – Relay orienteering can be done as an individual or as a team. In this format, each leg of the relay starts and ends at the Start/Finish point.   This format provides a great way to monitor progress of an individual or team. Some potential variations include cloverleaf, butterfly and/or star.

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2.   The vast majority of VicO club orienteering events are usually based on the point-to-point or Score-O format. Any high level competitions offered at the provincial level and above are designed around the point-to-point format. However, less competitive local club events may introduce some variations that keep the sport interesting and can be useful for orienteering training. Some of these variations are:

a.   Street Orienteering – This type of orienteering usually takes place in an urban setting using streets and interconnecting parks to create interesting route choices. Control flags are not used. Instead the orienteer will verify that they have visited the correct location by noting some information in the area, such as recording the number on a fire hydrant, or information on a sign. This type of event works really well when wet weather makes orienteering in wilderness areas difficult. VicO has several areas mapped for Street Orienteering including Gordon Head, Royal Oak, Ten Mile Point and Esquimalt.

b.   Memory Orienteering - In this type of competition, the orienteer does not carry a map. At each control point the orienteer is able to look at a small section of the overall map, which shows just enough information to help the orienteer reach the next control. As the name implies, the orienteer must concentrate on the location of the next control and memorize the route to get there. If they are unable to find the next control, they must return to their last control and study the map segment again. This format can be used as a great training event. If using this format, it is advisable to use a park with fairly easy terrain, where the orienteer can navigate using trails and large features. This format does not lend itself well to anything that would require much off-trail travel or compass bearings. Great areas previously used for a Memory-O are Beaver Lake Park and Uplands Park.

c.   Night Orienteering – As the name implies, this type of orienteering occurs during periods of darkness and the orienteer must negotiate their route and find controls with the aid of a good flashlight or headlamp. The reduced visibility adds a special dimension to orienteering and can be quite exhilarating. A popular VicO version of night orienteering is known as the Spook-O. It is conducted around Hallowe'en and incorporates some 'ghosts' and other 'ghoulish delights' for some additional adventure. Uplands Park has been an excellent location for night orienteering events. However, other areas with defined boundaries such as UVIC and Royal Roads can also make good venues.

d.   Canoe Orienteering – Canoe orienteering can take place on a good sized body of water such as a lake that can offer some interesting terrain such as small islands and channels to negotiate. Controls are placed near the shore and can be reached by water only. A score orienteering format is commonly used with this type of event to allow some randomness in route choice due to the likely visibility of other competitors. This event requires some extra safety considerations, such as having a safety boat or canoe on the water to ensure competitors can receive assistance in case of any canoe mishaps. Thetis Lake and Beaver Lake have both been used for canoe orienteering events.

e.   Sprint Orienteering – Sprint orienteering is a fast-paced orienteering format that usually occurs in a park or urban setting. Actual controls sites are easy with the emphasis on speed and quick decision making. This type of orienteering is especially suitable for university/college campuses where the location of buildings and numerous passage-ways can offer a variety of interesting route choices. Great sprint locations include UVIC, Royal Roads, Juan de Fuca and both the Camosun Lansdown and Interurban campuses.

f.   Goat-O - This is the variation used with the ever popular Determinator Series, which the VicO club usually runs in April/May of every year. A Goat-O uses a point-to-point format, but there is a mass start and and competitors can choose to skip one control. In this format, following (which is normally not allowed) is actually encouraged, and can lead to

some exciting head-to-head races with some interesting strategies as each competitor decides when to skip a control.

g.   <u>Adventure Navigation Run</u> - This variation uses the Line-O format and is suitable in really complex trail networks where staying on trails is necessary. Partridge Hills has been one area that lends itself really well to this format. Orienteers must follow a precise line on the map to discover all of the hidden controls. Losing concentration and wandering off the line can lead to some interesting challenges and makes this event not as easy as one may think.

h.   <u>ROGAINE</u> - This acronym stands for Rugged Outdoor Group Adventure Involving Navigation and Endurance. This type of orienteering emphasizes an endurance component. Usually organized around a Score-O format, orienteers are given 24 hours to collect as many points as possible. A mix of strategy and endurance is required to participate in a ROGAINE and it can provide a very good challenge with the amount of terrain it can cover. Shorter ROGAINE events may be available at the same venue as the long 24 hour format and can last 4, 6, 8 or 12 hours. Many adventure racers enjoy this type of orienteering due to the length and the endurance component. Local orienteering club events may include some mini-ROGAINE events that might last 3 to 4 hours. A popular event usually hosted annually by VicO is the Camp Thunderbird 3 hour Score O. This mini-rogaine can add a spirit of wilderness adventure to orienteering and really test your off-trail navigation skills.

Classification of Courses

3.   Since the sport of orienteering can attract all kinds of participants from beginner to expert experienced orienteers, it is useful to understand how the courses are designed based on their level of difficulty. Typically, at any event hosted by the Victoria Orienteering Club, there will always be a beginner course available to help newcomers transition smoothly into the sport. As their experience in orienteering continues to grow, those looking for a bigger challenge are encouraged to try moving up in the difficulty ranking of courses.

4.   A typical event can have multiple courses, and will usually follow a four-course format described as follows:

a.   **Course 1 – Beginner/Novice**. Average Length 1.5 – 2.5 km. Easy on-trail controls along distinct linear features (trails, roadways, etc). One obvious route choice from control to the next control.

b.   **Course 2 – Intermediate**. Average Length 2.5 – 3.5 km. Mix of on-trail and off-trail controls. Off-trail controls are usually nearby to a trail or linear feature. Some route choice.

c.   **Course 3 – Advanced**. Average Length 3.5 – 4.5 km. Mostly off-trail controls, which require careful use of compass bearings to locate. Lots of route choice and likely to venture into more technical or difficult terrain.

d.   **Course 4 – Expert**. Average Length 4.5 km and up. Controls are mostly off-trail and challenging, including using subtle terrain features. Lots of route choice, very few trails, technically difficult as well as physically challenging terrain.

5.   As noted earlier, most C-level events are organized around a one or two-course format. If a two-course format is used it will include a beginner course and a more advanced course. The level of difficulty selected for the advanced course is dependent on the level of participants expected. For example, the Determinator Series will include a beginner and a Determinator course, which is usually set

at about a Course 2 to Course 3 level of difficulty. Our Wednesday Evening Training (WET) series assumes all participants are already active club participants and will generally not include a beginner course or assume novice level participants.

Rules and Ethics of Orienteering

6. As with all sports, orienteering has a general set of rules for participants. From an organizer's perspective, it is good to have a good knowledge of these rules, to make sure participants in your courses will adhere to them. The following is an overview of the most important ethical, safety, as well as general rules to ensure a fair and safe competition.

Ethical Considerations
- Orienteers shall not follow other participants.   - Orienteers shall not discuss the course with other participants while still on the course.   - Orienteers who ask for help should be shown their location on the map and then be reported to an Official at the Finish.   - Orienteers who have finished a course should not divulge information about the course, map or terrain to others who have not yet started.   - Orienteers shall respect the land and wilderness environment.
Safety
- Orienteers should wear full body clothing to protect themselves from vegetation.   - Orienteers must carry a whistle during the event.   - Orienteers must report to the Finish Official whether they are finished or not and hand in their map and score card.   - Orienteers must aid injured Orienteers whom they encounter in the woods.   - Orienteers crossing roads or railways must observe traffic rules.   - Organizers should provide safety bearing information.
General Rules
- Orienteers shall not damage, hide, or remove any controls during an event.   - Orienteers may only use a compass plus the map provided by the organizer during the event.   - Orienteers must visit the controls in the specified order in a classic/ point to point orienteering event.   - Orienteers must not cross areas marked on the map as un-crossable or out-of-bounds.
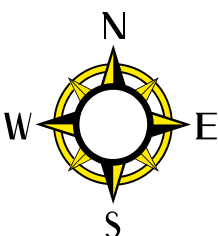
For more information about orienteering in Canada and BC, check the following links:

Orienteering Canada Official Website:
www.orienteering.ca

Orienteering Association of British Columbia
www.orienteeringbc.ca

CHAPTER 2
PLANNING AN ORIENTEERING ACTIVITY

Learning Objectives:

- Planning Considerations
- Resources
- Orienteering Equipment (Annex A)

General

1.   Once you have been orienteering for a while and have acquired a fairly good grasp of the basics of the sport, you are ready to help organize orienteering activities for others. Helping out at an event by working the registration table or working the start or finish is greatly appreciated by the club and can give you insights into the organizational elements needed to set up events. Every year, the VicO club must rely on a steady group of volunteers to keep our club active and thriving with many events to offer throughout the year.

2.   The majority of our C-Meets are associated with the Determinator or WET (Wednesday Evening Training) series. The WET Series is a unique way to get involved in organizing an event. If you take responsibility for one event, you can participate in the remainder of the series at no cost.   The atmosphere of the WET series is to encourage new organizers, so don't worry if this is your first experience in organizing an event. There are several experienced club members who are more than willing to help out anyone new to organizing.

3.   Once you get active with the WET series, it can be very rewarding to able to set-up events and orienteering activities for others to enjoy.   As with any activity, putting something together that will work and achieve the desired outcomes takes some careful planning to ensure no important elements are missed. Placing the controls in the right locations is just one part of the challenge. Your first stage in planning is to examine some of the elements discussed below as they will directly influence where and how you will present your event or activity and the resources you will require.

Planning Considerations

4.   There are many things to consider when planning an orienteering activity. Some of the main considerations include the following:

        a.   group characteristics,
        b.   aim/goals of the activity,
        c.   selecting a suitable area,
        d.   safety;
        e.   orienteering maps; and
        f.   other resources/equipment.

5.   **Group Characteristics.** When setting up a WET session or a C-Meet, it is important to consider who will likely be attending.   With the WET series there is an expectation that most orienteers have the experience to enjoy off-trail and sometimes challenging controls. However, if organizing a regular C-Meet, there is a good possibility that beginners may attend and this will influence the level of difficulty you will need to set your course(s) at so that you can ensure a positive experience for everyone.

6.   **Aim/Goals of the Activity.** The next element to consider is what goals and aims are desired for the activity. Are you trying to provide an introduction to orienteering for those who have never tried it before? Or are you trying to develop specific skills and techniques such how to follow a compass bearing or identify catching features? Maybe you would like to encourage orienteers to practice a certain skills or engage in novel event such as a Memory-O or Night-O. Developing a specific set of goals will help guide what choice of activity would be best to help you achieve them.

7.   **Select a Suitable Area.** Once you have examined who will attend as well as the specific goals for your activity, the next logical consideration is where you should conduct your orienteering activity or event. City parks or urban areas such as the University of Victoria campus offer the easiest terrain and can be a good starting place if you are relatively new to setting a course. It takes time and experience to set courses in wilderness areas such as Thetis Lake Park or Camp Thunderbird. This terrain can be technically difficult and setting the controls in the right location takes experience. So, if you are still new to this responsibility, it is best to use an area with easier terrain. A good area to select for C-level meets should include the following:

a.   an up-to-date orienteering map;
b.   non-technical easy terrain, without too much dense vegetation or obvious hazards;
c.   some good variety in features;
d.   fairly flat terrain, with perhaps some hills but not very many steep sections;
e.   a fairly good trail network that will allow options for course setting; and
f.   allow access (permission can be obtained as required).

