

2017 ASCE SOUTHEAST STUDENT CONFERENCE

Concrete Ladder Golf

Saturday, March 18
Burt Aaronson South County Regional Park
11200 Park Access Rd, Boca Raton, FL 33498

Overview

Each school will provide 6 bolas and a ladder made of Schedule 40 PVC. Students will compete in a ladder golf tournament. The match-up will be chosen at random. Judging will be based on concrete mix design and scoring in the tournament. A technical paper will also be provided.

Objective

The objective of the Concrete Ladder Golf Competition is to have universities make a unique concrete mix design and compete in a fun and friendly tournament at the 2017 ASCE Southeast Student Conference.

Eligibility

One (1) team per school will be allowed to participate in the concrete ladder golf competition. Teams shall consist of exactly two (2) players allowing two (2) alternates between games. Only one (1) player may be a graduate student. Each team shall have a designated captain.

Materials

There will be a total of six (6) ladder golf stands (three sets) provided for the competition. Three (3) matches can be played at a time. Each team is required to bring six (6) bolas. A bola consists of two (2) concrete balls attached to a string (see dimensions and weight limitations). Each school must place their bolas in a closed container, with a way to identify which school they belong to.

Dimensions and Weight Limitations

- Both connecting spheres on the bola must conform to a minimum diameter of 1.68 inches and a maximum diameter of 2 inches.
- Each bola must be symmetrical in dimensions and weight.
- The weight of each ball on the bola must weigh a minimum of 45.9 grams and a maximum weight of 65 grams.
- The connecting string must have a minimum length of 12 inches and a maximum length of 18 inches.
- The string used must not have an elastic nature of stretching 2 or more inches past its original length (when stretched by the judges).
- Upon arrival to the competition, the bolas will be inspected to meet these constraints. If the bolas do not meet the appropriate limitations, the school will be disqualified and will not be able to compete in the tournament, per judges' discretion.

Ladder Golf Stand Dimensions

- The ladder golf stands will meet the requirements of a standard ladder golf stand.
- The width of the stand will be 24 ± 2 inches.
- The height will be 39 ± 2 inches.
- The spacing between each scoring rack will be 13 ± 2 inches.
- There will be a total of three scoring racks.

Logistics

Each team will be required to bring six (6) bolas to the conference. The game only requires three (3), however extra bolas are necessary in the event of a bola being lost, broken, etc. Teams are prohibited from borrowing other teams' bolas to be used for gameplay. Every team must construct their bolas to match the specified dimensions, weight, and mix design (part of the judging will be based on aesthetics). The team's captain will choose which three (3), of the six (6), bolas his or her team will use during the tournament.

Note: Every submitted bola including back-ups will adhere to the judging criteria.

Submittals

Items submitted to the judges during the competition:

- A Mix Design spreadsheet of the concrete bolas must be submitted as a pdf attachment via email by **11:59 p.m. EST on March 3, 2017** to **2017asce@fau.edu**.
- Submit the bolas for inspection upon arrival to the conference at the time of registration on Thursday;
- Bolas will be returned on Friday, March 17 at the Business Meeting that is scheduled from 7 - 9 p.m. in the Student Union, Bldg. 31 (CR), Rm. 103/104 - Grand Palm Rm. FAU is not responsible for delivering bolas that were not picked up after judging to the tournament location.

Judging

Every submitted bola will be judged based on four (4) criteria:

1. Completeness and accuracy of submitted mix design spreadsheet
2. Consistency of concrete design from bola to bola, as well as consistency of the bolas to the mix design spreadsheet
3. Aesthetics
4. Tournament Play

Concrete Mix Design Limitations

- Portland cement must meet ASTM C150, but may be any subtype.
- A maximum of 50% of the mass of the total cementitious material can be Portland cement.
- Other cementitious materials must be made up of one or more of the following:
 - Fly Ash/Natural Pozzolans (ASTM C618)
 - Slag Cement (ASTM C989)
 - or Silica Fume (ASTM C1240)
 - Additions of non-ASTM C150 cements as part of the cementitious materials are not permitted.
- The water to cement (w/c) ratio must not fall below 0.35 (This does not include aggregates presoaked in water).
- All aggregates must pass the #8 sieve and be retained on the #200 sieve.
- At least one (1) of the aggregate types must be either a sustainable or recyclable material.
- Chopped fiber assimilated in the mix design must not exceed 2% by volume.
- The chopped fibers must be greater than 0.25 inches and less than 0.5 inches in length.
- Any other material used to enhance the structural integrity of the bola is prohibited.
- A mix design spreadsheet must be submitted:

Mix Design Spreadsheet Format

University Name	Concrete Ladder Golf	Amount Used, lb(s).	Specific Gravity, Unitless	Proportions, lb/ft ³
Cementitious Materials	Name of Cementitious Material 1			
	Name of Cementitious Material 2 if Applicable			
Aggregate	Aggregate Material 1			
	Aggregate Material 2 if Applicable			
Admixtures	Water			
	Chemical Admixture if Applicable			
Reinforcement	Details of Reinforcement			
TOTALS	-	Enter Total Weight	Enter Total Volume	Enter Overall Density

Aesthetics

Teams are encouraged to decorate their bolas as creatively as possible. They can be finished with any variety of textures, stains, and sealers as specified in the rules. The name of the university you represent must be displayed prominently on the bola container. **No stickers or decals are allowed.**

- Bola decorations are encouraged, and bolas can be decorated individually or all the same.
 - There are no themes that the decoration must adhere to; decoration is entirely up to the team's preference.
- Paints and stains manufactured specifically for use with concrete are allowed for decoration.
 - No more than one (1) coat is allowed, except for one (1) coat of transparent sealer over the decoration.
 - More than one (1) color is permitted.
 - Coatings used for the bola shall not strengthen the structural integrity.
- No adhesives are allowed, or loose items attached to the bolas.

Scoring

Tournament Rules

The tournament will consist of a double elimination format. Each match-up will consist of three (3) ladder golf games. Seeding will be determined according to each team's Bola score as shown on the scoring summary sheet based on Friday judging. If necessary, first round byes will be awarded to the teams with the highest scores and as dictated by the total number of teams participating.

Points will be awarded to the top eight teams.

1st place - 70

2nd place - 60

3rd place - 50

4th place - 40

5th place - 30

6th place - 25

7th place - 20

8th place - 15

Participation 10

Game Rules

The lower seeded team will go first for the first game of a match-up. For the succeeding games in the series, the team that lost the previous game will go first. A tossing line 15 feet away from the ladder golf stand will be set. Players must throw behind this tossing line. If the player steps over the line while tossing, this is considered a fault, and the point will be nullified with no re-toss permitted. Only one (1) bola is permitted to be thrown at a time. The game will consist of opponents alternating between throws (i.e. Toss order: team-1 player-1st, team-2 player-2nd, team-1 player-3rd, team-2 player-4th, and so on). To win each game, a team must get a score of twenty-one (21) or more. The match-up will be scored in a best of three game series. One (1) point is awarded to a player if the bola wraps around the bottom rung, two (2) for the middle rung, and three (3) for the top rung. Also, an additional bonus point will be awarded to the total score if a team wraps all three (3) bolas around a single rung. However, scores will cancel out if opposing teams wrap their bola on the same rung.

For example, if Team-1 wraps one (1) bola on a single rung, and Team-2 wraps one (1) bola on that same rung; both teams will not be awarded any points. Teams are allowed to knock off other player's bolas that are already wrapped on the rung. If a team's bolas happens to get knocked off from the opposing team, they will not receive that point.

Typical etiquette would be to maintain a high level of sportsmanship (i.e. refrain from trash talking). Safety is also very important when playing concrete ladder golf, please refrain from throwing your bolas anywhere but the ladder golf stand. This should be a fun and exciting game, while maintaining safety of both players and the audience.

Disqualifications

As previously stated, any questionable issues regarding proper dimensions, weight, mix design, and decorative coating of the bolas will be determined by the head judges. The head judges have the capability to disqualify teams that demonstrate characteristics of unsportsmanlike conduct or do not meet the aforementioned requirements.

