

# C

APPENDIX

## The Programming Skills Challenge

### Overview

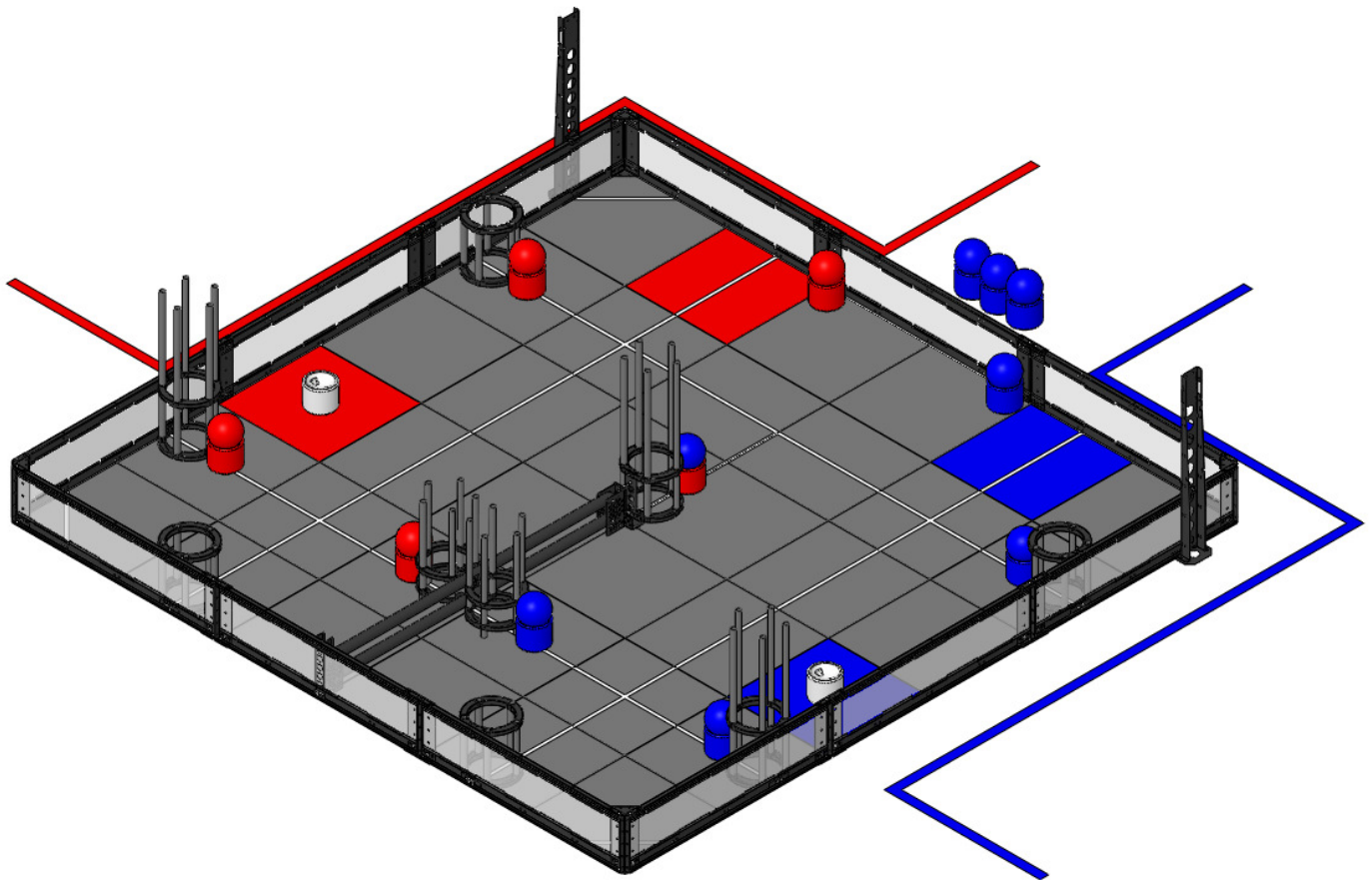
This section describes the Programming Skills Challenge of *VEX Gateway*

Please note that the Programming Skills Challenge may not be offered at all tournaments. Please check with your local event organizer, or [www.robotevents.com](http://www.robotevents.com) for more information.

