

Introduction to Orienteering

<Presenter>



Agenda

- Introduction to Orienteering
- An Orienteering Course
- Orienteering Maps
- Basic Techniques
- How to get started and upcoming events
- Questions



What is Orienteering all about?

Navigate to a series of points (controls) shown on a specialized topo map, choosing routes - on or off trail - that will help you find all the controls and get to the finish.



How did Orienteering develop?

- Began in Scandinavia around 1900
 - Exercises in land navigation for the Scandinavian military
- Gradually spread throughout the world
 - Kjellstrom brothers (founders of Silva) exported Orienteering to UK and USA
 - Silva holds the Trademark for Orienteering
- Now practiced on six continents
 - World championships held every year
 - Olympic "C" sport, candidate for inclusion in Summer and Winter (Ski-O) Olympic games
 - Millions of competitors each year



Who goes Orienteering?

- Kids
 - Learning to read maps
 - Through Scouts, building team work and earning merit badge
 - Through Schools
- Families exploring a new (or familiar) park
- Outdoors lovers looking for a change
- Hikers looking to improve their navigational skills
- Adventure Racers wanting to get a leg up on the competition
- Seniors looking to stay healthy
- Businesses looking for team building activities
- Competitive Orienteers addicted to the challenge



Where are Orienteering events held?

- Forests
- State and Regional Parks
- City Parks
- Suburban neighborhoods
- School/University campuses

Each type of area offers its own unique challenges

What am I looking for?

- Orange and white "Control"
- Clue-sheet (words or symbols) tells you exactly where the control is and the control number
- Number on the control confirms you are at the right one
- Use the punch on the punch card to prove you visited the control



What is a clue-sheet for?

- Tells you exactly where inside the circle the control is
- Two versions with the same information:

Words
(beginner and intermediate)

Red Tail Adventure Race			
Training	1575	20m	
1	451	Hill, On the top of	
2	452	Saddle	
3	458	Re-entrant	
4	459	Fence, W End	

Distance and climb

Order of controls

Unique control #

Control location inside the circle on the map

Symbols
(advanced)

Red Tail Adventure Race			
Training	1575	20m	
1	451	○	⬆
2	452	⋈	
3	458	⌒	
4	459	⚓	⚓

What does the punch card look like?

Name: _____ Course: _____ Class: _____ License: _____ Finish: ____:____ Start: ____:____ Time <input type="text"/> : <input type="text"/>	Name: _____		Finish: ____:____		
	Course: _____		Start: ____:____		
	Class: _____		Time <input type="text"/> : <input type="text"/>		
	License: _____				
21	22	23	24	25	26
11	12	13	14	15	16
1 (451)	2 (452)	3 (458)	4 (459)	5	6



Example Course

- Start is at the center of the triangle
- Controls located at the center of the circle
- Complete controls in order
- Finish is at the center of the double circle

How do Orienteering maps differ from USGS maps?



	USGS	Orienteering
Purpose	<ul style="list-style-type: none"> 3D representation of terrain for general purposes 	<ul style="list-style-type: none"> 3D representation of terrain for fine land navigation
Scale	<ul style="list-style-type: none"> 1:24,000+ 	<ul style="list-style-type: none"> 1:5,000-1:15,000
Contour interval	<ul style="list-style-type: none"> 25 feet or greater 	<ul style="list-style-type: none"> Typically 5m
Orientation	<ul style="list-style-type: none"> True North 	<ul style="list-style-type: none"> Magnetic North (no declination required!)
Grid/references	<ul style="list-style-type: none"> Coordinates, altitude shown 	<ul style="list-style-type: none"> None
Survey method	<ul style="list-style-type: none"> Primarily aerial photography 	<ul style="list-style-type: none"> Aerial base map, extensive land survey
Update period	<ul style="list-style-type: none"> 10-50 years 	<ul style="list-style-type: none"> 1-5 years
Accuracy	<ul style="list-style-type: none"> Often very inaccurate 	<ul style="list-style-type: none"> Highly accurate

LEGEND

	paved road: med, small
	dirt road, major path
	path, minor path
	building, ruin
	picnic shelter, pipes
	fence, ruined fence
	power line, map edge
	boulder small, large
	boulder group, field
	cliff uncrossable, crossable
	dirt bank, stony ground
	contour, index contour
	form line, knoll, depression
	open, with scattered trees
	rough open, with scattered trees
	open forest, slow vegetation
	difficult vegetation, tight
	lone tree, veg. boundary
	indistinct stream, marsh
	marsh: crossable, not
	pond, water source
	water trough, dead tree
	Dangerous: Do not enter!