8.   In addition, you may wish to consider the following from a safety and group comfort perspective, especially if you may be working with a large group:

a.   access to washrooms;
b.   access to parking (bus access);
c.   covered shelter (if possible);
d.   cellular telephone service to the area; and
e.   proximity to facilities such as a hospital, if needed.
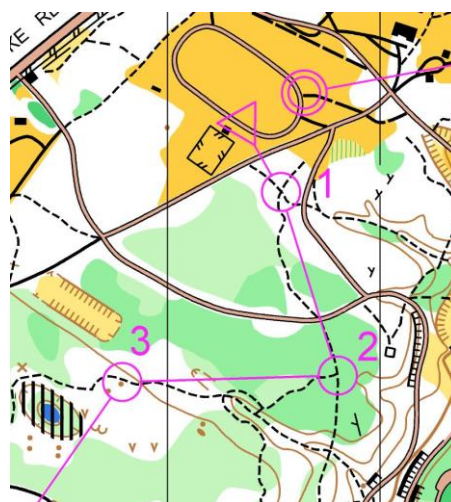
9.   No area is likely to have an ideal combination of all of these features; however, it is important to prioritize what seems most important to support the activity as it is planned. Be flexible, and be willing to sacrifice some items such as having an available covered shelter in favour of bringing your group to an area that has a great orienteering map.

10.   **Area Permits**. Gaining permission to use an area is another important consideration. Some parks will require advanced permission from the CRD, such as Beaver Lake Park and Thetis Lake Park and the CRD will often ask for a map to be submitted in advance in order to approve the control sites used.   This may mean planning your event well ahead of time. Also some areas may only be used for orienteering at certain times of year, such as Uplands and Mount Doug Park. While other areas, such as most Street O locations, do not require any permits at all. If you are unsure if you can use an area for an orienteering event, please check in with the club executive. There is usually a club member who has been assigned the responsibility to obtain permits for orienteering events. They will assist you in verifying if permission is required and help you obtain a permit if one is needed.

11.   **Safety**. Safety should also be an important consideration when making your initial choice in finding a suitable area. As noted earlier, when considering where to set your course, you should avoid areas that are too technically difficult for the group that

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you think will attend or present hazards or otherwise unfriendly terrain that could create the potential for injury for less experienced orienteers. Choosing the right area for your event will prevent undesirable incidents from occurring such as orienteers getting hurt or lost. For example, it is important to choose an area with easy terrain and defined boundaries when considering a night orienteering event, to allow for easy re-location and the ability to return to the Start/Finish within a reasonable time. It is also important to have some safety equipment on hand and a plan on what to do if an incident occurs. Safety is a subject that will be revisited in a later section of this reference book when the elements needed to organize and put on an event are discussed.

Resources

12.   **Maps**. The Victoria Orienteering Club has a good range of maps for different terrain. When you are first starting out, it is best to choose an area with easy terrain such as a campus or city parks such as Camosun or Uplands Park. Here is a list of mapped areas to choose from:

Type	Area
Campus Maps	Camosun - Interurban Campus
	Camosun - Lansdown Campus
	Royal Roads University Campus
	University of Victoria Campus
City Parks (Easy Terrain)	Beacon Hill Park
	Beaver Lake/Elk Lake Park
	High Rock Park
	Juan de Fuca Park
	Mount Tolmie Park
	Uplands Park
Urban/Wilderness Parks (more challenging wilderness terrain)	Camp Thunderbird
	Francis King Park
	Mount Douglas Park
	Partridge Hills
	Sooke Park
	Thetis Lake Park - East (Highland Road) West - (Bellamy Road) and Main Beach
Street Orienteering Maps	Esquimalt
	Gordon Head
	Ten Mile Point
	Royal Oak
	Cordova Bay

13.   **Equipment**.   For any orienteering event, the main items that you will need consist of the following:

      a.   orienteering control flags (with stakes);
      b.   punches or Sport Ident (SI) stations;
      c.   SI finger sticks;
      d.   SI printer;
      e.   clip board for start list, etc

14.   If organizing a WET session, a kit has already been assembled with all of this basic equipment you will need. If organizing an event that is open to the public, you will need to consider additional items such as registration lists, membership forms, cash box, etc.   See **Annex A** to this chapter for a complete equipment list to consider.

Summary

15.   Once you have figured out what type of event you wish to put on, selected an appropriate area, chosen a map and started to consider the equipment needed, your next task is to design your orienteering course. This will be discussed in the next chapter.

Annex A - Orienteering Equipment

WET Events
- In WET KIT:
  - ☐ Control Flags
  - ☐ SI Control Stations with stakes (as needed)
  - ☐ SI Finger Sticks
  - ☐ SI Mini Printer with download station
  - ☐ Map Bags
  - ☐ Mini Clipboard for Start List/Finish Results
  - ☐ First Aid Kit
- Prepare and make available:
  - ☐ Course Maps & Control Descriptions
  - ☐ Water Container & Cups
  - ☐ Cookies ☺

C-Meets Requiring Registration
- Course Set-Up:
  - ☐ Control Flags
  - ☐ SI Control Stations with stakes (as needed)
- Registration:
  - ☐ Membership forms
  - ☐ Registration Sign-In Sheet
  - ☐ Cash Box
  - ☐ Equipment for loan (compasses, whistles)
  - ☐ Pens and Pencils
  - ☐ SI Finger Sticks (or Control Cards)
  - ☐ SI Clear and Check Stations
  - ☐ Course Maps
  - ☐ Map Bags
- Start:
  - ☐ Start Control Flag with Start SI Station
  - ☐ Clipboard with Start List Sheets
  - ☐ Timing Device (stop watch)
  - ☐ Start Clock - Beeper
- Finish
  - ☐ Finish Control Flag with Finish SI Station
  - ☐ Clipboard with Finish Sheets (if needed)
  - ☐ Timing Device (stop watch)
- Sport Ident Equipment
  - ☐ Lap Top with SI download station
  - ☐ Large Printer with paper
  - ☐ SI Mini- Printer
- Miscellaneous:
  - ☐ VicO Canopy Tent
  - ☐ Banners - Start & Finish
  - ☐ Tables and chairs
  - ☐ Direction Signs
  - ☐ First Aid Kit
  - ☐ Additional Stationary (pens, paper, markers, stapler etc)
  - ☐ Water jugs and cups
  - ☐ Snacks - cookies, etc.

CHAPTER 3
COURSE PLANNING

Chapter 3 - Learning Objectives:

- General – Aims of Course Planning
- Course Category Guidelines
- General Design of the Orienteering Course
- Course Planning Process and Control Checking
- Common Problems to Avoid
- Tips for Good Course Design

General - Aims Of Course Planning

1.   Once you have done some preliminary planning to decide on your orienteering activity and event, you will need to start planning out an orienteering course for your expected participants to enjoy. Good course planning is an essential ingredient in making sure all your participants have a successful and enjoyable experience, especially if you are expecting any beginners. A well-planned orienteering course should:

      a.   present a fair test to all competitors;
      b.   test skills not luck;
      c.   be fun with the right amount of challenge;
      d.   allow for good route choice; and
      e.   address any area restrictions (hazards, out-of-bounds areas etc)

2.   **Fair Test of Skill**. An orienteering course should be correctly matched to the skill level and expected abilities of the participants. As the course planner, you will need to ensure that the contest is fair and that all competitors face essentially the same conditions on every part of their course. An orienteering course should never be viewed as a contest between the course planner and the participants. Instead the course planner must ensure that the course is set to allow for the success of the participants. Never intentionally hide the control flag or in any way attempt to trick the orienteer. In addition, make sure all the controls are placed on properly mapped features and the map gives a true picture of the terrain around the control site. The numbers on all the controls should be correct and match the control descriptions and the control descriptions should be accurate and correspond to the map.

3.   **Test Skills not Luck.** When examining your course plan, make sure that all orienteers will be able to use their skills to find the control as opposed to luck. For example, a control located in a pit in an overgrown area would likely be difficult to spot despite best efforts by the orienteer to use their skills to locate it. This type of control is referred to as a bingo control and should be avoided.
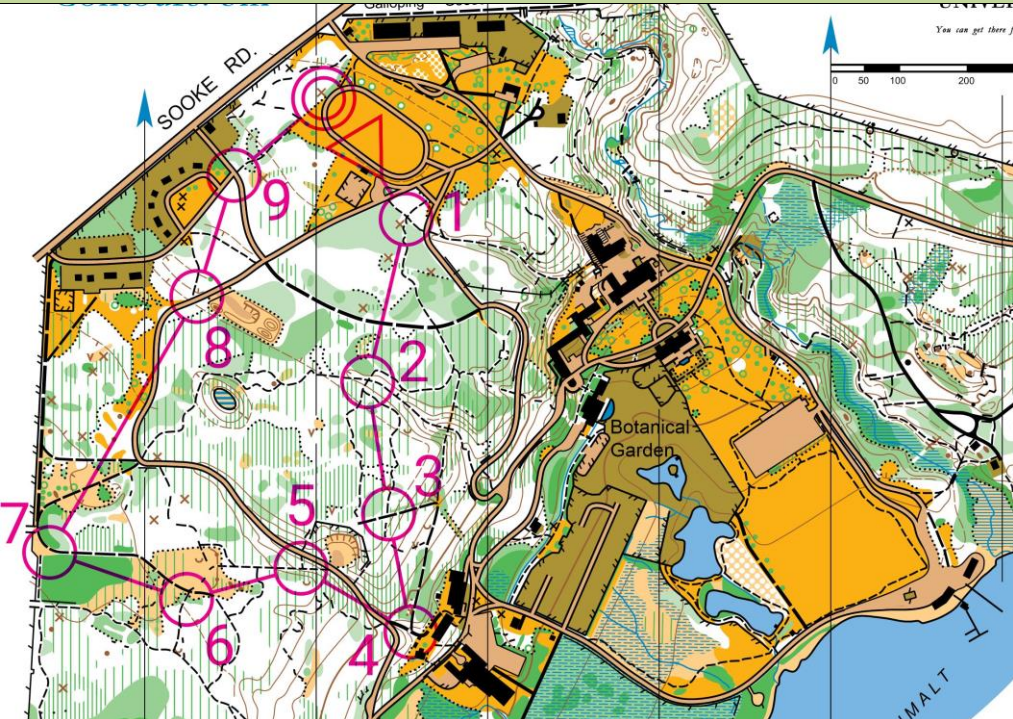
4.   **Be Fun**. Participating in an orienteering course should be fun and enjoyable for the orienteer. Difficult controls that the majority of orienteers struggle to find or a course that is too long can diminish the positive experience of the orienteer. It is important to remember that a beginner course which may seem very easy to the course planner can still create a sufficient challenge to someone very new to the sport. At the same time, there should be enough challenge such that the vast majority of participants can complete their courses successfully, within a reasonable amount of time, and do so with a feeling of satisfaction in their accomplishment.
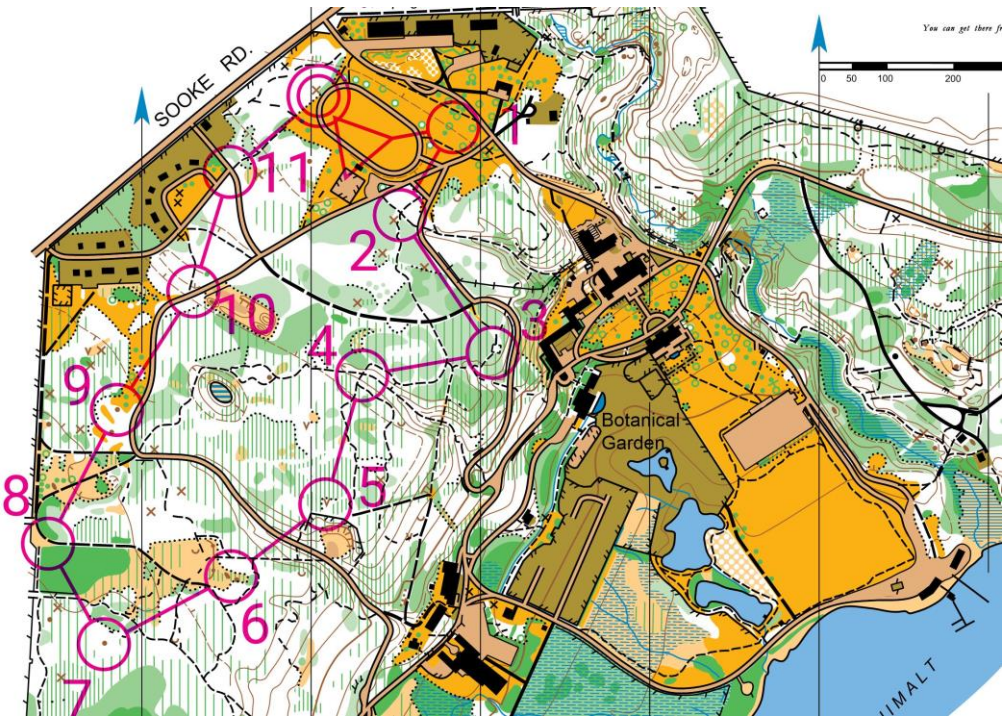
5. **Allow for Good Route Choice**. The course planner needs to be fully acquainted with the terrain before he or she plans to use any control or leg. Courses that only follow one logical route and do not encourage a lot of decision making can make for a dull experience. Although beginner courses generally follow trails, there should be several points along the route to allow the orienteer to test their decision-making and be rewarded in choosing the shortest route. More advanced courses need to include lots of variety and route choice options, to let the orienteer decide the best most optimum route for their skill set.