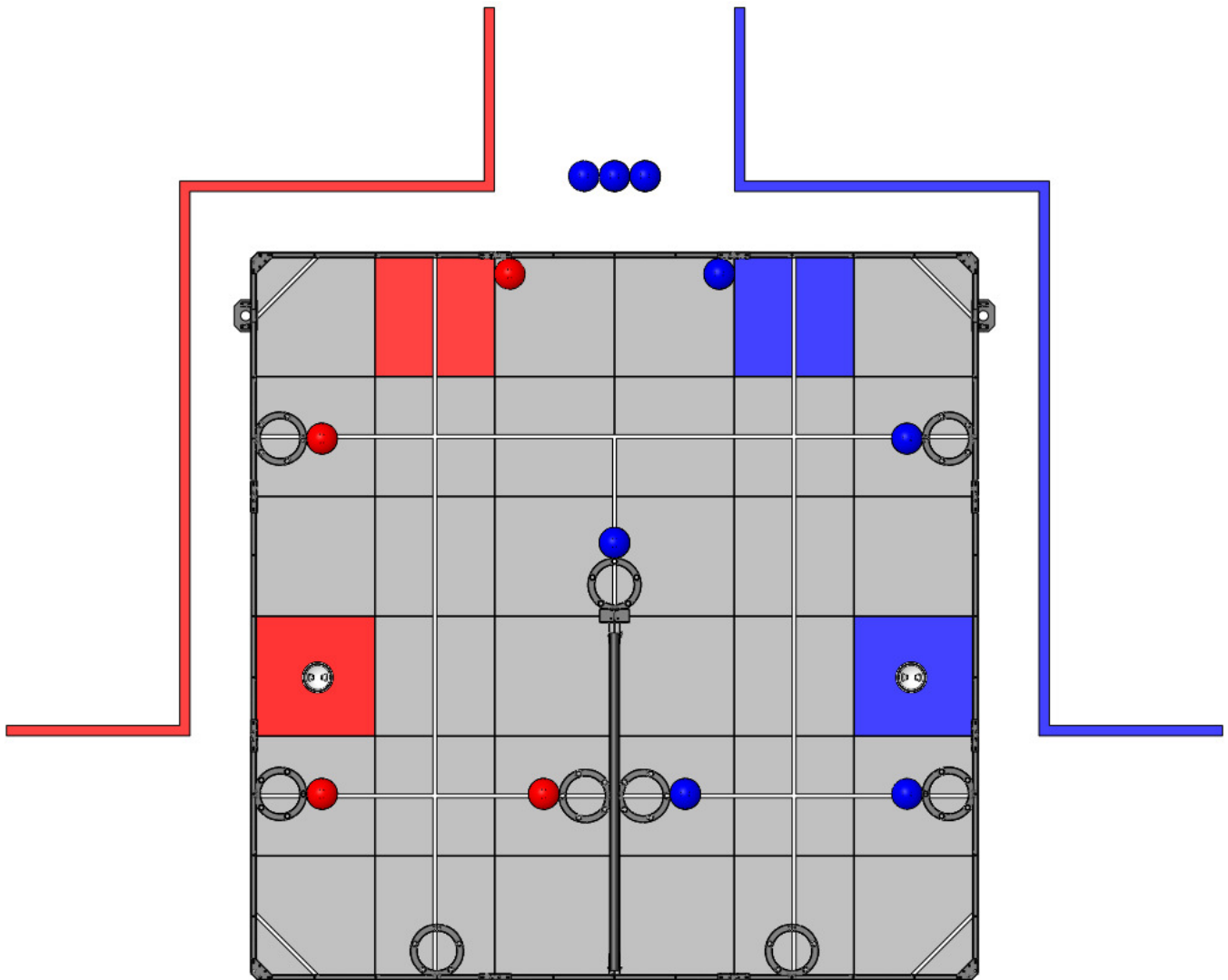
## Programming Skills Challenge Description

In this challenge teams will compete in 1:00 long matches in an effort to score as many points as possible. These matches will be autonomous with exceptions for minor human interaction. The playing field will be set up identically to that of a normal VEX Gateway tournament match, with the following exceptions.

