

2017 ASCE SOUTHEAST STUDENT CONFERENCE

Concrete Cornhole

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

Overview and Objective

Each school will provide a cornhole board made of concrete. Students will compete in a double elimination tournament. The match-up will be chosen at random. Judging will be based on scoring in the tournament, aesthetics, and technical criteria related to the concrete mix design and adherence to the specified dimensions.

The objective of the Concrete Cornhole Competition is to use knowledge of concrete mix design to construct a cornhole board that will be used in a fun and friendly cornhole tournament at the 2017 ASCE Southeast Student Conference.

Eligibility

One (1) team per school will be allowed to participate in the concrete cornhole competition. Teams shall consist of two (2) to four (4) students. Only one (1) of the students may be a graduate student. Each team shall have a designated captain.

Board Dimensions

The board is to be four (4) feet in length and two (2) feet in width. The hole will be six (6) inches in diameter. The center of the hole will be nine (9) inches from the top edge and one (1) foot from either side (refer to Figure 1). All dimensions shall have an allowable tolerance ± 0.25 inch. There are no minimum or maximum thickness requirements for the board

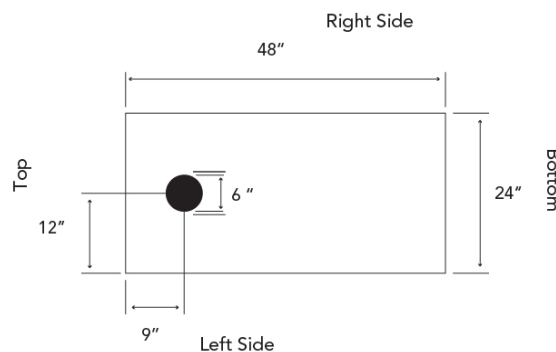


Figure 1: Cornhole Board Dimensions

Cornhole bags will be provided by FAU at the time of the tournament. They will be 6 in. x 6 in. and weigh 15 ± 1 oz. A support structure for the boards will also be provided and is detailed in the playing field section. The support system will be constructed with 2x4s and have a lip at the bottom that will stop a board from sliding down the incline, as demonstrated in Figure 4.

Mix Design

Teams are required to submit to the judges a mix design spreadsheet that contains the following information:

a. Cementitious Materials

Teams are permitted to use any of the following cementitious materials as long as they meet the ASTM standard for the material:

- Portland or Hydraulic Cement (ASTM C150 / C595 / C1157)
- Fly Ash (ASTM C618)
- Slag Cement (ASTM C989)
- Silica Fume (ASTM C1240)

The water to cementitious materials ratio (w/cm) must be 0.35 or greater.

b. Aggregate

Aggregates must pass a ½ in. (12.7 mm) sieve and be retained on a # 200 sieve. The concrete must contain at least 30% aggregate by volume of concrete.

c. Admixtures

Chemical admixtures that meet ASTM C494 and/or ASTM C260 are allowed.

d. Reinforcement

Teams are allowed to use fiber reinforcement (ASTM C1116) or reinforcement grid.

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

Submittals

Mix Design due **March 3, 2017 at 11:59 p.m. EST** to **2017asce@fau.edu**; Bring item to assigned time.

Judging

Each team can submit only one (1) board for judging and tournament play. Teams must submit their board, mix design form, and concrete cornhole scoring summary sheet to the judges on Friday at a time and location to be announced. Boards must be picked up at the end of the day (time to be announced), and Florida Atlantic University is not responsible for transporting boards to the site of activities on Saturday. Judging will be based on scoring in the tournament, aesthetics, and technical criteria related to the concrete mix design and adherence to the specified dimensions.

Aesthetics

Teams are encouraged to decorate their boards as creatively as possible. The board can be finished with any variety of textures, stains, and sealers. The name of the university you represent must be displayed on the board. **No stickers or decals are allowed.**

Tournament Play

Seeding will be determined according to each team's "Board Aesthetics Sub-Total" and "Board Technical Criteria Sub-Total" 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.