6. **Address Any Area Restrictions.** Clever course planning can generally negate any limitations presented by a given orienteering map such as hazardous or out-of-bounds areas. An area of a given map with several cliffs may be a good challenge for the experienced orienteer, but is likely an area that should be carefully avoided for beginners. When considering control locations, the course planner will need to visualize potential route choices that could be made by their participants and set the controls in locations that will not encourage a route choice through an unsafe or out-of-bounds area.
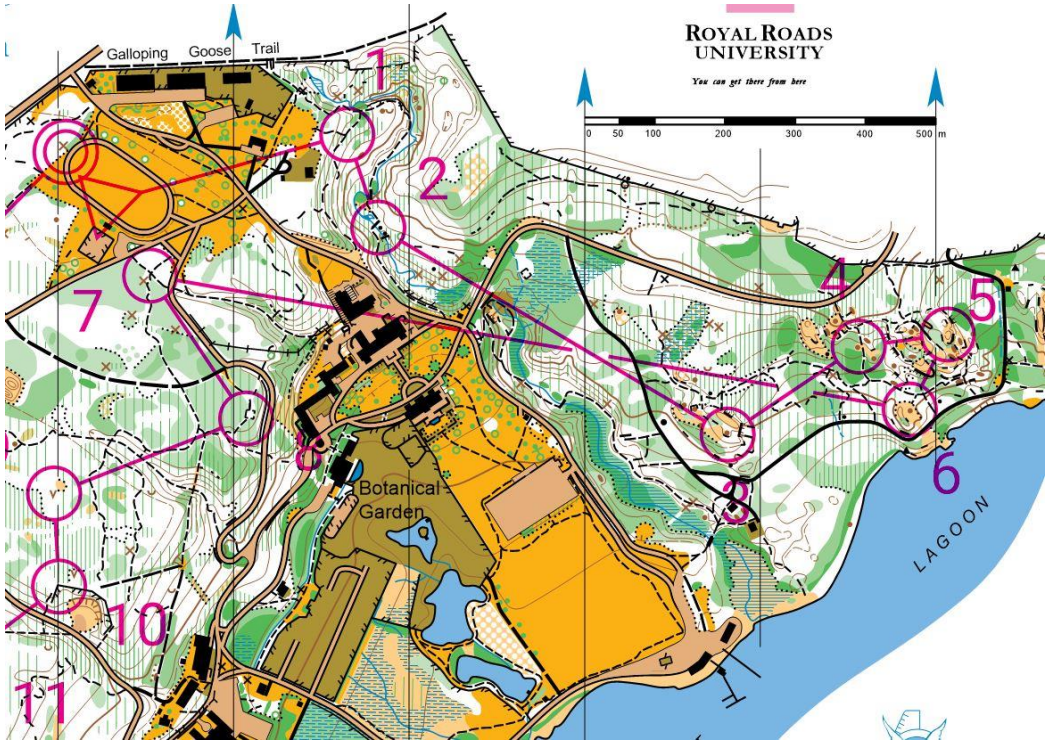
Course Category Guidelines

7. Courses are described in terms of their navigational difficulty, based on the usual course ranking utilized by Orienteering Canada. Most club events are organized around a four-course format, which increase in level of difficulty, and are described as follows:

Course	Description
Beginner (Easy): Course-1 8-10 Controls Length: 1-2 km	 • Controls are on trails, junctions or easily identifiable features close to the trail. • There is one obvious route choice that allows the orienteer to stay on trails or near an obvious linear feature. • Controls are placed near main decision-making points on the route and placed such as to lead the competitor in the right direction. • Control markers should be visible on the approach side.

Course	Description
	• If controls are placed off-trail, they must be on large obvious features close to and visible from the trail. • The course can be completed with careful map-reading and does not require any compass bearings. • It is important to view the course from a beginner's perspective (gentle terrain, no hazards) and avoid any physically difficult control sites. • Don't be afraid to have lots of controls (8-10) and short legs (100 – 200 meters)
Easy Intermediate Course-2 8-12 Controls Length: 2-3 km	 • Control sites must be on or near linear features, but preferably not at turning points. • Controls can contain a mix of on-trail and off-trail controls. • Off-trail controls should be located near a handrail and can be located by leaving and then returning to a handrail. • Controls are on easily identifiable point features (boulders, cliffs etc). Subtle contour features (such as re-entrants) should be avoided. • Most of the course should be designed to allow the use of handrails as obvious route choices, with some opportunity to cut corners and go cross- country. • The course should encourage the use attack points and some compass work to help locate off-trail controls. • Control markers should be visible from the approach side by any reasonable route.

Course	Description
Advanced Intermediate Course-3 8-12 Controls+ Length: 3-4 km	 • Control sites can be fairly small point features but not in areas of complex detail. • Courses should have several route choices and encourage cross-country travel with less use of handrails. • Use of the compass is essential to navigation. • There should be attack points near the control sites. • Catching features should be present <100 m behind controls. • Control flags are not necessarily visible from the attack point. • Control flags are not necessarily visible from direction of approach.

Course	Description
Expert Course-4 10-15 Controls + Length: 4 km +	 • Controls can be on small contour and point features. • Aim is to provide a technical challenge without allowing serious errors to occur. • Use of the compass is essential to navigation. • Navigation should be challenging and require a full range of techniques to be used. • Careful route choice should be an element of most legs, and include few if any handrails. • No large obvious attack points or handrails nearby. • Control flags are not necessarily visible from the direction of approach and require the orienteer to really pay attention to the control descriptions. • There should be variety in the types of navigational and route choice problems presented.

General Design of An Orienteering Course

8.   Orienteering courses are made up of a start, controls, legs (the potential route between two controls), and a finish. A good course planner will not over-focus on just finding interesting control locations, but instead should consider finding good quality orienteering legs as the most important elements of the course. Hence, keep in mind the following when designing course:

   a.   good legs should offer competitors interesting map reading problems, allow for alternative individual routes, and tend to separate competitors;

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b.   the course should give changes in directions for consecutive legs as this forces competitors to re-orient themselves frequently;

c.   try to plan the main legs where the map is rich in details, changeable in character and demanding in map reading ability;

d.   for advanced courses, try to include variations with respect to length and difficulty to force competitors to use a range of orienteering techniques; and

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

9.   If multiple courses are used for one event, courses should be designed so that competitors finish from a common direction. Using a common last control will facilitate this.

10.   The other components of the course are the start and finish. Access and suitability of different parts of the map for the easier courses often control the location of these. Hence when choosing the start-finish area, ensure that the beginner and easy-intermediate courses can be set from this location. Locating the registration, start and finish within close proximity is generally appreciated by competitors. Locating the start slightly away but still visible from the registration area will help disperse the competitors ready to start and avoids congestion at the registration area.

**Course Planning Process And Control Checking**

11.   **Obtain latest Map Version.** Your course planning should begin by obtaining the most recent version of the map of your chosen area. This can be obtained from the club member, who is in-charge of all of the club maps. You may be provided with a paper and/or a digital copy. Make sure you have the right scale of the map you wish to work with. Generally, the scale you should use is 1:7500. However, if you are using a small area (for example High Rock Park) or expecting many new orienteers, a 1:5000 scale may be more appropriate.

12.   **Draft Course Plan**. Start by reviewing the guidelines based on the number of courses required, anticipated level of participants and desired course format. Plan the courses on paper first and check to make sure the recommended distances for each level of course are respected. Ensure your plan takes into consideration where best to place the registration, start and finish area. Select potential control sites and develop some interesting legs. Time spent here will minimise field checking and subsequent alterations.

13.   **Field Check**. Once you have made a draft of your course, you **must field check** your course(s) and control sites. Once each control site can be verified, mark its precise location with survey tape or something similar, preferably labelled with control number and description. During the field check, you should:

a.   consider the description of the control location and make sure it is correct and complete:

b.   check that the map accurately portrays the ground in the vicinity of the control and that direction and distances from all possible angles of approach are correct. If the map is not accurate (i.e. a new trail is now in the area) consider moving or dropping the control unless a map update can be made;

c.   check the precise location where you may wish to hang the control flag, and make sure it is easily accessible and not surrounded by unpleasant vegetation or tripping hazards;

    d.   check that there are no major unexpected hazards likely to be encountered by competitors on any of the legs between controls. If a hazard is found, consider moving the control site or flagging the area to be avoided;

    e.   consider selecting another control site if you are having trouble finding the control feature or have doubts about its mapped accuracy; and

   f.   note any relevant map corrections whilst field checking controls.

Common Problems to Avoid

13.   Every competitor appreciates good course design. At the end of the day you want the participants on your course to have had a satisfying and challenging run, and be appreciative of the experience. From the course planner's perspective, here are some common problems to avoid so that all of your participants can achieve a positive experience.

    a.   **Controls Too Difficult**. This is especially relevant for the beginner orienteers. Make sure control sites are matched correctly to the expected ability of the participants and that the control flag is visible (not hidden). Avoid areas that are too complex in their detail or use very subtle features such as contours that lack specific detail. Usually, if you have to puzzle about where to hang the control flag, because it is difficult to confirm its exact location, then you shouldn't use the control site.

    b.   **Controls Too Easy**. This situation may be created when the control is hung on an obvious feature and the flag is visible from a long distance away. For example, the top of a hill may appear to be a good control site, until you do your field check and realize the control flag would be visible from very far-off due to the lack of trees or vegetation in the area. In this case, re-positioning the control flag on the side of the hill will allow the orienteer to find the hill first and then the control flag, and thus making it a more appropriate navigation challenge.

    c.   **Legs that reveal locations of other controls.** As per the example on the right, it is easy for the orienteer to take a route that would take them past Control 8 on their way to Control 5. This will reduce the navigation challenge, but also creates some other dilemmas. If pin punches are used, such control placements may encourage orienteers to take them out-of-order. The more frequent use of Sport Ident does remove this possibility since it is easier to verify the sequence of controls visited. However, if you are using pin punches you would have to rely on the honesty of orienteers. Taking controls out-of-sequence is against the rules and should result in a disqualification. This can be unpleasant to enforce, so it is always better to remove this temptation in the first place.


