

Tic-Tac-Stack is played on a 12ft by 12ft field by two alliances of two teams each. Alliances earn points by placing their alliance's colored Skyrise Cubes on Goals and creating rows. Additional points are earned if an alliance Cube is the highest scored Cube on the Goal. The field has seven stationary goals, 1 located in the center of the field, 4 corner goals and 2 floor goals centered between the alliance starting zones. There are also four Mobile Goals, two for each alliance, located on the Staging Zones on each side of the field. At the end of a Match alliance's earn bonus points for a Owned Row and even more point if the Row has a Mobile Goal in it.

A Match consists of a 20 seconds Autonomous Period where robots attempt to move their Alliances Mobile Goals into the green Scoring Zones for bonus points. After Autonomous a 2 minute and 40 second Driver Controlled Period takes place. Alliances work to score Skyrise Cubes on Stationary and



Mobile Goals and make Rows with Owned Goals. At the end of the Match the total number of Scored Cubes, Owned Goals and Rows are tallied. Rows are made up of three Owned Goals and consist of one or two of the Alliance’s Mobile Goals. If a Row contains a Mobile Goal it is worth more points than just a normal owned

**Table 1-1 Autonomous Point Values**

Action	Value
Moving a Mobile Goal into Scoring Zone in Autonomous	10
Cube fully Scored on Low Goal	2
Cube fully Scored on a Mobile Goal	4
Cube fully Scored on Corner Goals	6
Cube fully Scored on Center Goal	8



**Table 1-2 Driver Controlled Point Values**

Action	Value
Cube fully Scored on Low Goal	2
Cube fully Scored on a Mobile Goal	4
Cube fully Scored on Corner Goals	6
Cube fully Scored on Center Goal	8
Owing a Stationary Goal*	2
Owing a Row*	10
Owing a Row with 1 Mobile Goal*	15
Owing a Row with 2 Mobile Goals*	25

\*Scored at the end of the match

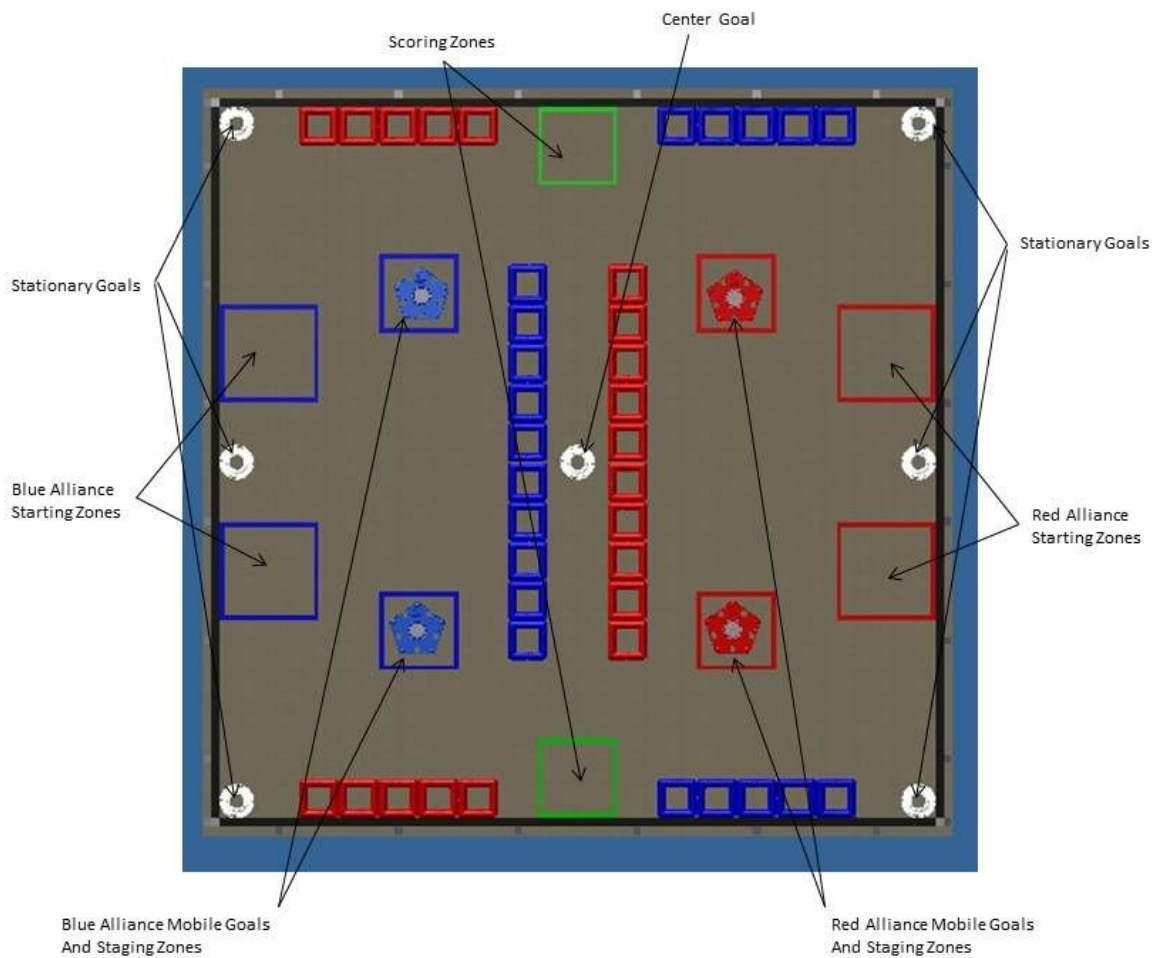
The Tic-Tac-Stack Field is complete flat and has seven Stationary Goals, three located against each alliance wall and one located in the center of the Field. The Center Goal is the tallest Goal on the Field, while the Stationary Goals located along the center of the alliance walls are the shortest. In addition to the Stationary Goals the Tic-Tac-Stack Field consists of three sets of taped Zones, the Starting Zone, Staging Zones, and Scoring Zones.