Game Play

Each game will be played to twenty-one (21) points; the first team to reach or exceed 21 points will be declared the winner. A round consists of one (1) player from each team throwing all four (4) bags. Each game will consist of however many rounds it takes for one team to reach at least 21 points with a margin of victory of at least 2 points.

Bags that land on the board and stay on the board are worth one (1) point. Bags that go through the hole are worth three (3) points. Bags that bounce onto the board from the ground do not count and must be removed before the next bag is thrown. Bags that were on the board and pushed off by another bag do not count. At the end of the round, points will be totaled for each team, and the difference of the teams' points will be awarded to the team that had the highest score. Each round will result in only one team being awarded points to their overall score.

For the first round, the team with the higher seed number will go second. The team that scored the previous round will start following rounds. If no points were scored in a round, the team to score the last points goes first. Team members will be on alternate sides of the pitch and stay in the same lane. Players will alternate throwing bags (one at a time) until each player has thrown all four (4) of his or her bags. Bags must be thrown underhand. If a player crosses outside of the pitcher's box, that bag does not count and cannot be re-thrown.

Playing Field

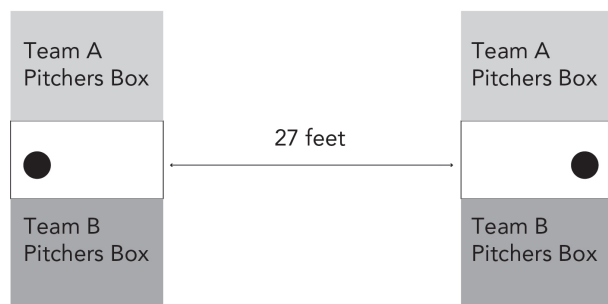


Figure 3: Playing Field

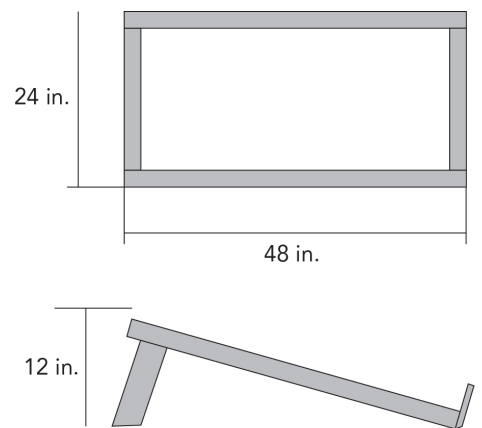


Figure 4: Board Stand

Scoring

$Tournament\ Score = \sum (\text{margin of victory}) \times \text{winning percentage}$

The tournament score will be normalized to a 50 point scale. Teams that lose two match-ups are eliminated from further competition.

*Board failure results in a 10 point deduction.

Aesthetics

Board aesthetics will be judged based on creativity, originality, and overall quality of design. Each team is eligible to receive 20 points based on aesthetics. Use of stickers or decals will be a deduction of 10 points.

Conformity to Dimensions

Once the judges receive the boards on Friday, each board will be measured for length, width, thickness, hole diameter, and the position of the hole. The teams will be ranked based on board thickness with the thinnest board getting the entire 30 points. All other points will be linearly determined in a descending order.

Teams will then be deducted five (5) points from the points awarded for thickness per failure to meet specified dimensions (not including thickness). It is possible to receive a negative score for the Technical Sub-Total.

Adherence to Mix Design

Failure to meet any of the specified criteria will result in a fifteen (15)-point deduction from the Technical Criteria Sub-Total.