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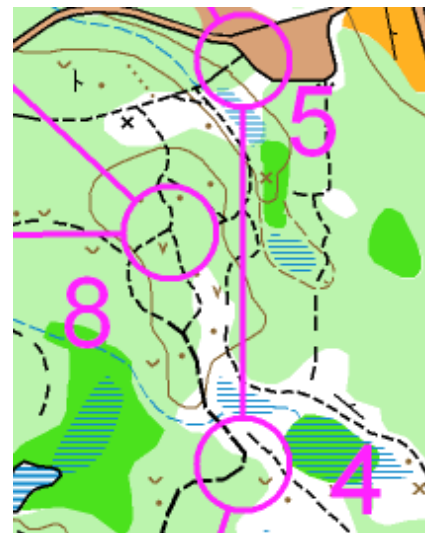
d. **Dog Legs**. A dog leg occurs when the design of the orienteering leg encourages the orienteer to access and exit the control from the same route. Have a close look at the example on the right. The fastest route to and from Control 5 is basically the same. This has a tendency to 'telegraph' the location of the control site to other participants and thus provide them with an unfair advantage. Most experienced orienteers also dislike dog legs as it interferes with their 'flow' of going in and out of a control and diminishes the navigation challenge involved in deciding the optimum route out of a control. Creating dog legs is a common mistake in course planning. When course planning, it is very important to visualize the most logical route to and away from a control. If the optimum route results in a lot of back-tracking, it is best to re-position the next control so that another route option opens up. Alternately, adding another control a short distance away (called a transport leg) will also encourage the orienteer to choose another route out-of-the control. This will keep your course more challenging and interesting.
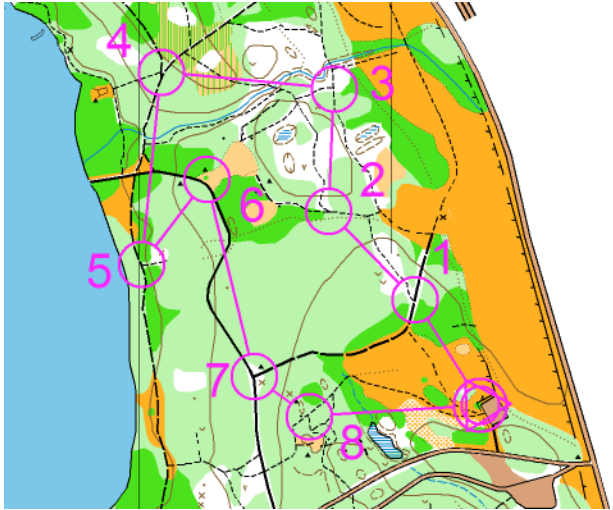
e. **Unintentional Route Choice.** This may occur if the course has not been examined carefully from the perspective of the orienteer and the probable routes they may choose to take. For example, you may have designed a beginner course that follows trails, only to discover at the end of the event that several of the participants opted for a short-cut across open ground that took them across a busy road. In this case, adding a control to help keep orienteers on your intended route is a way to remedy this potential situation.

f. **Unpleasant / Unsafe Control Sites**. Forcing an orienteer to move through unpleasant or unsafe terrain to reach the control site can put them at risk of injury. Areas of thick vegetation can really impede and also frustrate the orienteer. When selecting a site, think less about the actual control location and more about how interesting the leg can be and the type of terrain the orienteer may be expected to cross as they both enter and leave the control. Your participants will appreciate well-chosen control sites that permit them to move smoothly in and out of the control site.
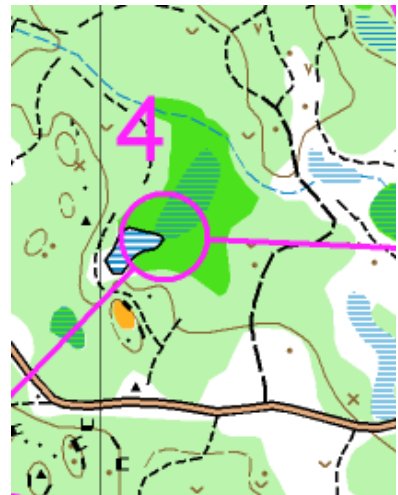
g. **Bingo Controls.** These are controls that may be found more by luck than by actual precise navigation. For example, the control flag is hidden in a depression obscured by vegetation or the control site is confusing because of map errors or unmapped detail. In this case, replacing this control with another one that does not have these disadvantages is highly advisable.

    h.   **Controls too Close Together.** Placing controls on the same type of feature in close proximity is not allowed. For example, two controls that are both on a boulder located within 50 meters of each other could easily lead to confusion. Even though they may be on separate courses and have their own control codes, an orienteer can easily make a parallel error and punch the wrong control. When locating controls in proximity to each other, make sure they are on very different features to eliminate this confusion.

Tips for Good Course Design

14.   Good course design takes practice. Here are a few tips to help you get started:

    Tip 1   **Choose a Logical Start and Finish** - When working out your course design, the first thing you will need to decide is where to place the start and finish. Usually parking and easy access to this location will influence your decision. In addition, it is preferable to start in one direction and have your participants come in from a different direction into the finish. Also, avoid having orienteers go past the finish on the way to the start and vice versa. This keeps these areas nicely separated and easier for course officials to identify if a competitor is just starting or finishing.

    Tip 2:   **Make your first and last control easy**. Have you ever started a course, and have not been able to find the first control? This can be a negative and frustrating experience for all orienteers and can throw them off for the rest of their race. At the start of a race, most orienteers may be a bit anxious. By making the first control easy, you will help your participants get off to a positive start. You will also avoid the problem of orienteers bunching up while trying to find a difficult control right at the very beginning of a race. Similarly, orienteers may experience mental and physical fatigue near the end of a race. Not being able to find the last control can be equally frustrating. So, it is a good idea to also make the last control easy to locate.

    Tip 3:   **Focus on choosing interesting orienteering legs not just interesting control sites** - Look carefully at the map to select legs that will offer an interesting navigation experience and then choose control sites that will require the orienteer to navigate this leg. A good course consists of several legs which will provide a good test of navigation skills. After you select several of these legs, you will then then connect them by adding extra controls as needed to help complete the course. Sometimes, it may be necessary to add a 'transport leg', a short orienteering leg which may be less challenging, but brings the orienteer to a control which sets them up to for the next really interesting orienteering leg.

    Tip 4:   **Visualize running the course** - once you have created your entire course, study it carefully and run the course in your mind as if you were the potential orienteer. Look at <u>all</u> the potential route options the orienteer may take. If you can see several attractive route options, this will make for interesting decisions and create some great post-race analysis amongst your participants. Beginner courses should have one obvious and safe route. If through this careful study, you discover dog legs, or areas that may inadvertently force orienteers through unpleasant or unsafe terrain, adjust your course.

Considerations for Specific Course Formats/Variations

15.   **Night Orienteering Courses**. When designing courses for night orienteering, it is imperative to make sure the controls are located in safe terrain. Generally, all controls should be located near or on trails or in easily accessible open areas. Navigating at night can be challenging enough due to the low light, and there is no need to also encourage cross-country travel, which could also increase the risk of injury due uneven terrain. Most routes should follow handrails. This is why urban university/college campuses and city parks with extensive trail networks make good areas for night orienteering.

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16.   Another consideration for night orienteering is having lots of catching features beyond the control sites to make sure orienteers can reference themselves easily. It is easier to get navigationally confused in the darkness than in the daytime and being able to re-locate using an obvious feature will heighten the success of this exhilarating way to enjoy the sport of orienteering.

17.   When locating control flags visibility is also an important consideration. Minor vegetation, which appears insignificant in the daytime, can easily hide the control flag at night. Therefore, place control flags so that they can be easily seen. Adding a reflector to the control flag will increase its likelihood of being spotted when the orienteer is in the correct vicinity.

18.   **Score Orienteering Courses**.   Score O's can in some ways seem simpler to design, because there is no obvious order by which to visit each of the controls.   However, course designers should still visualize potential route choices between adjacent controls to ensure they adhere to the guidelines noted above such as avoiding dog legs, bingo controls and particularly unsafe or unpleasant areas. Since Score O's require a mass start, a well-designed Score O should also allow for several attractive choices for selecting the first control to visit. This will split the field and avoid competitors travelling together towards the same controls in the same order.

19.   Setting a good Score O takes some thought and should allow for several optimum route options. Control locations should be distributed so as not to create an obvious easy circle route. This can be done by placing some controls at further distances and then adding several nearby controls in the middle of the map to mix things up. A good score-O will also make it very challenging, if not impossible, to collect all of the controls within the time limit. This forces the orienteer to make the most efficient use of their time and optimized their route choices so they can maximize the number of controls they can visit and return to the finish within the time limit. A good course planner will try to visualize these optimum routes and check to make sure they offer interesting and well-designed navigation challenges.

Summary

20.   Good course design takes time, but it will be worth the effort. Experience is your best teacher. Once participants have been able to try out your courses, be open to feed-back and take in the information if a control provided more difficulty or routes where chosen that led to a less than positive experience. You can use this information to continually refine your course design abilities in the future.

21.   Once you have gained the insights about course planning, you can also use this knowledge, when you are a participant in an orienteering event designed by another course planner. If you had a positive experience with lots of interesting navigation options and lots of route choices, analyse what made this so. Alternately, if you encountered a long dog leg, or the frustration associated with a poorly located control, use this experience to avoid these same mistakes in your own course design.

22.   Course planning can be a time-consuming but ultimately rewarding experience when you see the smiles of excitement and satisfaction on the faces of the orienteers as they report into the finish line. Follow the guidelines presented in this section and you will be well on your way to designing courses that will be fair, fun, and challenging.

CHAPTER 4
CREATING AND PRINTING ORIENTEERING COURSES

Chapter 4 - Learning Objectives:

- Orienteering Course Design Software
- Printing Maps
- Printing Scale
- Guide for Using 'Purple Pen' to Design a Simple Course (Annex A)
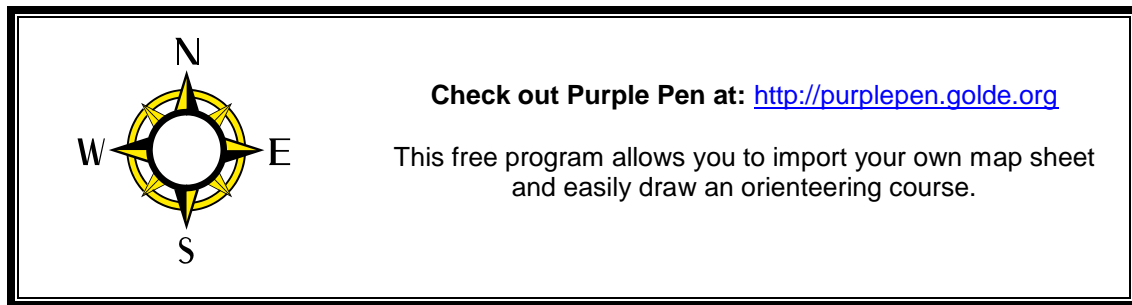

General

1.   Once you are happy with your course design, then you are ready to finalize your map to get it ready for printing. If several courses are used you will need a master map of all the control sites for control setting and pick-up. You will also need to decide how many maps to print. And, don't forget the control descriptions!

2.   There are several ways that you can go about getting your map printed:

      a.   design your course on paper and then ask one of the experienced club members to put together your master map electronically and print it for you;

      b.   learn one of the orienteering software programs so you can design the course and then send the file to one of our experienced club members for printing; or

      c.   using the orienteering software, to design and print your course yourself either by using your own printer (not really advised) or printing a master copy and going to a place like Staples to make copies (usually a better idea) and submit the receipt for reimbursement of printing costs.

