Appendix B
Robot Skills Challenge

Overview

This Appendix describes the combined Robot Skills Challenge rules for VEX Robotics Competition Change Up.

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

Robot Skills Challenge Description

In this challenge, Teams will compete in sixty second (1:00) long matches in an effort to score as many points as possible. These Matches consist of Driving Skills Matches, which will be entirely driver controlled, and Programming Skills Matches, which will be autonomous with limited human interaction. Teams will be ranked based on their combined score in the two types of Matches.

The playing field will have Field Elements setup exactly the same as a normal VEX Robotics Competition Change Up Match, however, the Balls will start as displayed below.

Figure 1: Side view of the field in its initial setup configuration.
Game Definitions

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

Driving Skills Match – A Driving Skills Match consists of a sixty second (1:00) Driver Controlled Period. There is no Autonomous Period. Teams can elect to end their run early, however this will count as an official run.

Programming Skills Match – A Programming Skills Match consists of a sixty second (1:00) Autonomous Period. There is no Driver Controlled Period. Teams can elect to end their run early, however this will count as an official run.

Robot Skills Match – A Driving Skills Match or Programming 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> Robots may start the Robot Skills Match per <SG1> in either Home Zone with the Drive Team Members standing in the Alliance Station that corresponds with that Home Zone.

Note: The other three (3) Preloads are not used in a Robot Skills Match.

<RSC2> In Robot Skills Matches, Teams play if they are on the red Alliance Scoring only red Balls and Owning only red Goals.

<RSC3> Rules <SG2> and <SG3> do not apply in Programming Skills Matches.

Robot Skills Challenge Scoring

Teams receive points according to the same Scoring rules in VEX Robotics Competition Change Up when Scoring for the red Alliance.

Robot Skills Challenge Ranking at Events

- For each Robot Skills Match, Teams are awarded a score based on the above scoring rules.
- Teams will be ranked based on the sum of their highest Programming Skills Match score and Driving Skills Match score. The Team with the highest sum will be 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’ highest Programming Skills Match score. If the Teams remain tied, the tie will be broken by looking at both Teams’ highest Driving Skills Match score. This process will repeat looking at the next highest Programming Skills Match and then Driving Skills Match until the tie is broken.

If the tie cannot be broken (i.e. both Teams have the exact same scores for each Programming Skills Match and Driving Skills Match), then the following ordered criteria will be used to determine which Team had the “best” Programming Skills Match.
1. Number of Connected Rows.
2. Number of Scored Balls.

If the tie still cannot be broken, the same process in the step above will be applied to the Teams’ best Driving Skills Match.

If the tie still isn’t broken, events may choose to allow Teams to have one more deciding Driving Skills Match, or declare both Teams the Robot Skills Challenge Winner.

Robot Skills Challenge Ranking Globally

Teams will be ranked Globally based on their Robot Skills scores from Tournaments and Leagues that upload results to robotevents.com according to the following tiebreakers.

1. Highest Robot Skills score (combined Programming Skills Match and Driving Skills Match Score from a single event)
2. Highest Programming Skills Match score
3. Highest Driving Skills Match score
4. Earliest posting of the Highest Programming Skills Match score, i.e. the first Team to post a score ranks ahead of other Teams that post the same score at a later time.
5. Earliest posting of the Highest Driving Skills Match score, i.e. the first Team to post a score ranks ahead of other Teams that post the same score at a later time.

Robot Skills Challenge Format

The Robot Skills Challenge is an optional event. Teams who do not compete will not be penalized in the main tournament.

Teams may play Robot Skills Matches on a “first come, first serve” basis, or by a pre-scheduled method determined by the Event Partner.

Teams will be given the opportunity to play exactly three (3) Programming Skills Matches and three (3) Driving Skills Matches. Teams should be aware of when the Robot Skills fields are open so that they do not miss their opportunity, e.g. if a Team waits until five minutes before the Robot Skills fields close, then they have not used the opportunity given to them and will not be able to compete in all six matches.