



## Istanbul Technical University Robot Olympics 2022

### Rules of Construction Category

#### Job Description:

- In this category, robots try to form the shape, which was determined before, in the shortest time possible and correctly. The robots use the blocks that are provided to them.

#### Criteria of Success:

- In this category, criteria of success is carrying at least 2 blocks to the construction area.

#### Robot Properties:

- There is no size limit for robots.
- Weight of robot must not exceed 4000 grams.

#### Track Specifications:

- 1) Block will be in certain areas of the track.
- 2) it will be of 6 blocks on the track. 4 of the blocks are 3x3x3 cm and 2 of them are 3x3x6 cm tall. The block sequences are shown in the 3D model.
- 3) Competitors can screw on their robots to the robot area with using the stabilizing holes on the area. Or they can stabilize in any way only if they do not harm the track.
- 4) When robot is stabilized to the track, the pieces which touch to the track cannot exceed the robot area. However, robot can have extensions out of the robot area only if they do not touch the track.

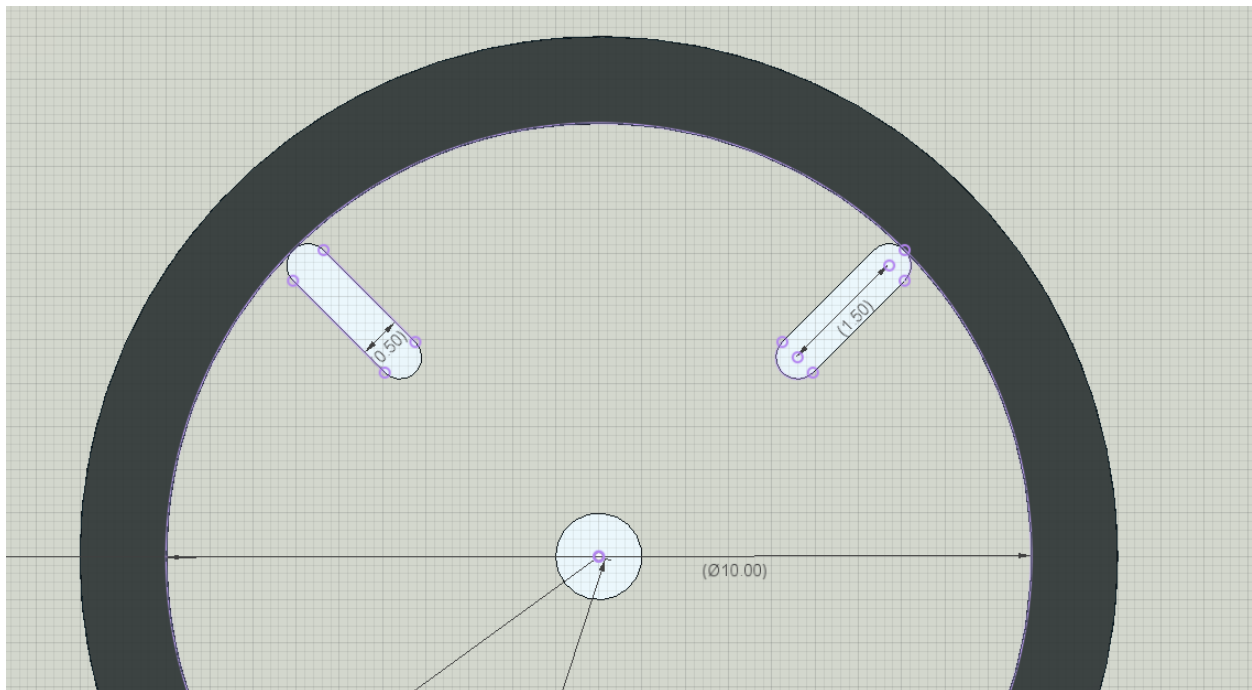
#### Contest:

- 5) In contest, robots compete one by one.
- 6) Each robot has 6 minutes for competing.