3.   VicO has a club printer, which is kept in ink and paper by using club funds. Printing maps in large quantities can be expensive, so this is the best way to get maps done, so that no club members end up out-of-pocket.

4.   When you prepare your map for final printing, it is important to make sure you have included all of the necessary elements. All orienteering maps displaying courses have standardized elements. To make sure your orienteering course map contains all the right elements, you should make sure at a minimum that it includes the following:

      a.   **Title of the Event/Area** - This can be located on the map or at the top of the description box.

      b.   **Start Triangle** - the location of your intended start point. This start triangle should have one vertex pointing to the first control;

      b.   **Control circles** - the location of the features to be located. The control circles should be at least 6 mm in diameter and positioned so that the feature that must be located is in the exact centre;

      c.   **Connecting Lines** - these red/purple lines show the intended sequence that the controls are to be found. Connecting Lines are not used for Score-O events.

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d.   **Control numbers** - the control numbers identify the controls and must match with the control descriptions. In a point-to-point course, the numbers (1-2-3, etc) are intended to denote the sequence in which the controls are to be visited. In a Score-O, they should generally be randomized so as not to reveal any preferred route. **Important:** The numbers should be placed adjacent to the control circle in such a way that they make it obvious which circle they are associated with and do not obscure any map details that may be useful to the orienteer moving in and out of the control site;

e.   **Finish** - two concentric circles denote the finish for the course.

f.   **Control Description Box** - this box is located near the border of the map and provides the following: event title, course class, age category (if used), distance and climb. Most importantly, it identifies the control numbers with the corresponding control codes and control descriptions. These descriptions are provided in English (usually on C-1 Beginner maps) or using IOF symbols. As with the control numbers, it is important to size and position the control description box, so as not to cover up any important map detail.

Orienteering Course Design Software

3.   The VicO club makes use of two popular orienteering course design software programs. A brief description of these is a follows:

a.   **OCAD** - this stands for Orienteering Computer Aided Design (OCAD) and is a sophisticated program used to make orienteering maps as well as design orienteering courses. OCAD is registered software and the VicO club has a license. It takes time to figure out OCAD and it can prove to be bit tricky and temperamental at times. It is best used for creating and updating orienteering maps. If you are not already using OCAD, and just want to take an existing orienteering map to create a course, you are best to use some of the other really good programs that are readily available.

b.   **Purple Pen** - is an awesome free downloaded program that can import maps of various different formats including PDF, bitmap and OCAD maps and allow you to draw orienteering courses on them with ease. Using Purple Pen is very intuitive, and because it is easily available it is the preferred way to design your orienteering course.

Check out Purple Pen at: http://purplepen.golde.org

This free program allows you to import your own map sheet and easily draw an orienteering course.

4.   Attached at **Annex A** is a "Guide for Using 'Purple Pen' to Design a Simple Course". All you need to start your course design is a copy of an orienteering map. These can be obtained from any of the senior VicO club members, who have access to the electronic versions of the VicO orienteering maps. No worries, just ask, and one of the senior club members will help point you in the right direction. It is easy for you to be sent either an OCAD or pdf version of an orienteering map via email. Before you know it, you will be designing your own courses using Purple Pen like a pro. It is a very intuitive program to use.

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Printing Maps

5.   Once you are ready to print your course, it will be up to you to decide if you wish to use your own printer for this task. Orienteering maps do take up quite a bit of colour printer ink. If you don't want to use the ink in your own printer then it is advisable to print one copy and take it to a place like Staples and use their colour photocopier to print the number of copies you need. You can then retrieve a receipt for your copying which you can then turn into the club for reimbursement. Alternately, you can send your orienteering course to one of the senior VicO members, who have access to the club printer. Your maps will then be printed for you and you won't have to worry about seeking reimbursement for the cost of using your own ink.

6.   One of the trickiest things to guess is how many maps are needed. This can only be based on a best guess of how many participants will be expected. Those who pre-register on the VicO website can certainly help in determining how many to expect. However, not all club members tend to pre-register, although it is a good habit for everyone to get into. Ultimately, it is always good to have some extra maps on hand to anticipate any last minute drop-ins. If numbers are higher than expected, it can also be a strategy to collect maps from those who just finished the course and re-distribute them to those still waiting to go on the course. However, this is not always the best approach as many orienteers like to keep their maps for further analysis later.   Do try to keep your estimates within a reasonable range, it is also not good to waste maps and ink needlessly.

Printing Scale

7.   Maps can be printed in different scales. In general, the most common scale to use when printing your course is 1:7500. 1:10000 should be used if there is a large area that needs to be shown (i.e. Camp Thunderbird) or the course length necessitates that the map needs to be printed to that scale in order to fit in all of the controls. Note: 1:10000 is ok for young eyes, but may be challenging for those 'more mature' participants. 1:5000 scale or even 1:2500 scale is advisable for sprint events, beginner (C-1) courses and small areas such as High Rock Park.

8.   When preparing your course, think ahead of what scale you may wish to use. Once you are at the printing stage, it is important to double check that if you intend to print the map at 1:7500 that you actually get this result. Sometimes the way a printer is set-up will occasionally distort the scale you had intended to print by shrinking or fitting pages based on your printer's settings. The best way to verify the scale is to use the scale bar that is normally displayed on the map sheet. Take a metric ruler and hold it to the scale bar, to make sure that it corresponds with the correct centimeter scale as shown in the chart on the right. If it is off slightly you may wish to check your printer settings to make sure you are printing the actual size.

Scales:	
1 : 10,000	1 cm = 100 m
1 : 5000	2 cm = 100 m
1 : 2500	4 cm = 100 m
1 : 2000	5 cm = 100 m

Summary

9.   If it is your first time working with orienteering course design software, don't be afraid to ask questions. As noted previously, anyone volunteering to design courses and run events is highly valued as a club member and we would like that to be a positive experience. If you get stuck on using the design software or experiencing printing dilemmas, please reach out and there will be someone to help you.

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ORIENTEERING COURSE PLANNING
A GUIDE FOR USING 'PURPLE PEN' TO DESIGN A SIMPLE COURSE

Overview

Purple Pen is a software program that allows you to import an orienteering map, and quickly and easily design courses for use in orienteering activities. Purple Pen is a free-ware program, which is fairly intuitive to use in order to create professional looking orienteering maps.

Installing & updating the Program

Go to the Purple Pen website at *http://purplepen.golde.org* and click on the "Download" link in the main menu.   Read the requirements to ensure your computer meets the suggested system requirements and then click the '**Download Now**!' and follow any other prompts.

Creating a new event

Once you downloaded the program successfully, click on it to launch the program and a dialogue box will appear. When you first start Purple Pen, you have the choice of opening an existing event or creating a new one. If you want to just see how the program works, you can open an existing event and open the sample event that comes with Purple Pen. However, once you have finished playing with the sample event, it is time to create your own event.

Select '**Create a New Event...**' from the initial dialog and you will be asked a series of questions to gather the information for creating a new event:

- **Event Title –** First, enter the event title. This should be a short, one line description of the event. It can be the name of the map that you are using (i.e. Uplands Park).   It will appear as the first line on each control description sheet. It is also used as the file name for the event file. Once the event title is entered, click '**Next**'.

- **Choose Map File –** Purple Pen is designed to work with OCAD, PDF or bitmap map files. OCAD is a computer aided design (CAD) program to design orienteering maps and courses. However, if you are not familiar with OCAD, you will more likely be working with bitmaps. For a bitmap, you can use either TIFF, JPEG, GIF, PNG, or BMP formats.

  > Note: If you use a PDF file as your map, Purple Pen needs to know the map scale. This indicates how distances on the map related the real world, and it needed to calculate the lengths of courses. Generally this is shown on the map. Purple Pen downloads and uses GPL Ghostscript to read PDF files. This should only be necessary the first time you use a pdf as a background map.

  Click the '**Choose map file...**' button and select the map file you want to use. Purple Pen will immediately try to read the map file to make sure it is usable (if it isn't, an error message will appear). After you have chosen the map file successfully, click '**Next**'. The map file is used every time Purple Pen loads the event.

- **Map Resolution and Scale -** If you use an OCAD map, Purple Pen automatically reads the scale from the map, and this step is skipped. If you use a bitmap (BMP, JPEG, TIFF, etc) as your map, Purple Pen needs to know the bitmap resolution and the map scale in order to correctly calculate the lengths of courses, the sizes of controls circles, and so forth. Purple Pen attempts to read the

bitmap resolution from the bitmap file, so this may already be set correctly, but you should check the value to be sure. The resolution is expressed in dots per inch -- the number of pixels in each inch of the printed map. The map scale indicates how the map relates in size to the real world. To set the right resolution and scale, you can enter the following:

- ▪ **Image Resolution**: '150'
- ▪ **Map Scale**: '5000', then click '**Next**'.

- **Print Scale -** Next, chose the scale at which you wish to print your competition maps. Most of the time, this will be the same as the scale of the map, so unless you know want to print at a different scale, just click '**Next**'. (Note: when creating a new course, you will have the option to change the print scale, so you can have different scales for different courses.)

- **Event File Location** - Next, choose the folder where the file that stores your event will be stored. Purple Pen events are stored in a file with the file extension ".ppen". The name of the file will be the event title you chose previously. You can chose to place the Purple Pen file in the same folder as the map file. Alternatively, you can select any folder on your computer.

- **Control Numbering** - Purple Pen automatically numbers all newly created controls. By default it will choose '31'.   You can choose the starting control code you would like to use, or just go with the default setting. It is very easy to change control codes afterward, so don't worry about this setting if you don't know what the codes will be for your event. Just click '**Next**'

- **Create Event** - You've answered all the questions needed to create a new event. If you are happy with what you selected, click '**Finish**' and you can begin designing courses. If you want to change any responses, click '**Back**' to go back to any previous questions.

Manipulating the View

When your map first appears it may look a bit small, and you may wish to move it around. To manipulate your map into a view that suits you best, you can do the following:

- To Zoom - select **'View > Zoom'** on the top menu, and choose your option to zoom the map, alternately you can use the sliding button on the bottom right of the program screen.
- To Move the Map - right click on your mouse and your pointer will change to a hand that can grab the map and move it to where you like.
- To Adjust the Maps Intensity – select **'View > Map Intensity'** to adjust how bright your map is. The map intensity can be changed to make it easier to see the control circles as you add them to your map.

Adding courses

Once you are happy with how your map looks, it is time to add a course. To do this, go to '**Course**' on the top menu bar and select '**Add Course'**, a dialogue box appears that will ask you to fill in certain information:

- **Course Name** – provide a course name (i.e. C-1 Beginner)
- **Course Type –** here you can choose point-to-point or Score O; choose 'normal' for a point-to-point course
- **Climb –** this is the amount of elevation you expect your orienteers to gain on a course. This is a technical detail and does not need to be included. It is ok to just leave this space blank.

- **Class List / Secondary Title –** you can add extra info here if you like. It will appear in your control description box. This can be left blank as well.
- **Map Printing Scale –** this should match your setting that you had put in earlier. (i.e. 5000)
- **Description Appearance –** your choice here is to have symbols, text or text and symbols. For C-1 courses, text is used for the control description, so choose **'Text'** for your beginner course.
- **Control circle labels –** this refers to you're the numbering of your controls. Just leave it on the default setting of 'sequence number (3)'
- **First Control Number:** The default here is set to '1' and that is fine.

Now all you have to do is click '**OK**' and your course name will appear on the left.

Initial course design

After creating your course title, it is now time to add the control circles to your map. First, place the Start Triangle by clicking the '**Add Start**' button on the toolbar, then clicking on the map where you want the Start.

