# Appendix B – The Robot Skills Challenge
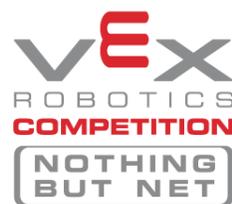
Overview

This section describes the Robot Skills Challenge of *VEX Robotics Competition Nothing But Net.*

Please note that the Robot Skills Challenge may not be offered at all tournaments. Please check with your local event organizer, or www.robotevents.com for more information.

Robot Skills Challenge Description

In this challenge teams will compete in sixty (60) second long matches in an effort to score as many points as possible. These matches will be entirely driver controlled. The playing field will be set up identically to that of a normal *VEX Robotics Competition Nothing But Net* tournament match.
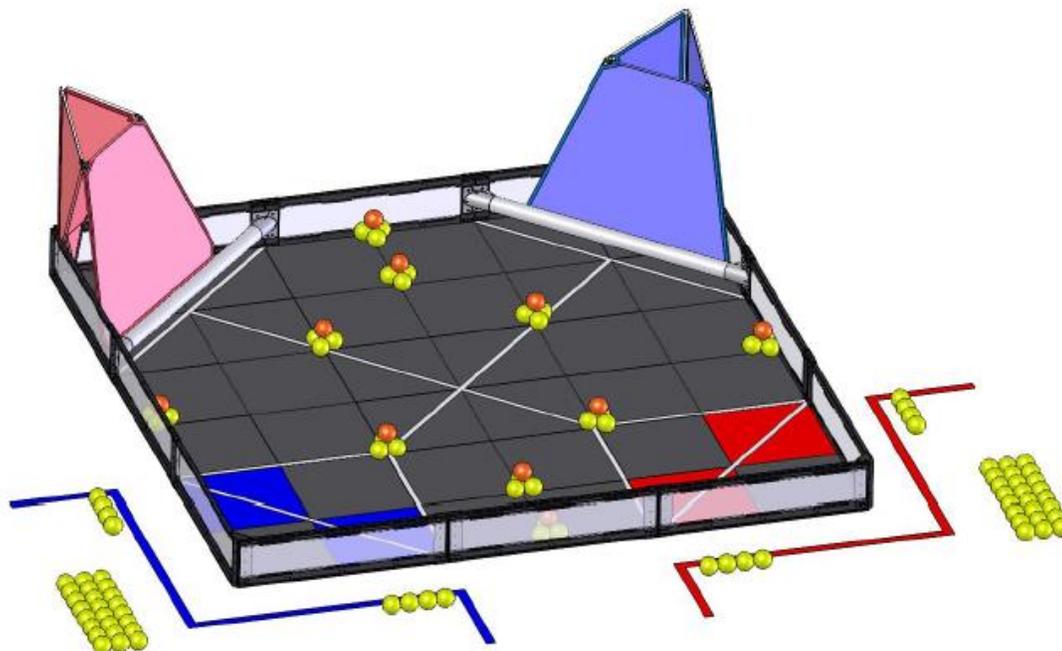
Note: The Robot Skills Challenge and the Programming Skills Challenge use the same field setup!

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Robot Skills Challenge Definitions

Please note that all definitions from "The Game" section of the manual apply to the Robot Skills Challenge, unless otherwise specified.

Robot Skills Match – A *Robot Skills Match* consists of a sixty (60) second *Driver Controlled Period*. There is no *Autonomous Period*. Teams can elect to end their run early, however this will count as an official run.

Robot Skills Loads – The sixty (60) *Balls* that *Student Drive Team Members* of each *Alliance* may load onto the designated *Alliance Starting Tiles* or into their *Robots* during the *Robot Skills Match*.

Robot Skills Preload – The four (4) *Balls* each team may place on the field such they are touching its *Robot*, not touching any grey foam tiles, and fully within the field perimeter prior to each *Robot Skills Match*.