- There are no *Gates* on the field
- There are only nine (9) *Balls* and nine (9) *Barrels* on the field
- Two (2) *Doubler Barrels* begin the match on the field



**Note: The Programming Skills Challenge and the Robot Skills Challenge use the same field setup!**  
(Please see "The Game" section of the manual for further information on field setup)



## Programming Skills Challenge Definitions

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

*Programming Skills Match* – A *Programming Skills Match* consists of a 1:00 *Autonomous Period*. There is no *Driver Controlled Period*.

*Programming Skills Match Loads* – The three (3) *Barrels* and three (3) *Balls* available to be loaded at any time during the *Programming Skills Match*. Of these *Programming Skills Match Loads*, only one (1) *Barrel* and one (1) *Ball* may be used as *Programming Skills Preloads*.

*Programming Skills Preloads* – The one (1) *Barrel* and one (1) *Ball* each team may load into their *Robot* prior to each *Programming Skills Match*. Unused *Programming Skills Preloads* become *Programming Skills Match Loads*.

## Programming Skills Challenge Rules

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

<PSC1> At the beginning of each *Programming Skills Match*, the *Robot* must be placed such that it is touching any one of the colored *Alliance Starting Tiles* in the *Interaction Zone* and not touching any *Scoring Objects* other than those permitted by <PSC2>.

<PSC2> Prior to the start of each *Programming Skills Match*, each team will have one (1) *Barrel* and one (1) *Ball* available as *Programming Skills Preloads*. A *Scoring Object* is considered to be legally preloaded if it is touching the *Robot* or a legal *Programming Skills Preload*.

<PSC3> Robots can *Score* any *Scoring Object*, regardless of color.

<PSC4> *Programming Skills Match Loads* may only be introduced in the *Interaction Zone Alliance Starting Tile*

<PSC5> *Drivers* and *Coaches* may interact with their robots as specified in <SG5> of Section 2 – The Game

<PSC6> In a *Programming Skills Match* all *Robots*, *Balls* and *Barrels* are considered to be the same colour for purposes of any rules or definitions.

## Programming Skills Challenge Scoring

**All scoring is the same as in a regular VEX Gateway match.**

- A *Barrel* that is *Scored* in a *Goal* is worth one (1) point.
- A *Ball* that is *Scored* in a *Goal* is worth one (1) point.
- A *Bonus Point* earned is worth one (1) point.
- A *Doubler Barrel* that is *Scored* in a *Circular Goal* doubles the value of all points in the *Goal* including the *Bonus Point*.

## Programming Skills Challenge Format

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

## Programming Skills Challenge Rankings

- For each *Programming Skills Match* teams are awarded a score based on the above scoring rules.
- Teams will be ranked based on their highest *Programming Skills Match* score, with the team with the highest score being declared the Programming 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 *Programming Skills Match* score.
- If the tie cannot be broken (i.e. both teams have the exact same scores for each *Programming Skills Match*), the next tie-breakers will be based on the following criteria in each team's highest scoring *Programming Skills Match*. The tie-breakers are as follows (in order):
  - Number of *Bonus Points* earned
  - Number of *Doubler Barrels Scored*
  - Number of *Barrels Scored*
  - Number of *Balls Scored*
- 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.

## Programming Skills Challenge Heads-Up Match

The following method will be used to determine the Robot Skills Challenge Winner at certain events, including the 2012 VEX Robotics World Championship.

- The top two teams from the Programming Skills Challenge Rankings will advance to a final heads-up match.
- Each team will perform one (1) *Programming Skills Match*, with the 2<sup>nd</sup> place team performing first or with both teams performing simultaneously on separate fields.
- This *Programming 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 Programming 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 Programming 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.