



APPENDIX

College Challenge

Introduction

We are thrilled to continue the exciting VEX Robotics Competition College Challenge for another year. There are so many colleges and universities which already use the VEX Robotics Design System in their academic programs it is only natural that they have a place to pit their skills against each other in some friendly competition. Just like past seasons, there will be a battle royale at the VEX Robotics World Championships along with regional tournaments across the world. Not only does everyone get to see which school has what it takes to be a Champion, but the schools participating get the chance to show their stuff in front of thousands of future engineers and really demonstrate what makes their school remarkable.

Event Information

Several of the University partners participating in the VRC College Challenge will be holding tournament events in addition to the capstone competition at the 2012 VEX Robotics World Championships. For more information on College Challenge events refer to <http://robotevents.com/robot-competitions/college-competition> which will have event details, pricing, and registration info.

Game, Robot, and Tournament Rules

The VEX Robotics Competition College Challenge uses the VEX Gateway game with small modifications. Anyone that already has a VEX Gateway field can use it for the VRC College Challenge, with a few additional/modified components.

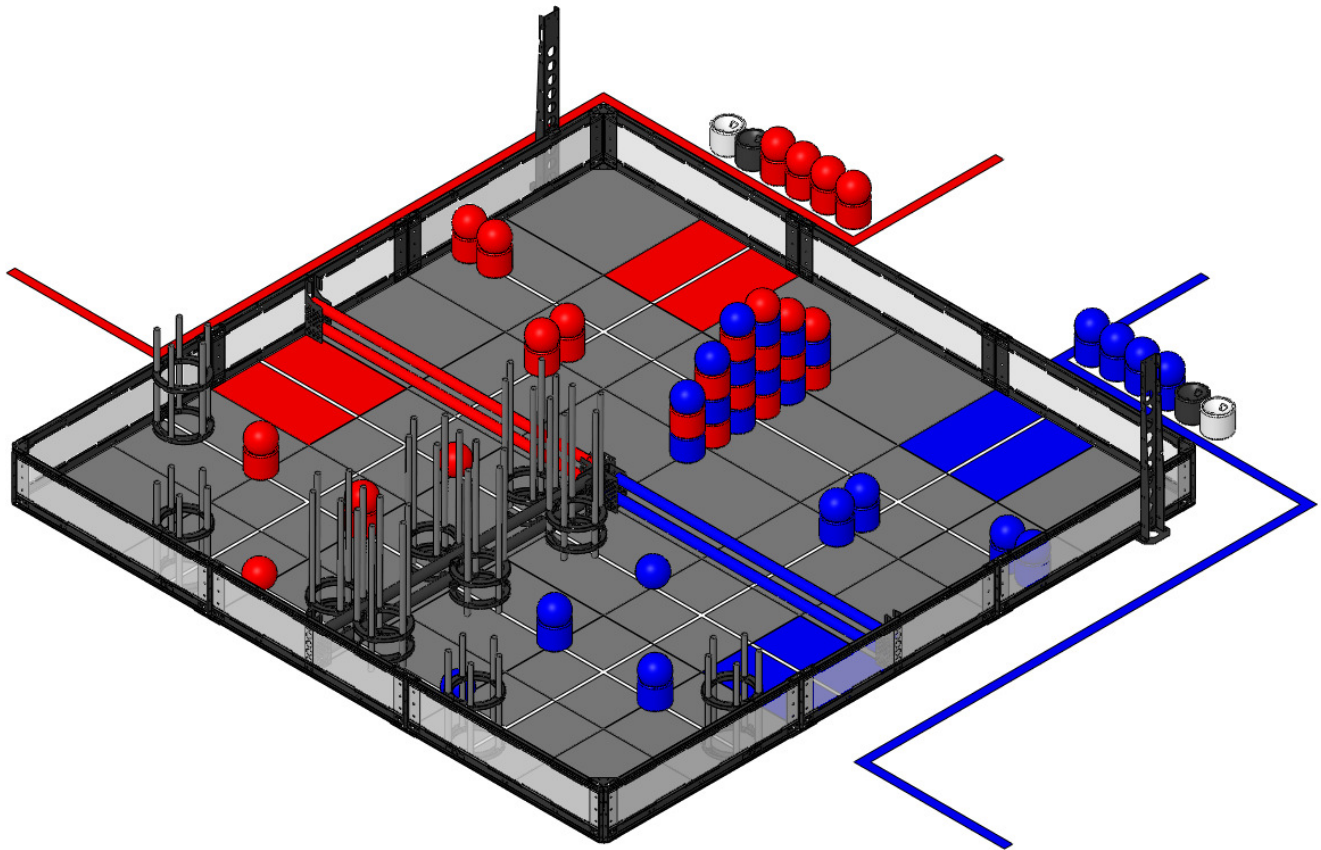
Please consult the VEX Gateway Game Manual for the foundation set of competition details. All the same Game, Robot, & Tournament rules apply except for the modifications listed in this document. In the event of a rules conflict the rules listed in this document and rulings on the College Challenge Q&A take precedence.