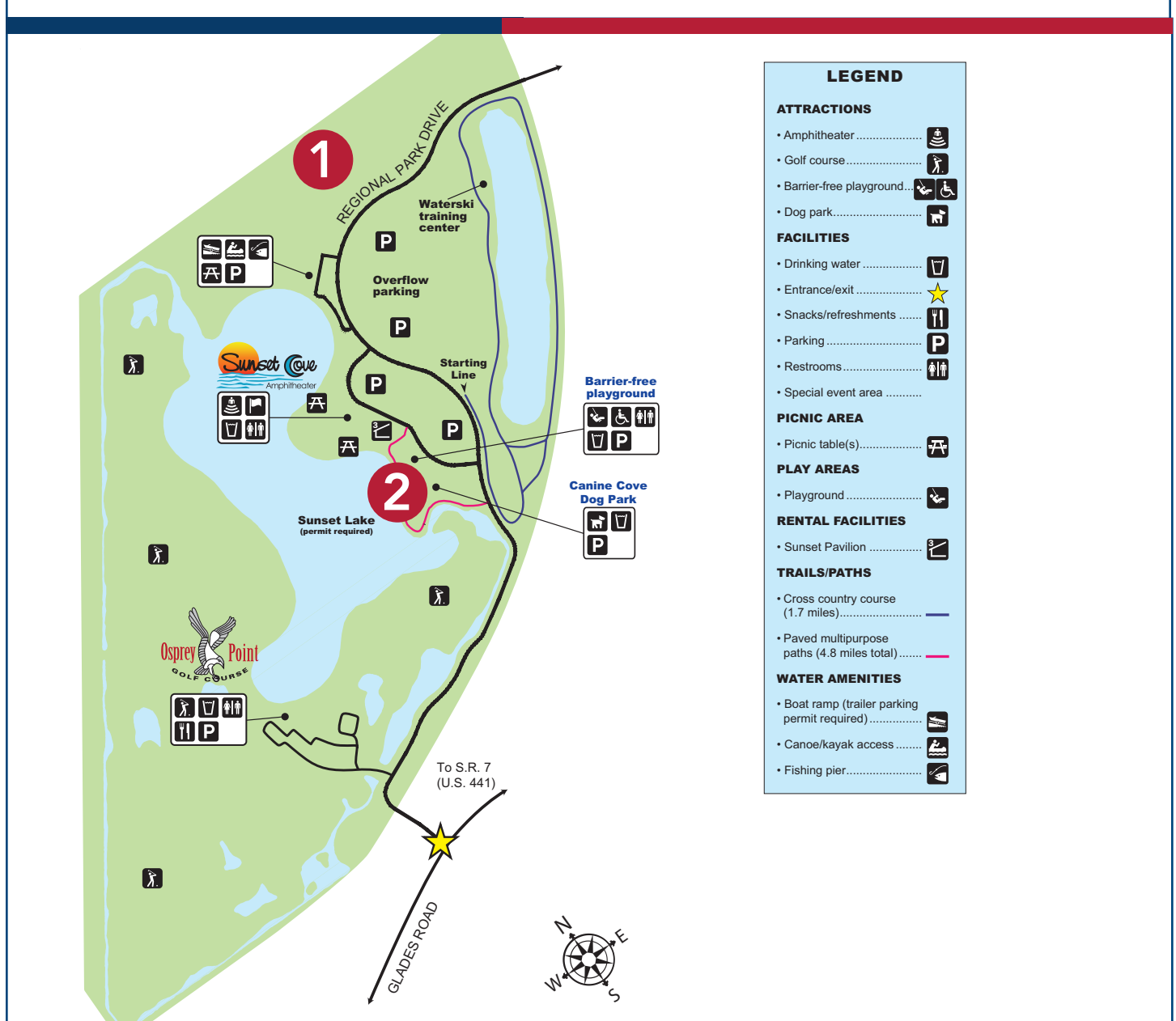
Location and Directions

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 Cornhole Scoring Summary Sheet

University: _____

Board Aesthetics

1. Aesthetics/quality (20 points maximum) _____

2. Stickers/decals (-10) _____

Board Aesthetics Sub-Total Score (20 points maximum) _____

Board Technical Criteria

1. Mix design worksheet (10 points maximum) _____

2. Thickness (20 points maximum) _____

3. Incorrect board dimensions (-10) _____

4. Incorrect hole dimensions (-10) _____

5. Failure to meet mix design specifications (-15) _____

Board Technical Criteria Sub-Total Score (30 points maximum) _____

Tournament Scoring

1. Tournament Score (50 points maximum) _____

2. Board Failure (-10) _____

Tournament Sub-Total Score (50 points maximum) _____

Overall Score _____