The Starting Zones are located against each alliance wall, two for Red, two for Blue, with a Low Goal in between. Robots must begin the Match with their wheel fully contained by the Starting Zone. In between the Starting Zones and the Center Zone on each side of the Field are located the Mobile Goal Staging Zones. There are four Staging Zones and the four Mobile Goals begin the Match one in each of the Zones. The Scoring Zones are located along the centerline of the Field against the wall and are outlined green. For a Mobile Goal to be scored in Autonomous or Driver Control it must be inside the



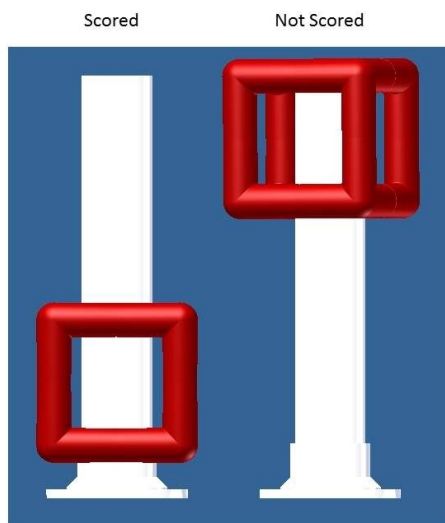
Scoring Zone, which is defined as the outside edge of the tape line. Only one Mobile Goal can be scored in each Scoring Zone during Autonomous. If there are two Mobile Goals in one Scoring Zone the goal that has a higher percentage of its area, as judged by the Staff, will be awarded the points.

Each Alliance has twenty Skyrise Cubes in their Alliance color. Five are located on the opposite side of the Field between the Scoring Zone and the corner Stationary Goal. The other ten Skyrise Cubes are located between the Alliance's Staging Zones and the Center Goal.





Robots are only allowed to pick up their alliance's Cubes. Scored Cubes may not be de-scored, but any other Cube can be removed from a Goal as long as it's not picked up. A Cube counts as picked up if it is grabbed, grasped, attaching to, hooking onto and becoming entangled. Unintentional momentary encounters defined above with an opponent's Cube are allowed as long as they are rectified immediately. Cubes count as Scored if it is fully contained by a Goal. If any part of the Cube is above the top plane of the Goal it is not Scored. The exception to this is the Low Goal on which a cube just needs to be contained fully within the volume of the goal base. During game play if Cubes leave the Field over the Side Border they will be returned to the Field where they went out by a Staff Member at the earliest safe time.



Mobile Goal are scored in Autonomous and can be part of a Row if they are fully contained inside the outer edge of Scoring Zone tape. Only one Mobile Goal can be counted in each Scoring Zone. Robots may not make consequential contact with the opponent's Mobile Goals. A Robot can use another object (e.g. their own Mobile Goal, a Cube, an opponent's Robot) to move a Mobile Goal. Mobile Goals can only have scored Cubes of the same color. Rows are the same as Tic-Tac-Toe, 3 across, 3 up and down, or 3 diagonally.



**Table 1-3 Penalties**

Action	Value
Picking up an Opponent's Skyrise Cube*	2 per Cube
De-Scoring a Cube	6 per Cube plus Scored Cube
Pinning an Opponent's Robot for more than five seconds	6 per Instance
Consequential Contact on Opponent's Mobile Goal**	10 per Instance
Destruction or Damage of the Field or other Robot's	10 per Instance, possible DQ

\*Doesn't include removing an Opponent's un-scored Cube from a Goal

\*\*Included tipping over an Opponent's Mobile Goal and scoring a Cube on an Opponent's Mobile Goal

A Tic-Tac-Stack Tournament is played by at least four teams. The Tournament consists of the number of Matches needed for each team to play with and against every other team. Alliances made up of two Teams win and loss matches as an Alliance. Team are ranked by win-loss record and the team with the best record after all of the matches have been played will be declared the winner. The Tic-Tac-Stack tiebreakers are shown below.

**Table 1-4 Tournament Ranking Criteria**

	Criteria
1st order sort	Wins
2nd order sort	Highest Score
3rd order sort	Auto Score
4th order sort	Owned Row Score
5th order sort	Coin Flip