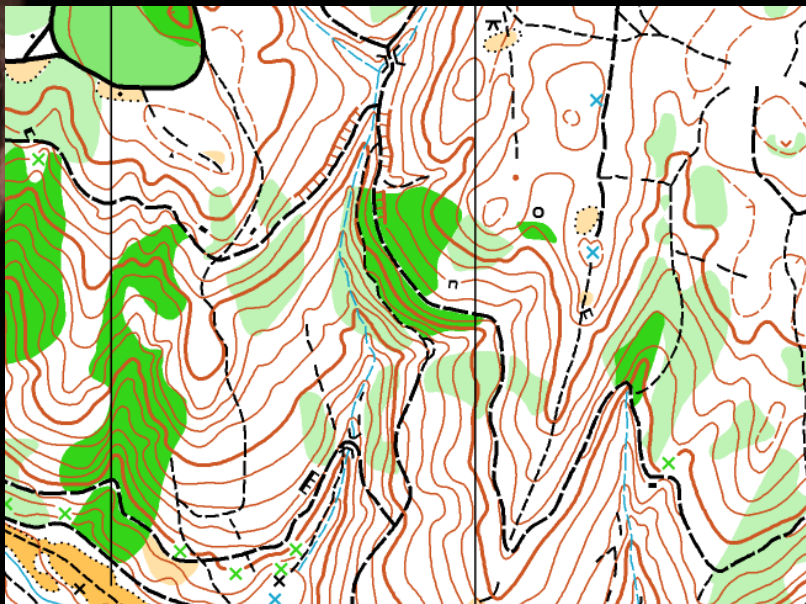
Orienteering map legend

- Man-made features primarily black
- Rock features black
- Contour features brown
- Open areas yellow
- Forest white, thicker vegetation green
- Water blue
- Courses and restricted areas purple