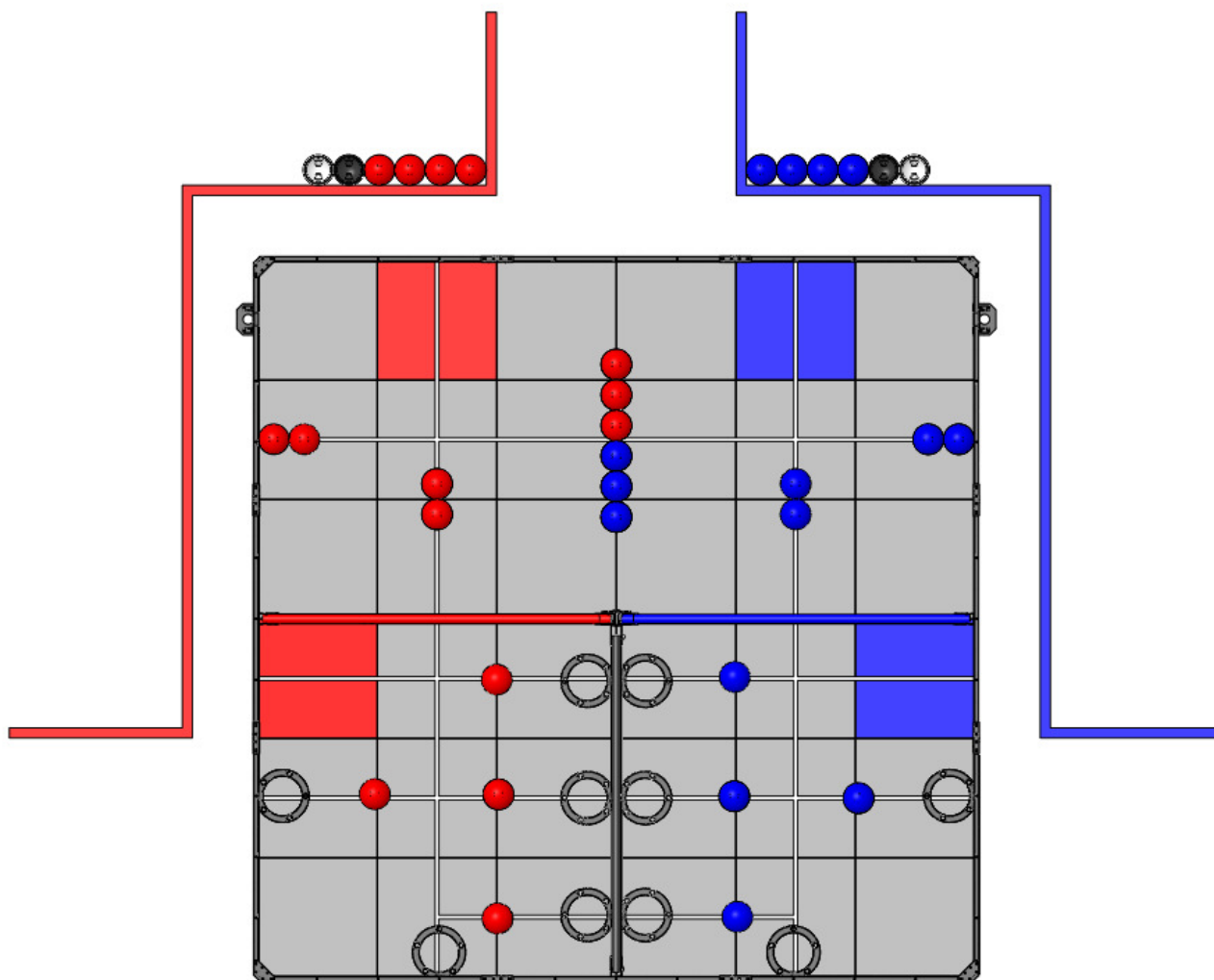
Game and Tournament Rule Modifications:

1. Instead of a 2-team vs. 2-team format, the VRC College Challenge will be played 1-team vs. 1-team, with a twist: each team will use TWO *Robots* in each match. This means every team gets to build their own partner!
 - Teams are allowed to build as many *Robots* as they would like, but only TWO (2) may be used on the field during a *Match*. They may only bring two (2) *Robots* from the pit to the playing field for any *Match*.
 - All *Robots* must pass inspection before they are allowed to compete.
2. Qualification matches will be conducted like normal, in the 1 v 1 format described above.
3. An elimination tournament will be conducted similar to the Middle School & High School tournament. At the end of the competition, ONE team will emerge as the event champion.
4. The *Autonomous Period* at the beginning of every *Match* will be lengthened to 60-seconds.
5. The *Driver Control Period* will be shortened to 80-seconds and will still immediately follow the *Autonomous Period*.

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6. The *Gates* are closed for the duration of the *Match*. The *Isolation Zone* is truly isolated!
7. There are a total of ten (10) *Goals*, all located within the two *Isolation Zones*. Six (6) of these *Goals* are 30" high, while four (4) are 20" high.
8. There are thirty-eight (38) *Barrels* and thirty (30) *Balls* available as *Scoring Objects* in each *Match*. These *Scoring Objects* are distributed as shown in the following diagrams.
9. *Doubler Barrels* and *Negation Barrels* may only be introduced in the *Interaction Zone*.





Note: This appendix only details changes and additions specific to the College Challenge. Please make sure you refer to the VEX Gateway Game manual for full game rules and descriptions.

Game, Robot, and Tournament Rules cont.

Robot Rule Modifications:

1. Teams are allowed to fabricate their own unique VEX parts from the following additional items, for each of their robots:
 - a. One (1) piece of plastic block 6" x 6" x 1"
 - i. Examples of "plastic block" are PVC, Delrin, and ABS
 - b. One (1) sheet of Polycarbonate (also known by trade-names such as Lexan) no larger than 12" x 24" and no thicker than 1/16".
 - c. One (1) sheet of Steel OR Aluminum no larger than 12" x 12" and no thicker than 1/16".

Note: these are not measured by "volume". Teams are restricted as though the components they are constructing were made from the raw materials listed.

2. Each Robot is allowed to utilize up to one (1) VEX-EDR CORTEX Microcontroller
 - a. No other types of VEX Microcontroller are permitted

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3. Each Robot is permitted to use up to twelve (12) VEX EDR motors or VEX Servos (Any combination, up to twelve)
 - a. Of these twelve (12) allowed motors, teams may use a maximum of four (4) "2-Wire Motor 393"
4. Each Robot must use one (1) VEXnet module.
5. Each Robot is still only allowed up to two (2) operators and one (1) coach.
 - a. Drivers **MUST** be post-secondary school *students*.
 - i. Any student enrolled in a post-secondary school is eligible to be a driver.
 - ii. There are no restrictions on who can be a Coach in the VRC College Challenge.
 - iii. Professionals not enrolled in post-secondary education are also **NOT** eligible to be a driver. (This is the "College Challenge").
6. There is **NO** restriction on sensors and additional electronics used for sensing and processing except as follows:
 - a. Sensors and Electronics **MUST** be connected to the VEX Microcontroller, and can only be connected via any of the externally accessible ports.
 - b. Sensors and Electronics **CANNOT** directly electrically interface with the VEX Motors.
 - c. The additional Sensors and Electronics may only receive power from any of the following:
 - i. Directly from the VEX Microcontroller via any externally accessible port.
 - ii. From an additional VEX 7.2V Robot Battery or from a VEX 9.6V Transmitter Battery (only one (1) additional battery can be used for sensor power.)
 - d. Additional Motors, Servos and Actuators are **NOT** allowed.

Team Composition

We want to see Colleges and Universities from around the world register for the VRC College Challenge to face off in head-to-head competition. While colleges are not limited to one team and while a team can consist of students from multiple colleges we hope that each team is identified with and proudly represents one (1) post-secondary institution. (i.e. "Clarkson University" vs. "UC Santa Barbara"). Of course, college level club teams and mixed composition teams are also encouraged to participate!

Rule Clarifications

For any rule clarifications or questions please use the official Q&A at <http://www.vexrobotics.com/gateway-qa>