Next, use the '**Add Control'** button on the toolbar (or press Ctrl+A) to place each control. When placing a control circle, note that it will go immediately after the currently selected control, or in between the currently selected leg. As you place controls, Purple Pen will automatically assign control codes and they will show up in the description sheet pane on the left side. As you initially design courses, it is easiest to not worry about control descriptions or control codes until later. If you need to, zoom in and out or move around the map to see the map and control placements more carefully. Note that Purple Pen automatically calculates the length of the course as you add controls; keep an eye on this to get your course around the right length.

Once you have placed all of your control circles, click the '**Add Finish**' button and then click on the area of the map where you wish to place the Finish. Normally, you would like your Finish to be close to your Start.

Refining the course design

After you finish the initial design of the courses, you will want to spend time refining the design until the control circles are exactly the way you want them. If you decide you wish to move a control circle, it is easy simply click the control circle to select it and drag it to its new location.   If you wish to delete control, just select it and hit 'delete'. Just note, that Purple Pen will caution you that the control number will then no longer be used. So, if you don't wish to change the sequence of control numbers, it may be easiest to simply move them around. If you are using Purple Pen to draft a course plan for a potential upcoming event, usually there will be an initial refinement, followed by some field work checking the control locations, followed again by additional edits to finalize the course.

Adding a Control Description Box

Once you have placed all your control circles and are happy with the length and layout of your course, you can now add a control description. For this part, you may wish to refer to your IOF Control Description Handout to help guide you on how they are laid out. To add a control description, complete the following:

- Click on the number of the control in the control description box, to highlight it in yellow.
- Click in the <u>fourth</u> box from the left and a menu of control descriptions describing the feature will appear (boulder, fence, spur etc). Select the appropriate control description from the pop-up

menu and it will automatically be transferred into the control description box. If you are unsure of the right IOF symbol, the pop-up box will even identify each IOF symbol as you mouse over it.
- Use this same process to click in the other boxes on the same line of the control number to add other descriptions such as the location of the control flag in relationship to your feature. (i.e. east side) as appropriate.
- Repeat this process, until you have all control descriptions matching all of your control sites used.

Placing the Control Description Box on the Map

The last thing you need to do now is add the control description box right onto your map so that it will appear when you print it. This is very easy. Simply, click on '**Add Descriptions'** on the top menu bar and your pointer will change to a '+' sign. Place this '+' sign where you wish to place your control description and hold down your mouse button to drag it. A red box will appear and you can now drag its edge to whatever size will suit your map. Just click your mouse again, and the control description box will have been added to your map. If you wish to move it again, you can easily select it with the mouse and move it or re-size it as necessary. You will note that if you selected 'text' for your control descriptions, this is when your descriptions change to plain text.

Finalizing Your Map

Once you are happy with your course and the control description box has been added, you can do a few more things to make sure your course is ready for printing. For example, you can move the control numbers by selecting them with your mouse and moving them to make them more visible or away from important map detail that you think the orienteer will need to help them with their route choice.   Purple Pen has several other features, that you could use.   All of these options are described in the help screens. However, if you followed all of the instructions in this guide, you should have successfully designed a course that is ready for printing. Feel free to experiment with any additional features that your discover.

Printing

Once your courses are completely done, you will want to prepare files to send via email or to a printer. There are two ways you can do this:

a)   **Produce a pdf file**: **Go to File -> Create PDFs**… When the dialogue box appears, make sure to click the course you created (i.e. C-1). Make sure you note where your file will be stored. You now will have made a pdf copy of your map that you can attach to an email.

b)   **Print a paper copy**: **Go to File > Print Courses**… When the dialogue box appears, make sure to click the course you created and wish to print. (i.e. C-1) Then select the printer you wish to send it to. You will need a colour printer in order to produce a good copy of your map.

Congratulations! You have now created your first course in Purple Pen! You can now save and close down your program. You will notice that if you re-open it again later, it will allow you to open an existing and event and even provides you with a choice to re-open the last project you were working on.

CHAPTER 5
EVENT PREPARATION AND ORGANIZATION

Chapter 5 - Learning Objectives:

- Setting of Control Flags
- Setting up the Event Location
- Vetting
- Registration
- Start Area
- Finish Area
- Event Responsibility
- Orienteering Safety
- Event Checklist (Annex A)
- Orienteering Event Safety (Annex B)

General

1. Large scale orienteering events or competitions may require a lot of volunteers and officials to make them run smoothly. Since this reference guide is mainly concerned with C-meets, this information has been scaled to describe what may be the typical requirements for organizing and running a C-meet. In these smaller scale events, it is very likely that one person will do the bulk of all of the work to organize, set and run the event.

2. Once you have obtained your equipment and designed your orienteering course maps, you are ready to set your course. After the control flags are all placed, your next task is to prepare to receive your participants and run your event. This will include a registration area, start and finish. Setting and running your event requires diligence so you don't accidentally miss an important detail, such as forgetting to record the names of all of your participants and their start times. Each of these important stages will now be discussed in turn.

Setting of Control Flags

3. If you are doing a WET event, setting your control flags, may require a quick scramble prior to the arrival of your participants. Sunday afternoon events afford you with a bit more time and can allow you to set out distant and generally 'out-of-the-public-eye' controls on the day before with the remainder of the control flags being placed on Sunday morning.

4. The control flag should be placed at the feature in accordance with the control description. It should be visible to the competitor when they can see the described position (Note: orienteering is not a treasure hunt!). The value of a good navigation leg may be lost if a control flag has been hidden, the location or description for the control is ambiguous, or worse, the control flag has actually been misplaced. When initially checking control sites, it is a good idea to use flagging tape to identify them, so they can easily be located when you are ready to hang the control flag.

5. When hanging the control flags, the amount of visibility for the control flag is a matter of judgement. Generally, the control flags on a beginner course are visible from the expected side that the orienteer may approach the control and usually when they are within 10-20 meters of the control feature. In advanced courses, flags may be placed so the orienteer needs to locate the specific feature first and the flag will quickly be located on the other side of the control feature as a means to reward the advanced orienteer for having paid attention to the details provided in the control description.

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6.   When deciding the final placement of a flag, the normal height for the control flag should be somewhere between the knees and waist of the orienteer to allow for easy punching. Occasionally, for some increased visibility due to thick vegetation, the flags can be hung higher as the nature of the terrain dictates. It is always good to hang the control and then check it by looking at it from the probable direction that the orienteer will be approaching the control. Then adjust the control flag accordingly to increase or decrease visibility in accordance with the expected abilities of the orienteers searching for the control. Controls that can be seen at a long distance away are not fun and take the challenge out of the orienteering experience. Similarly, control flags that are obscured by vegetation making them difficult to spot should be re-evaluated to increase the prospects of participants finding the control shortly after they have entered the control circle.

7.   If the control is on a linear feature (for example a fence or river), the control flag should be visible in either direction that an orienteer may approach the control. So don't hide the control behind a bush, especially if this results in the control being more visible from one side than the other. Controls on point features (boulders, cliffs etc) must be visible when the competitor is standing at the feature as described on the control description.

8.   Lastly, be careful to hang the control on the feature, but think of how the orienteer will be likely come in to punch the control. Avoid hanging the control in prickly or unpleasant vegetation. Most orienteers will appreciate a slight adjustment of the control (a foot or two) from the actual feature if it avoids some unpleasant interactions with nasty vegetation.

Vetting

9.   In the larger scale events, it is critical to send an experienced orienteer on the course first to check that all of the controls are in the right location as per the orienteering map. This process is known as vetting the course. The vetter also checks to make sure all the control codes are correctly matched. Any errors (such as an incorrectly positioned control flag or incorrect control code) can then be quickly corrected before the other participants enter onto the course.

10.   In smaller club events involving only one or two courses, there may unfortunately not be a lot of time available for vetting especially if the courses are organized by one person. However, if a volunteer can step forward to run the course early that is preferable. This is where working in a team to set an orienteering event can have its advantages. Non-championship and C-Meet races such as the WET series can be forgiving of small course-setting mistakes, although it is always better to not have made any inadvertent course setting errors that may erode your participants' enjoyment.

Setting up the Event Location

11.   Once the control flags are out, it is time to prepare for the arrival of the participants. This involves setting up the registration area tent and locating the start and finish banners/flags. It is helpful to understand the function of these areas so that nothing important gets missed.

Registration

12.   **Registering Orienteers.** The first stage of an orienteering activity involves registering some basic information about each of the participants, such as their name, SI stick number and course category. Control cards (or SI finger sticks), and course maps may also be distributed at this point.   If the event is open to all members of the public, additional registration steps may include the completion of a club membership form, collecting the event fee and providing guidance to beginners. In this case, some volunteers to help with registration would certainly be advisable.

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13.   **Master Map Area/Course Selection.**   Depending on the type of event, you can allow your participants to view the maps in advance or only give them out at the time of the actual start. Providing a preview of the maps is good for those new to the sport and helps them select the right level course if there are available options. It is common at the Determinator and the WET series, to have the competitors only view the map after they have punched the start to add to the excitement of the event. At higher level competitions such as Provincial and National Championships (A and B Meets) the maps are not viewed by the competitors until their start control has been punched, so this is good practice. You will need to decide which way you would like to approach this. If you think it is of value to have your participants make the right choice on which course to take, then allowing them an advanced look of the map is quite acceptable.

Start Area

14.   It is advisable to have the start area located in the same vicinity as the finish area, but make sure that they are identified well so as to avoid any confusion. Try to position the start in a clear area so that orienteers have a clear path to head out on their way to their first control. The start area is the assembly point for orienteers to receive their start time and then proceed on to the course.   If you have a large group of participants, it is helpful to have a volunteer to help you.

15.   The person running the start and has the following responsibilities:

     a.   record each participant's name on the start list and assign a start time, which is recorded on the start list as well as the participant's control card (if used instead of SI);

     b.   verify that each participant has the right map and equipment; and

     c.   put competitors on the course at fixed intervals so they don't bunch up around the first control.

16.   Orienteers are typically dispatched at 1 to 2 minute intervals to allow the competitors to space themselves. If the event is a Score-O, then a mass start will be used. Keeping a proper register of who is out on the course is important for keeping track of everyone and making sure they have returned. Even if SI is used for the results, a handwritten register of participants will help to quickly identify anyone that has not yet returned.

Finish Area

17.   The finish area should be sufficiently visible to allow participants an easy path to sprint into the finish. Try to position this so that other competitors won't be inclined to gather in front of it and making it difficult for the finishers to spot this all important control flag. If pin punches are used, then a timekeeper also needs to be positioned nearby so they can see orienteers approach.

18.   The person looking after the finish is responsible for:

     a.   recording the time as each participant crosses the finish line on both the finish list and the competitor's control card (unless SI is used);

     b.   checking the control cards to verify the number and order of punches is correct or making sure that those who just finished are putting their SI stick into the download station and printing results; and

     c.   tabulating and displaying the finish results.

19.   Most participants are interested in seeing their results compared to others as soon as practical. This can be facilitated by hanging up control cards on a finish string or printing SI results and displaying them. Alternately, everyone should be advised to check the club website to see the final standings. Providing 'unofficial' results right at the end of meet is appreciated if it can be managed, but time constraints may not always allow this.

Event Responsibilities

20.   In large scale events, there are usually three main officials who look after the overall running of the meet. These are Event Director, Course Planner and controller/vetter. However, when running a small scale practice event, these roles will typically be combined into one official/leader. If you are fortunate to work as a team of two, things can be a bit easier and one of you can take on the responsibilities of being the event director while the other can focus on being the course planner.