- 7) In contest it is expected that robots report how height they want to be from track and place the blocks, which are given to track, correctly.
- 8) Robot is not allowed to touch anyplace out of the track.
- 9) Robots start to construct the building after the countdown and starting command.
- 10) After starting, it is permitted that when robot is placing the blocks robot can touch anywhere in the construction area to get support only if it does not harm the track.
- 11) Each robot has two rights for competing.

Rating:

- 12) Point = (number of blocks that are transported to the construction area) + (the referees determine a point out of 10 for the accuracy of each block)
- 13) Robots which cannot achieve the criteria of success are not included in rating.
- 14) At the end of the contest, supreme board of referees will watch the photographs and videos which are taken during contest. Then they will grade the accuracy of blocks.
- 15) If a competitor uses two rights for competing, then the points for each right are calculated separately and the higher score will be taken.



**Figure 1.** Screwing Holes

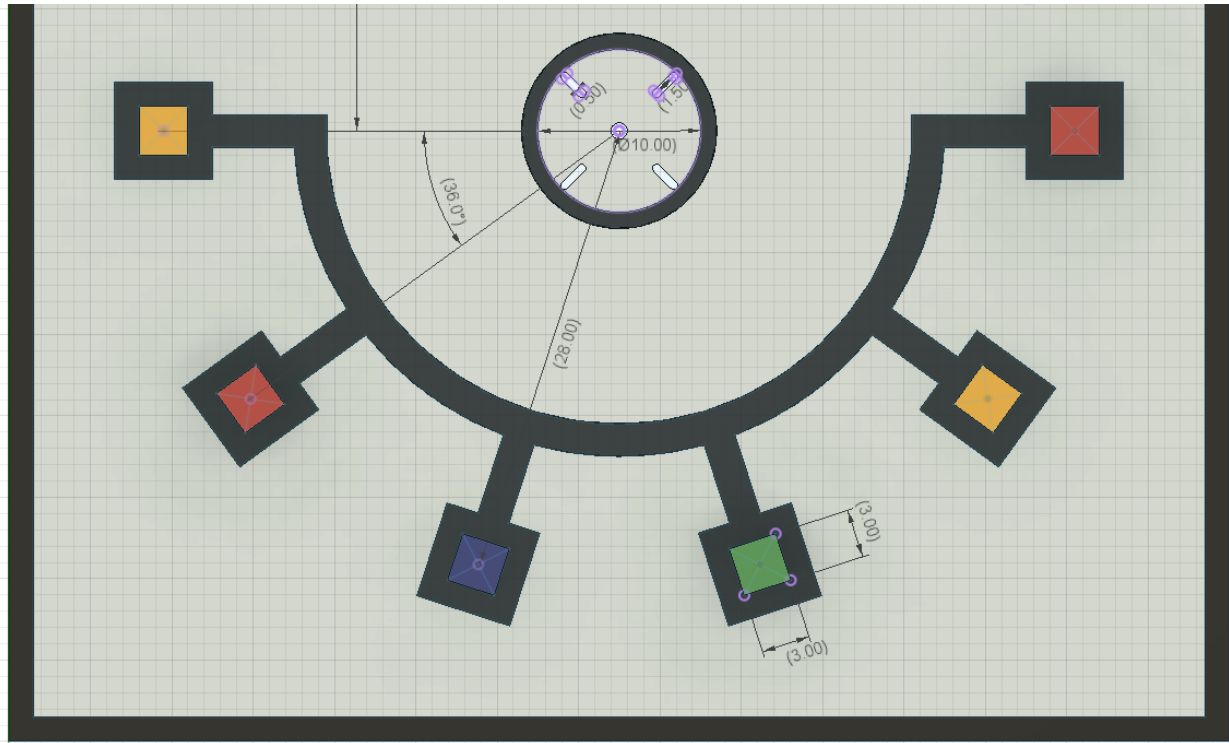


Figure 2. Receiving zones

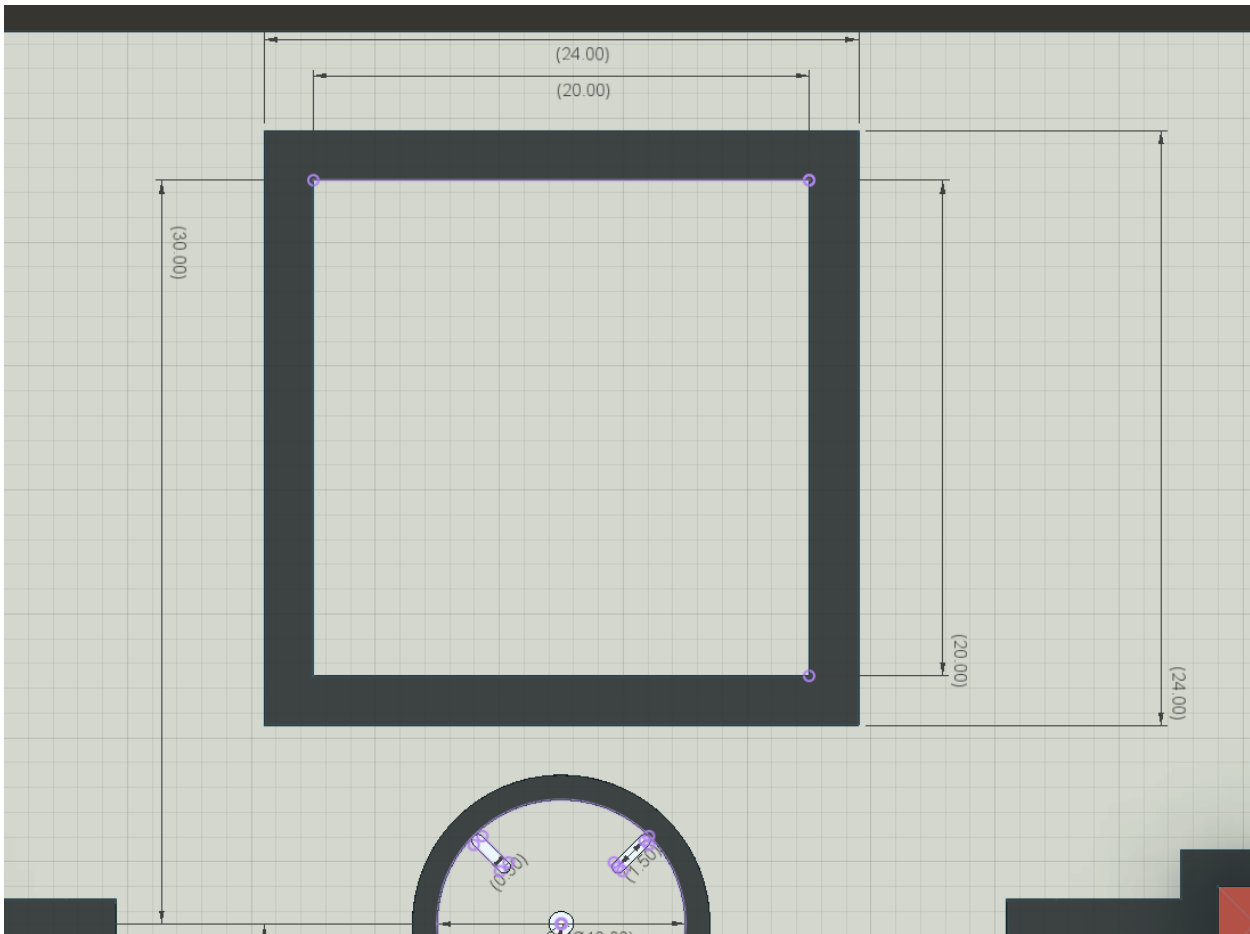


Figure 3. Construction Area