Robot Skills Challenge Rules

Please note that all rules from "The Game" section of the manual apply to the Robot Skills Challenge, unless otherwise specified.

<RSC1> At the beginning of each *Robot Skills Match*, the *Robot* must be placed such that it is touching any single *Alliance Starting Tile*, not touching any *Scoring Objects* other than those permitted by <RSC2>, and not touching any other foam field tiles.

<RSC2> Prior to the start of each *Robot Skills Match*, each *Robot* may use their four (4) *Balls* available as *Robot Skills Preloads*. A *Ball* is considered to be legally preloaded if it is touching the *Robot,* not touching any other grey foam tiles*,* and is fully within the field perimeter. Any unused *Robot Skills Preloads* become *Robot Skills Control Loads.* Please note, the twelve (12) other *Preloads* that would be used by other *Robots* in a normal *Match* are available as *Robot Skills Loads*.

<RSC3> In a *Robot Skills Match,* all *Goals* and *Alliance Starting Tiles* are considered to be the same color for purposes of any rules or definitions.

<RSC4> In a *Robot Skills Match*, *Robot Skills Loads* can only be loaded in the *Loading Zone* adjacent to where they started the *Robot Skills Match*.

Robot Skills Challenge Scoring

All scoring is the same as in a regular *VEX Robotics Competition Nothing But Net* match.

- A *Ball Scored* in a *Low Goal* is worth one (1) point.
- A *Bonus Ball Scored* in a *Low Goal* is worth two (2) points.
- A *Ball Scored* in a *High Goal* is worth five (5) points.
- A *Bonus Ball Scored* in a *High Goal* is worth ten (10) points

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Robot Skills Challenge Format

- The Robot Skills Challenge is an optional event. Teams who do not compete will not be penalized in either the main tournament, or the Programming Skills Challenge.
- Teams will play *Robot Skills Matches* on a "first come, first serve" basis, or by a method determined by the event.
- Teams will be guaranteed a minimum number of *Robot Skills Matches*, to be determined by the event organizers
- Teams may also be limited to a maximum number of *Robot Skills Matches*, to be determined by the event organizers

Robot Skills Challenge Rankings

- For each *Robot Skills Match* teams are awarded a score based on the above scoring rules.
- Teams will be ranked based on their highest *Robot Skills Match* score, with the team with the highest score being declared the Robot Skills Challenge Winner.
- In the case where two teams are tied for the highest score, the tie will be broken by looking at both teams' next highest *Robot Skills Match* score.
- If the tie cannot be broken (i.e. both teams have the exact same scores for each *Robot Skills Match*), the next tie-breakers will be based on the following criteria in each team's highest scoring *Robot Skills Match*. The tie-breakers are as follows (in order):
  - Number of points for *Bonus Balls* in *High Goals*
  - Number of points for *Balls* in *High Goals*
  - Number of points for *Bonus Balls* in *Low Goals*
- If the tie still isn't broken, events may choose to allow teams to have one more deciding match or both teams will be declared the winner.

Robot Skills Challenge Heads-Up Match

The following method may be used to determine the Robot Skills Challenge Winner at certain events.

- The top two teams from the Robot Skills Challenge Rankings will advance to a final heads-up match.
- Each team will perform one (1) *Robot Skills Match*, with the 2nd place team performing first or with both teams performing simultaneously on separate fields.
- This *Robot Skills Match* will be a final opportunity for both teams to beat the high score posted in earlier rounds, if neither team beats or matches the previous high score, the holder of the previous high score will be declared the Robot Skills Challenge Winner.
- If one or both teams beat the previous high score, the team with the highest score in the "Heads-Up Match" will be declared the Robot Skills Challenge Winner.
- In the case of a tie for highest overall score, the tie will be broken by looking at the second highest score for both teams. (This process of looking at the next highest score will continue until the tie is broken, or all matches have been exhausted)
- If the tie cannot be broken, two winners may be declared, or a new match may be played.

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