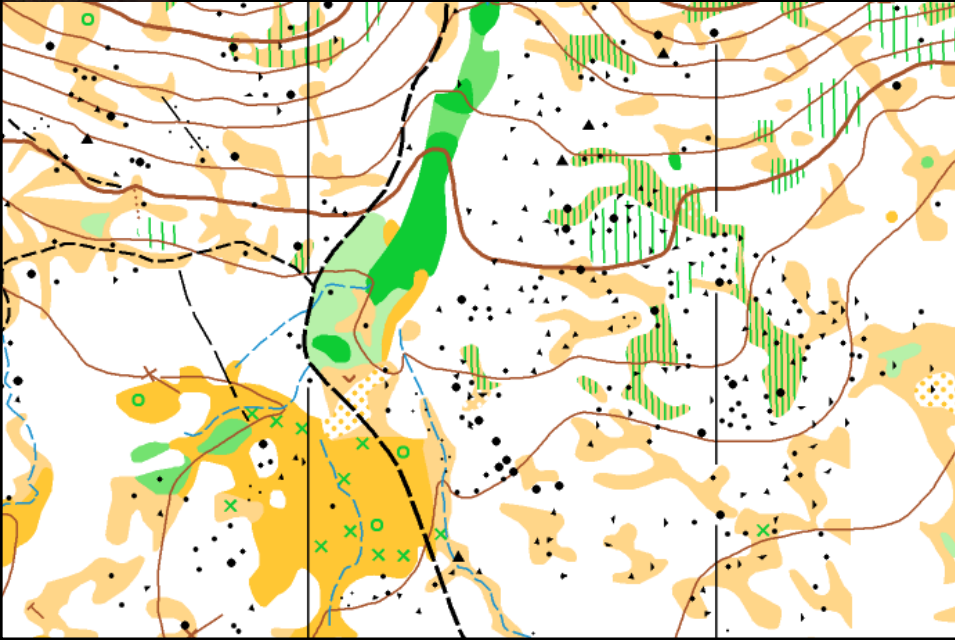
Coyote Hills, Fremont



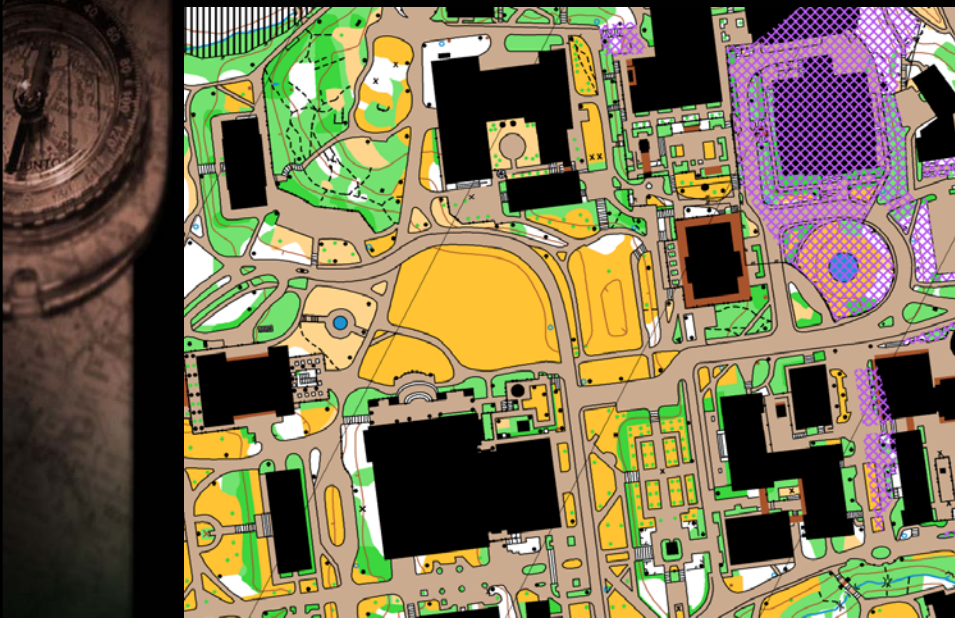
Joaquin Miller Park, Oakland



Burton Creek State Park, Lake Tahoe



UC Berkeley Campus





Navigational Techniques

- Orient the map using a compass
- Visualize the terrain from the map
- Recognize where you are on the map from the terrain
- Plan your route and check off features
- Taking a bearing (more advanced)
- Aiming off (more advanced)
- Attack point (more advanced)
- Traffic lights (more advanced)
- Pace counting (more advanced)



Techniques: Orienting the map

1. Place the compass on the map
2. Turn the map so the RED (North) compass needle points in the same direction as the North lines on the map

THE MAP IS NOW ORIENTED – Features on the ground will be aligned with the map

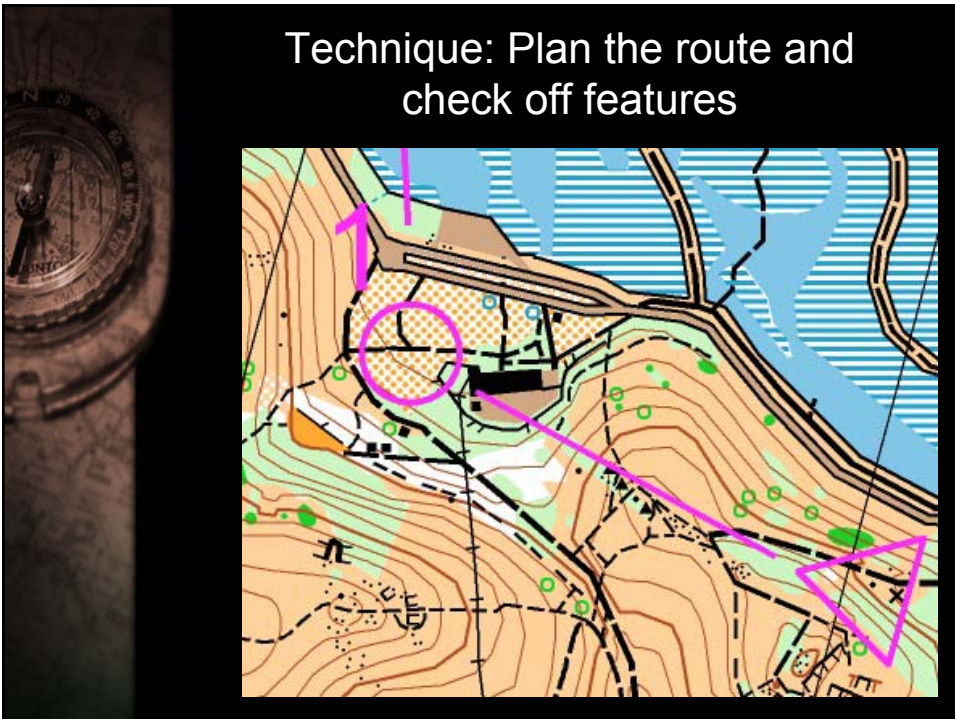
- Tip: Try to keep the map oriented all the time (need to turn the map as you change direction)
- Tip: Fold the map over so only the portion of the map you are interested in is visible