21.   In overview, the event director:

      a.   conducts the initial planning (who, what, when, where)

      b.   obtains/gathers all needed equipment;

      c.   puts out information about the event to potential participants;

      d.   organizes volunteers (as needed) for start and finish officials;

      e.   briefs participants on the event and any safety considerations; and

      f.   supervises the overall event from start to finish and makes decisions on any changes.

22.   One of the main roles of the Event Director is to collect all of the required equipment for the event. **Annex A** contains a handy **Event Checklist**, that not only outlines the steps that go into organizing an orienteering event, but also lists the event equipment needed.

23.   The Course Planner takes responsibility for the overall design of the orienteering courses and provision of maps. In overview, the Course Planner:

      a.   drafts up an initial course plan;

      b.   field checks the mapped area to confirm control sites;

      c.   makes or suggest updates to the map if necessary;

      d.   prepares master maps of all the courses;

      e.   gathers all control flags, punches and course setting equipment;

      f.   confirms the design of the courses and makes changes as necessary;

      g.   sets the course flags in the terrain in preparation for the event; and

      h.   provides maps in sufficient quantity for all competitors.

24.   Running your event, may be as simple as opening up the trunk of your car setting up the start and finish flags and recording everyone on a clip board. This is typical of the simple events such as the WETs. However, if you have an event that is open to all members of the public, you may need to gather the help of volunteers to help you with the tasks of running the registration table, doing starts or finish. Don't be afraid to ask for help if you expect lots of participants!

Orienteering Safety

25.   Orienteering can be a fairly low-risk activity, but situations can and do occur. Therefore, it is very important for event organizers to take this into account and be prepared for certain eventualities. If you are setting up an event, you will need to take responsibility for some basic safety measures, such as having a First Aid Kit available. If necessary, and especially if your participants are not familiar with the area of your event, it is important to pass along any pertinent safety information, directions / instructions including identifying the volunteers assisting with the activity. This will help the participants understand the nature of the event as well as any particular rules that may be in effect to help guide their safe participation in the activity.

26.   Occasionally, orienteers may end up overdue at the finish. When this happens, it is good to have a plan to know how to deal with these situations. For guidance on this and any other safety information, please have a quick read through **Annex B** which contains a comprehensive guide to **Orienteering Event Safety**. A copy of this Safety Plan is also available in the VicO Registration Case.

27.   **Safety Briefing**. It is a good idea to brief your participants in advance if you need to alert them on anything that may impact their safety while on course such as busy roads with recommended crossings, terrain hazards, possibility of wildlife etc. If you have lots of beginners, it is also important to explain to them what to do if they become injured or lost and how to use their whistle to alert others. A sample outline of a Safety Briefing is contained in **Annex B – Orienteering Event Safety**.

Summary

28.   As noted, a C-meet could range from a very small practice WET event run by one leader with a clip board to a public event on a Sunday that could attract many participants requiring a team of volunteers to manage. A low-key club event like a WET can be managed easily by one individual provided all the essentials involved in registering, starting and finishing are completed. As previously noted, if your event looks like it will have a large number of participants, make sure to reach out and ask for volunteers to give a hand. You do not need to try to run these by yourself and other club members will be glad to help!

ANNEX A – ORIENTEERING EVENT CHECKLIST

Initial Planning

- ☐ Schedule the Event
- ☐ Select suitable area
- ☐ Obtain permission (if needed)

- ☐ Decide on overall goals / format for the event
- ☐ Determine roles:
  - ○ event director
  - ○ course planner
  - ○ controller

- ☐ Check availability of orienteering equipment

Design and Prepare Course (Course Planner)

- ☐ obtain the most recent map version of the selected area
- ☐ prepare a draft version of the course(s) based on the intended format
- ☐ check area and locate/verify suitable locations for controls
- ☐ make any necessary adjustments to the course based on the area
- ☐ review course with controller, make any further adjustments
- ☐ draft up final course to be reviewed
- ☐ produce master map
- ☐ print participant maps
- ☐ prepare control description sheets
- ☐ prepare a 'master solution' control card (if punches used) or organize use of SI units

Prepare for the Event (Event Director)

- ☐ recruit volunteers to assist with Registration/Start/Finish etc
- ☐ assess risk / draft up safety rules (as needed)
- ☐ draft up event description information for the participants, to include:
  - ▪ overall description of the event
  - ▪ location and times
  - ▪ format (point-to-point, score O, other)
  - ▪ number of controls
  - ▪ time available
  - ▪ equipment needed (maps, compass, whistle etc)
  - ▪ general rules/guidelines (Clothing etc)
  - ▪ safety information such as areas to avoid, what to do if lost or injured
  - ▪ safety bearing
  - ▪ reminder to always report to finish

- ☐ promote the event (website, email distribution)

Just before the Event (Course Planner)

- ☐ obtain control flags, control codes and punches (or SI stations)
- ☐ hang controls in their correct location
- ☐ provide maps in sufficient quantity
- ☐ set-up master map table (if used)
- ☐ send out course vetter to check the course (if needed)

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Just before the Event (Event Director)

- ☐ obtain all equipment needed for:

    - Registration
        - ☐ Membership forms
        - ☐ Registration Sign-In Sheet
        - ☐ Control Cards (SI Finger Sticks)
        - ☐ Maps
        - ☐ Map Bags
        - ☐ Cash Box
        - ☐ Equipment for loan (compasses, whistles)
    - Start
        - ☐ Clipboard
        - ☐ Start List Sheets
        - ☐ Timing Device (stop watch)
    - Finish
        - ☐ Clipboard
        - ☐ Finish Sheets
        - ☐ Timing Device (stop watch)
    - Miscellaneous:
        - ☐ Tents
        - ☐ Tables and chairs
        - ☐ Direction Signs
        - ☐ First Aid Kit
        - ☐ Stationary (pens, paper, stapler etc)
        - ☐ Refreshment supplies
        - ☐ Sport Ident Equipment (if used)

- ☐ Set-up direction signs to lead participants to the event
- ☐ Set-up registration area, start, finish flags with equipment as noted above

During the Event/Activity

Registration
- ☐ welcome the participants
- ☐ register the participants (list names on registration sheet and write names on control cards)

Briefing
- ☐ brief the participants on the event description info
- ☐ provide any relevant safety information

Start
- ☐ Synchronize stop-watches, if used
- ☐ record competitor names on start list
- ☐ assign start times
- ☐ start competitors on course as per recorded time

Finish
- ☐ record finish time on the finish list
- ☐ collect competitors' control cards and note the finish time on the cards
- ☐ collect any loaned equipment (compasses, whistles, etc)

<u>Results</u>
- ☐ calculate results (check control cards for correct punches)
- ☐ rank participants by their results
- ☐ debrief participants on the event / activity
- ☐ announce 'unofficial' results
- ☐ retain results to be posted on website later

After the Event

- ☐ collect all controls
- ☐ return all equipment
- ☐ draft up post-event summary for website
- ☐ ensure results and summary are posted on website
- ☐ thank all volunteers

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ANNEX B - ORIENTEERING EVENT SAFETY

General

Orienteering is an outdoor activity which, like all adventure-based outdoor pursuits, can carry some degree of risk to the participant. For the most part, orienteering can be a relatively safe activity, but occasional situations can and do arise which may result in an orienteer becoming lost or injured.

To ensure a safe, enjoyable but still challenging orienteering experience, the course planner must make some calculated decisions on which areas are suitable to use for an orienteering event. Normally areas that could create considerable risk are also not necessarily desirable for orienteering and as such are not mapped. However, some great areas for orienteering may contain some area hazards such as cliffs or rivers that with some careful course planning can be avoided or navigated in a safe manner. Most clubs will have a range of maps of urban, city park and wilderness areas to use for orienteering. Those who are new to orienteering should be introduced to the sport in 'easy' terrain such as a city park or well-travelled wilderness area.

Those who have engaged in the sport of orienteering for some time are usually quite aware of their body movements while travelling through wilderness and rough terrain and unlikely to injure themselves as a result. However, caution must be exercised when doing course planning to ensure that even these experienced orienteers are not inadvertently led into an unexpected hazard by virtue of a poorly planned orienteering leg.

Potential Risks

A Risk Matrix is a useful tool to help analyze the potential for risk that could be encountered during an orienteering event or activity. Noted in **Appendix 1** is a **Risk Matrix** that identifies the following:

- Potential harm or injury;
- Risk Probability (likelihood of the injury/harm happening);
- Preventive Strategies; and
- A Response Plan.

Prevention - Whenever possible the greater risks associated with orienteering should be avoided through the careful decision making employed by course planners and event organizers. As many of the risks in orienteering are directly associated with environmental hazards (such as areas of rock fall, steep drop offs, river currents etc), these risks could be reduced or mitigated by analyzing potential route choices and carefully locating control sites to avoid areas of potential harm. However, not all potential for injury to the orienteer can be completely eliminated. To pursue the aim of eliminating all risk is not a practical consideration as the adventure aspect and outdoor nature of the orienteering demand that a level of challenge must continue to exist in order to enjoy all parts of the sport of orienteering. Providing information to the orienteers at the beginning of an event is crucial to make them alert for any known hazards. **Appendix 2** contains a **Safety Briefing Format** to help provide event organizers a framework as as to what to communicate to participants.

Response - Beyond prevention, there is a need for a secondary strategy, which involves a defined response plan should an incident or injury occur. A well-thought out response will ensure a swift and methodical reaction to an event involving injury. Also, it will remind organizers to have certain resources on-hand at all orienteering events such as radios, first aid kits, and emergency contact numbers.

Overdue Orienteers

An Orienteer not arriving back at the Finish Area by the required course closure time is always a cause for concern. Typically, the experience level of the orienteer will be a main factor. Those new to the sport of orienteering are more likely to make navigation errors and misjudge the amount of time they may need to return to the Finish Area. However, even more experienced orienteers may occasionally make a navigation error that finds them off-track and overdue.

Causes – Beyond a simple lack of navigation experience, some of the potential compounding factors, which could cause orienteers to become lost/overdue, could also be the following:

- Not carrying a watch (no way to reference time spent on course)
- Not carrying a compass (losing direction)
- Sustaining an injury (twisted ankle etc) which can slow progress
- Making a 180 degree error
- Inadvertently travelling off the map, and no longer being able to re-locate

Not wearing a watch is more common amongst junior orienteers, who may not wear one in favour of keeping time with their cellular phone. Those coaching or assisting junior orienteers should be especially vigilant that these junior participants have a watch or time piece on them prior to heading out on their course.

Response – Located at **Appendix 3** is a step-by-step **Response Plan for dealing with an Overdue Orienteer**, starting with gaining the information to establish that someone is indeed overdue, organizing a search, and taking the next steps to engage outside authorities should a search by orienteering club members note prove successful.

Emergency Contact Numbers

On rare occasion, incidents may occur during an orienteering event, which will require that outside help, such as an ambulance service or search and rescue group, be summoned. In preparation for this, it is helpful to have the applicable emergency numbers for a given area on hand. **Appendix 4** contains a handy reference sheet to record Emergency Contacts, which can be filled in by the event organizer to make this information easily available.

Summary

Good planning and forethought will help keep all participants safe during an organized orienteering activity. Please keep this emergency plan with your emergency response gear (first aid kit, radios etc), so that it can be easily located and referenced. **Appendix 5** – contains a summary of responsibilities for all Event Organizers and Course Planners. Stay Safe!

