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)
  - Symbols (advanced)
- Distance and climb
- Order of controls
- Unique control #
- Control location inside the circle on the map
**What does the punch card look like?**

<table>
<thead>
<tr>
<th>Name: _______</th>
<th>Finish: <strong>:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Course: _______</td>
<td>Start: <strong>:</strong></td>
</tr>
<tr>
<td>Class: _______</td>
<td>Time :</td>
</tr>
<tr>
<td>License: _______</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
<th>26</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>1 (451)</td>
<td>2 (452)</td>
<td>3 (453)</td>
<td>4 (454)</td>
<td>5 (459)</td>
<td>6</td>
</tr>
</tbody>
</table>

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**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

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*Water level and marsh conditions vary greatly over the seasons. Some marsh trails may be flooded in wet months.*
### How do Orienteering maps differ from USGS maps?

<table>
<thead>
<tr>
<th>Purpose</th>
<th>USGS</th>
<th>Orienteering</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D representation of terrain for general purposes</td>
<td>3D representation of terrain for fine land navigation</td>
<td></td>
</tr>
<tr>
<td>• 1:24,000+</td>
<td>• 1:5,000-1:15,000</td>
<td></td>
</tr>
<tr>
<td>25 feet or greater</td>
<td>Typically 5m</td>
<td></td>
</tr>
<tr>
<td>True North</td>
<td>Magnetic North (no declination required!)</td>
<td></td>
</tr>
<tr>
<td>Coordinates, altitude shown</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Primarily aerial photography</td>
<td>Aerial base map, extensive land survey</td>
<td></td>
</tr>
<tr>
<td>10-50 years</td>
<td>1-5 years</td>
<td></td>
</tr>
<tr>
<td>Highly accurate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Contour interval             |                                      |
|------------------------------|                                      |
| Orientation                  | Grid/references                       |
| Orientation                  | Survey method                         |
| Orientation                  | Update period                         |
| Orientation                  | Accuracy                              |

### 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

#### 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, spiny ground
- contour, index contour
- form line, knoll, depression
- open, with scattered trees
- rough open, with scattered trees
- open forest, slow vegetation
- difficult vegetation, light
- tree, veg. boundary
- inland stream, marsh
- marsh, crossable, not
- pond, water source
- water trough, dead tree
- Dangerous. Do not enter!
Coyote Hills, Fremont

Joaquin Miller Park, Oakland
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: Visualize terrain from the map
Orienteering

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

Technique: Plan the route and check off features
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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
Thank you!