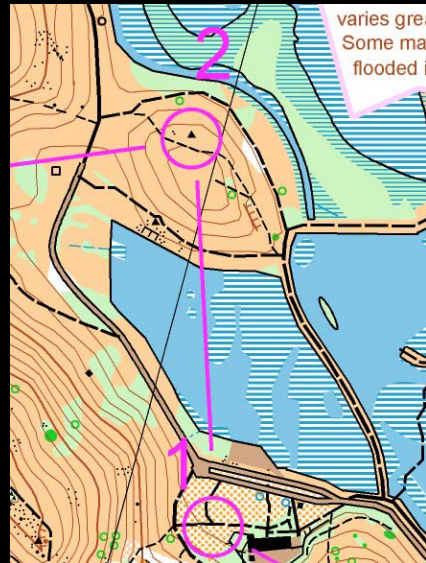
Technique: Recognize where you are on the map from the terrain



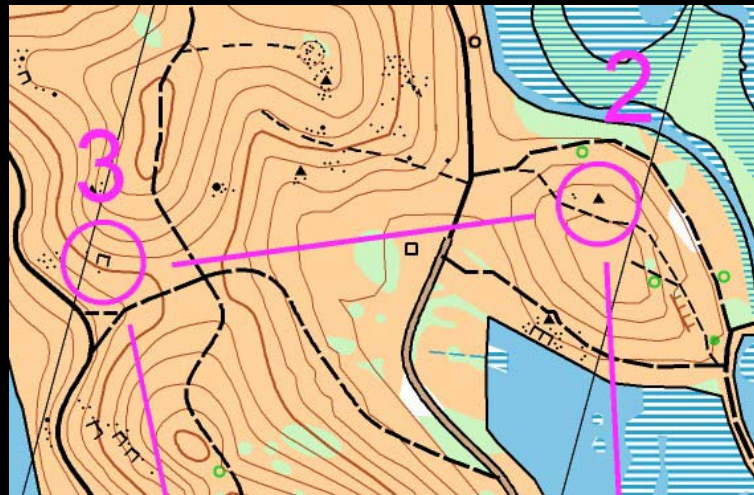
Technique: Plan the route and check off features



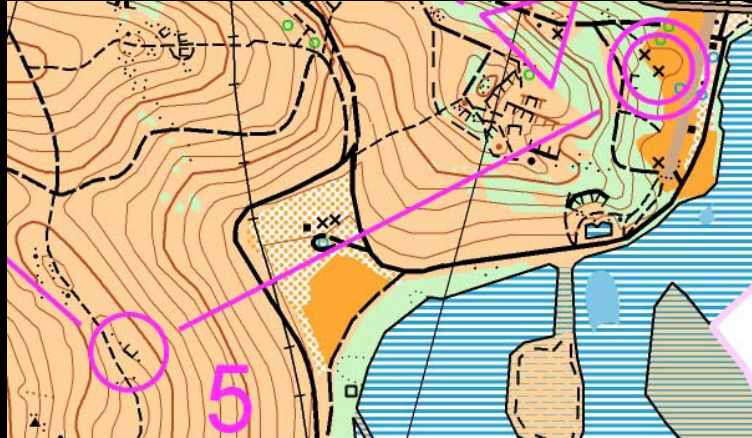
Technique: Plan the route and
check off features