Appendix 1 – RISK MATRIX

Potential Risk Situations	Risk Probability	Preventive Strategy/Response Plan
Not returning to Finish by Course Closure Time/ Orienteer Getting Lost	Occasional	Prevention: ▪ Clearly communicate course closure times ▪ Ensure participants wear watches or have a timing device ▪ Ensure young junior participants travel in pairs or are accompanied by an adult ▪ Ensure participants set out on courses that are matched correctly to their ability ▪ Ensure all participants carry a whistle to summon aid Response Plan ▪ Have an established plan to search for overdue participants. See Appendix 3.
Sustaining a minor injury (cuts, scrapes, bruises)	Likely	Prevention: ▪ Avoid placing controls in areas of unpleasant thick vegetation and orienteering legs that may lead orienteers into undue steep or rough terrain (rocky, slippery areas) by careful course planning. ▪ Place information in the event description to encourage participants to wear the correct clothing (eg. Long pants when travelling through vegetation, correct footwear) ▪ Provide information in initial safety briefing to announce potential hazards in the terrain ▪ Ensure participants carry a whistle to summon aid Response Plan: ▪ Keep First Aid Kit visible at the Start/Finish area ▪ Have a trained First Aider available to provide assistance
Sustaining a major injury (broken bones)	Seldom to Improbable	Prevention: ▪ Avoid bringing course participants into dangerous areas (cliffs, rock falls etc) by careful course planning ▪ Note any areas to avoid by placing out-of-bounds areas on maps ▪ Provide specific information to participants during their initial safety/event briefing warning them about using caution in certain areas ▪ Ensure participants carry a whistle to summon aid Response Plan: ▪ Have a First Aid Kit visible at the Start/Finish Area ▪ Have a trained First Aider available to assist and also travel to the injured orienteer if necessary ▪ Have a vehicle available to assist an injured orienteer to get to medical aid as needed ▪ Have emergency numbers readily available

Potential Risk Situations	Risk Probability	Preventive Strategy/Response Plan
Neck or Spinal Injury (Immobilizing the Orienteer)	Very Improbable	**Prevention:** ▪ Avoid all dangerous areas where falls, that may cause severe injury could happen, by careful course planning ▪ Mark specific areas out-of-bounds on maps so that orienteers will know to avoid these areas ▪ Provide specific information to participants to warn them of any potential dangerous hazards in the area ▪ Ensure participants carry a whistle to summon aid **Response Plan:** ▪ Have a First Aid and trained First Aider available to travel to the casualty to assess the situation ▪ Have a communications plan ▪ Seek immediate assistance from the Search Rescue Team to help extract the injured orienteer to safety ▪ Engage BC Ambulance for travel to hospital
Dangerous Encounters with wildlife	Improbable	**Prevention:** ▪ Avoid using areas for events that may have had a recent dangerous wildlife siting ▪ Consider cancelling an event, if there has been a very recent siting of dangerous wildlife ▪ Ensure all young junior participants travel in pairs or are accompanied by an adult, when in forest wilderness areas as opposed to park-like areas ▪ Ensure all participants carry a whistle to summon aid **Response Plan:** ▪ In the event an orienteer has spotted or encountered dangerous wildlife, cancel the event immediately ▪ Set out volunteers in teams of three to travel backwards on each course and encourage orienteers to head directly to the Finish Area ▪ Account for all participants by carefully checking start lists and finish times ▪ Notify the local Conservation Office/Police of the wildlife siting / close encounter
Hypothermia	Seldom to Improbable	**Prevention:** ▪ Consider cancelling the event if weather is particularly unfavourable (i.e. Heavy persistent rain, snowy icy conditions) ▪ Ensure all participants are advised ahead of time of potential conditions so that they can prepare themselves for the weather

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Potential Risk Situations	Risk Probability	Preventive Strategy/Response Plan
		Prevention (cont'd): • Check participants at the start line to ensure they are dressed appropriate to the weather • Use a manned control to check participants if on a long course • Check-in on orienteers as they enter Finish area • Provide warm refreshments (ie. Hot chocolate) at the Finish Area • Provide a rain shelter or a place to warm-up if at all possible Response Plan: • Have a trained First Aider available to treat the hypothermic orienteer • Have warm blankets, space blankets available to give to casualty • Use a vehicle to warm up the casualty and keep them out of the elements • Drive casualty to immediate medical aid if deemed serious
Heat-Related Injury (Heat stroke or heat exhaustion)	Seldom to Improbable	Prevention: • Consider cancelling the event if weather is particularly unfavourable (i.e. extreme heat) • Ensure all participants are advised ahead of time of potential conditions so that they can prepare themselves for the weather • Check participants at the start line to ensure they are dressed appropriate and are carrying water • Provide water on course • Provide cool refreshments at the Finish Area • Check-in on orienteers as they enter Finish Area • Provide lots of liquid refreshment at Finish Line Response Plan: • Have a trained First Aider available to treat any potential heat-related injuries • Have areas of shade, cool water available for the casualty • Use a vehicle air conditioning to cool down the casualty and keep them out of the heat • Drive casualty to immediate medical aid if deemed serious

Potential Risk Situations	Risk Probability	Preventive Strategy/Response Plan
Bee Stings	Seldom to Improbable	Prevention: ▪ Although difficult to detect, if a wasp/bee hive does happen to be discovered during course planning/course setting, this area should be avoided. Even on the morning of the event, drop a control if necessary. ▪ Participants, who know they have a sensitivity, should be cautioned to carry an Epi-Pen with them at all times when the environmental conditions of the area make the presence of bees/wasps likely Response Plan: ▪ Have First Aid Kit with anti-histamine tablets available at Finish Area (note – anti-histamine tablets can reduce the adverse effects of a bee sting) ▪ If a severe allergic reaction is suspected, call for an ambulance or transport the casualty to hospital immediately
Snake Bite - Poisonous	Very Improbable	Prevention: ▪ Advise participants if poisonous snakes are part of the wildlife to be expected in a given area ▪ Warn participants to be on a the alert, including listening for the sounds of rattle snakes ▪ If a snake is spotted, participants are to avoid sudden movement, give lots of space and back away slowly ▪ Wear gaiters to protect the lower legs Response Plan: ▪ Have First Aid Kit with anti-venom available at Finish Area ▪ If a severe snake bite is suspected, transport the casualty to hospital immediately
Tick Bites (Note: Tick bites can lead to Lime Disease and early detection should be emphasized)	Seldom to Improbable	Prevention: ▪ Alert participants if the weather conditions and type of area may make the presence of ticks likely ▪ Encourage participants to wear protective clothing, long pants, gaiters, cap etc ▪ Encourage participants to check themselves carefully upon returning to the Finish Area Response Plan: ▪ Have First Aid Kit with equipped with tweezers or other instrument to help extract ticks available at Finish Area

Appendix 2 –   ORIENTEERING EVENT AND SAFETY BRIEFING FORMAT

Component	Information to be Covered
General Overview	▪ Type of event (point-to-point, Score-O etc) ▪ Number of controls in the area ▪ Number of courses available

Required Equipment	List mandatory equipment:
	    ▪ Compass
	    ▪ Whistle
	    ▪ Watch (highly recommended)
	    ▪ Water (as required)
	    ▪ Miscellaneous – pencil, etc

Course Closure Time	▪ Absolute Finish Time is _____. ▪ All Orienteers must report back by this time. **IMPORTANT: ALL COMPETITORS MUST REPORT TO THE FINISH, REGARDLESS IF YOU COMPLETED YOUR COURSE OR NOT.**
Potential Hazards	▪ Expected Hazards in the terrain: cliffs, rocky areas, deep swamps etc ▪ Wildlife – bears, cougars, snakes etc ▪ Roadways and expected level of traffic

Emergencies	Inform participants, what to in case of the following:
	    ▪ If you get injured, need immediate assistance, or are very disoriented and unable to return to the Finish Area, blow your whistle three times to attract attention. Only blow your whistle in a genuine emergency.
	    ▪ If you hear a whistle, stop your course, investigate and provide help where needed. Alert event organizers at the Finish Area as soon as possible.

Safety Bearing	▪ If applicable, provide and describe the safety bearing to find large linear feature (ie. Highway or river etc) that will help funnel the orienteer back to the finish
First Aid	▪ Describe the location of the First Aid Kit (usually the registration tent) ▪ Identify the first aid attendant
Location of Refreshments	▪ Describe any water stations on course ▪ Water and snack available at Start/Finish
Additional Info	▪ Provide any extra info as required by specific event

Appendix 3 - OVERDUE ORIENTEERS – RESPONSE PLAN

At course closing time, check the finish list to see if any participants are missing. If a participant has not returned, follow the procedure below:

Gather Information about the Orienteer

1. Check the start list to determine if the participant actually started and note his/her start time. Determine how long the participant has been on the course.

2. Ask other participants if they have seen the missing person either on the course or at the finish. The person may have returned and not checked in to the Finish.

3. Determine the location where the person was last seen. Was it early in the course or late? Did he/she appear to be lost/in trouble? What was he/she wearing? Did he/she have any food or drink?

4. Search parking areas, washrooms, and other nearby facilities. Is the person's car still in the parking lot? Are the person's belongings at the staging area? Are there friends or family waiting at the Finish?

5. Arrange for control pick-up volunteers to keep an eye out for the overdue participant. At least one volunteer must remain at the Finish at all times in case the participant returns.

6. If the event is using SI and the SI number of the participant is known, the control units can be downloaded to confirm the time of each punch.

7. Check the membership form or ask around for the person's cellular number. Call the phone.

Commence a Search

8. Send an experienced orienteer (or team of two experienced orienteers) with a cellular phone or radio to run the course backwards.

9. Send another experienced orienteer or team to run the course forwards.

10. If the event is a Score-O, it will be more difficult to establish the route taken by the orienteer. In this situation, it would be best to send out teams of experienced orienteers equipped with radios or cellular phones to check a group of controls that are located close to each other. Several teams may need to be dispatched to different sectors in order to visit each control site.

11. If necessary, send other experienced volunteers (with cellular phones or radios) to check all major trails and roads, and/or drive or run the perimeter of the map especially the area of a safety bearing.

Contact Emergency Services

12. At some point **no later than 3 hours past the overdue person's maximum allowed time**, the event director must contact emergency services and ask for assistance.

13. The decision to call in emergency services should be made by the event director and the controller and will depend upon circumstances. Examples of factors to be considered include:

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- Age, health, experience of the participant
- Weather conditions
- Length of time the participant is overdue
- Last known location of participant
- Amount of daylight left
- Nature of the terrain

14. The Emergency Services will become the search master upon arrival at the site.

Appendix 4 – EMERGENCY CONTACTS

The following information is applicable to the where the orienteering event/activity is scheduled to take place.

Event Location:	
Local Police #:	
Local Ambulance #:	
Local Search & Rescue #:	
Nearest Hospital:	
Hospital #:	

Appendix 5 – SUMMARY OF RESPONSIBILITIES

Event Organizer Responsibilities:

- Ensure a well-stocked First Aid Kit is on hand at the event venue

- Ensure water is always available at the Start and Finish

- Make participants aware of any hazards during the pre-event safety briefing

- Liaise with Course Planner/Setter about any placement of public warning signs in the area of the event such as 'Event in Progress' signs for busy roads where competitors may likely to cross

- Take note of any sudden changes in the weather and be prepared to make a decision to cancel if severe conditions indicate that the orienteers may be unsafe (ie. Wind Storm)

Course Planner/Setter Responsibilities:

- Ensure courses are set with expected participants in mind (do not have junior participants crossing busy roads, plan routes that may cross dangerous areas etc)

- Provide master maps or course planners notes, so that orienteers can make the correct choice as to which level of course they should choose.

- Consider all potential route options during course planning and make sure orienteers are not inadvertently led into any dangerous or unpleasant areas

- Mark areas of particular concern as out-of-bounds on the map to warn away orienteers from selecting them as a potential route choice

- If necessary, use marked routes or flagging tape as visual indicators to orienteers of any particular areas in the terrain that they should avoid