



King of the Hill

Official 2018 Rules and Participant Guidelines

Level: Intermediate/Advanced

Controller: RCX, NXT, or EV3

Robot Weight: Any

Robot Dimensions: maximum 8.5" x 11", no height limitation; robot elements may expand once the round begins.

Robot Control: Autonomous

Number of Controllers: one per robot

Number of motors: maximum three per robot

Number of sensors: maximum three per robot

Number of robots competing per round: two

Time Limit: 1 minute maximum

Competition: Single elimination tournament

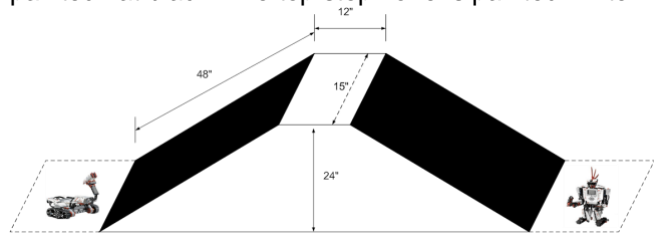
Summary: Each robot starts at the bottom of the ramp, climbs to the top and either prevents the other robot from reaching the top or pushes it off the top. The winning robot is the one "on top of the hill" at the end of 1 minute.

Event Rules:

1. The Robots will face-off in pairs and the winner advances to next round.
2. At the beginning of the match, each robot is placed at the bottom of the hill inside a 15"x15" square. An event official decides which square a contestant starts in.
3. A round is 1 minutes long. Timing begins when the judge says "Go."
4. Robots can only be touched to start a round. Contestants cannot touch their robots during the round.
5. Nothing can be added or removed from the robot during a round.
6. Contestants will be given an opportunity to calibrate their robots to the brightness of the arena surface on the day of the competition.
7. If a robot is pushed off from the top, the robot is allowed to re-climb the ramp to fight but it must be done autonomously.

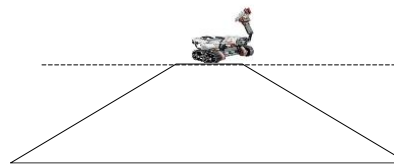
Playing field:

The dimensions of the ramp and top flat zone are shown below. It can be constructed from either plywood or particle board. Each of the hill inclines are painted flat black. The top stop zone is painted white.



Scoring:

- A robot is considered "on top of the hill" when it is 100% supported by the white area and no part of the robot is touching the black ramp area.



- If neither robot succeeds in climbing the ramp, both robots are disqualified.
- If both robots climb the ramp but both are knocked off prior to the end of the round, or if neither robot is "on top of the hill", then a rematch will occur. There will be at most one rematch. During the rematch, the robots will be placed in the opposite starting position.
- At the end of the second rematch, if there is no clear winner, the judge will determine which robot commands more of the hill and declare that robot the winner.

Note: This is a new event for 2018. Potential contestants should understand that as teams experiment with the playing field and questions arise about the event, the steering committee may add minor rule caveats to support fair contests between robots. Any updates to the rules will be made by April 9 and posted on the 2018 Sonoma County Robotics Competition webpage under 'King of the Hill' rules.