Technique: Plan the route and
check off features



Technique: Plan the route and check off features



Some advanced techniques

- **Aiming off** – if taking a bearing to a line feature, 'aim off' to one side or the other so once you hit the line feature you know whether to turn left or right to find the point feature
- **Plan your route in reverse** – identify an easily recognizable attack point to hit that you can use to 'attack' the harder to find control feature
- **Traffic-light approach**
 - Go fast (green) when looking for large, easy to identify features (a major trail junction)
 - Go steady (yellow) when looking for smaller, harder to identify features
 - Go slow (red) when looking for small, easily missed features
- **Pace counting** – when the terrain is vague and you want to ensure you don't go too far/stop too early



Advanced technique: Taking a bearing

1. Lay compass on the map
 2. Line up the base-plate with direction you want to go in
 3. Turn the dial so the North marking on the dial is aligned with the North markings on the map
 4. Turn the compass so that the North needle is pointing in the same direction as the North marking on the dial. The direction on the base-plate is the direction of travel
- Tip: You only need to take bearings when there are no reliable mapped features to navigate by. Don't overuse!



What is the event procedure?

- Beginners plan to arrive around 9:00-10:00am
- Register and select a course (see next page)
 - Control card
 - Clue sheet
 - Map (white course)
- Attend a 15-20 minute beginners clinic
- Get a start time from the start official
- Complete course
 - Navigate to each control in order
 - Check the control number to verify at the correct point
 - Punch the relevant box on the control card
- Hand in control card at finish
- Relax, discuss route choice with others
- See how well you did
- Maybe try a second course



Which course should I choose?

- White – beginners courses, follow trails and other linear features. Good for first timers and kids age ~9-12. 1.5 – 3.0km
- Yellow – controls in less obvious locations, more off-trail. A great next step after successfully trying white course. 2-4km
- Orange – Intermediate controls that require cross-country travel. Can be quite challenging, physically and mentally.
- Brown, Green, Red, Blue – Advanced courses with the most demanding navigational requirements. NOT RECOMMENDED until some success with orange. Different lengths from Brown up to Blue (longest)



What should I wear?

Beginner (white/yellow)

- Sun hat
- Layered top
- Compass
- Long or short pants
- Sturdy shoes






What should I wear?

Intermediate/advanced

- Lightweight nylon top
- Lightweight nylon pants
- Compass
- Gaitors
- Shoes with cleats or short spikes



Does Orienteering damage the land?

- Orienteers go off trail, raising environmental concerns
- We care deeply about the parks we use
- Actual environmental impact is very low and short-lived
 - Not using pristine wilderness areas
 - Work with park rangers to avoid sensitive areas
 - Courses visit different controls – dispersed impact
 - Affected areas recover within weeks at worst
 - Low impact confirmed by scientific studies
- Orienteering builds a tremendous love and respect for our environment



What about safety?

- ALWAYS REPORT TO THE FINISH whether you complete your course or not
- ALWAYS RETURN TO THE FINISH BEFORE THE COURSE CLOSING TIME OR WITHIN 3 HOURS whether you complete your course or not
- Carry a whistle
- Know your limits (physical and navigational) and stay within them
- Take precautions if allergic to poison oak, bee stings, etc.



Are there different 'flavors' of Orienteering?

- Point-to-point (standard)
- Score-O
- Rogaine (Adventure Orienteering)
- Ski-O
- Many other minor variations, but all involve maps and navigation



What's new in Orienteering?

- Computer mapping
 - Continuously updated maps
 - On-demand printing
- Electronic punching
 - Split times for each leg
- Tracking competitors in real-time
 - A few demonstrations so far



What is BAOC all about?

- Non-profit, 100% volunteer organization
- Events held year round, approximately every 2 weeks
 - Santa Cruz to Santa Rosa
 - Golden Gate Park to Livermore
 - Lake Tahoe Region
- Sister club in Sacramento (GCO – Gold Country Orienteers)
- A great group of people!



How do I get involved?

- Attend a BAOC Orienteering event
- Ask for help
- Visit our website to learn more about Orienteering
- Join the club
- Volunteer (no experience necessary)
- Sign up for monthly email announcements



When are some local events?

- Updated list of events

**All events are listed
at www.baoc.org**



www.baoc.org

Thank you!