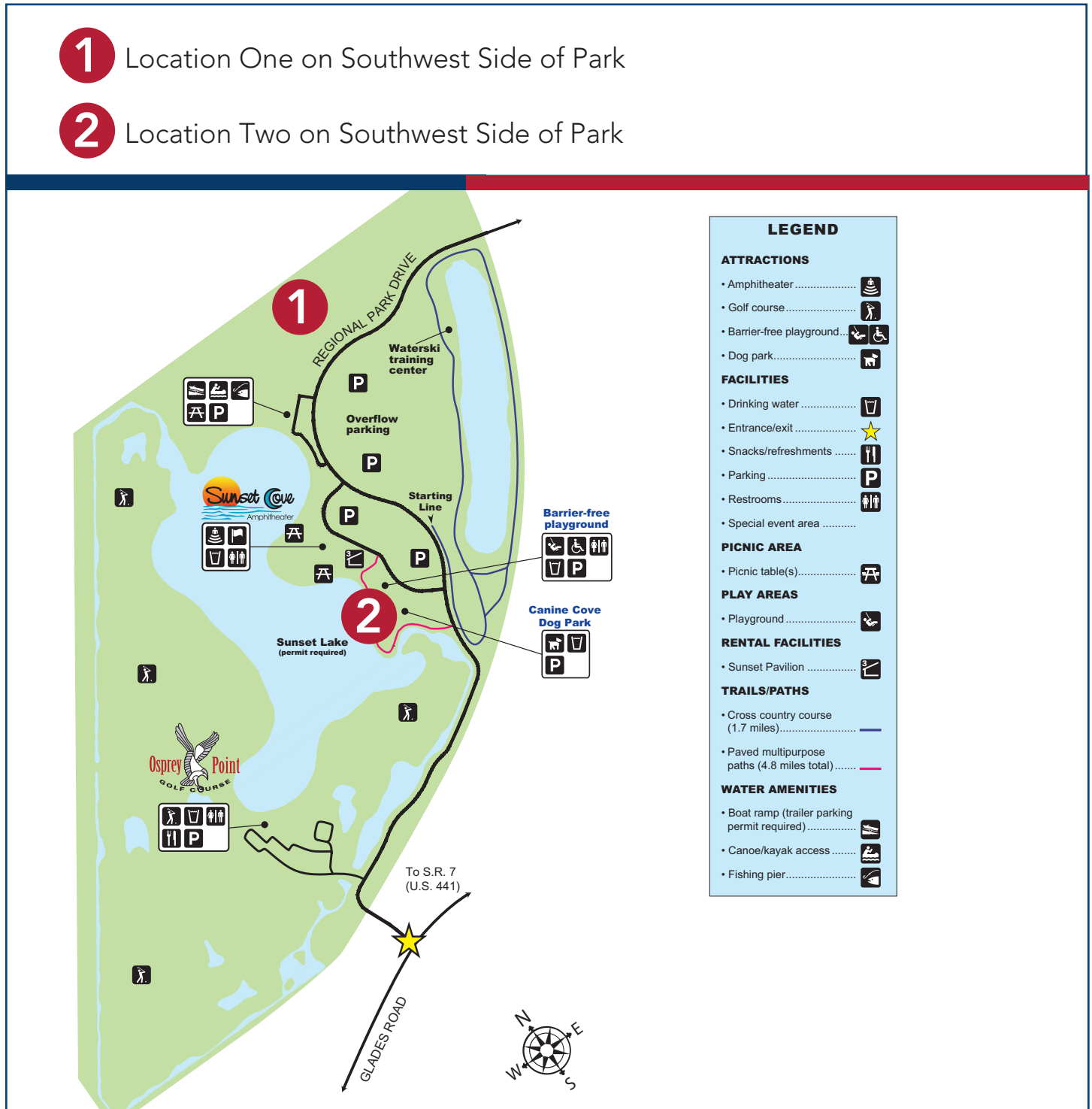
Location and Directions

Burt Aaronson South County Regional Park (Southwest Side)
 11200 Park Access Rd, Boca Raton, FL 33498

- From FAU Head West on Glades Road towards Brevard Ct.
- Turn right onto Cain Blvd.
- Turn left onto Park Access Rd. to Park Entrance

1 Location One on Southwest Side of Park

2 Location Two on Southwest Side of Park



Concrete Ladder Golf Scoring Summary Sheet

University: _____

Bola Aesthetics

- 1. Aesthetics/quality (10 points maximum) _____
- 2. Stickers/decals (-10) _____

Bola Aesthetics Sub-Total Score (10 points maximum) _____

Bola Technical Criteria

- 1. Mix design worksheet (10 points maximum) _____
- 2. Consistency (10 points maximum) _____

Bola Technical Criteria Sub-Total Score (20 points maximum) _____

Tournament Scoring

- 1. Tournament Score (70 points maximum) _____
- 2. Bola Failure (-10 per incident) _____

Tournament Sub-Total Score (70 points maximum) _____

Overall Score _____