

**Engineering Team**  
**(VEX Competition)**

**Title:** VEX Round Up

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**Location/School:** Pershing High School  
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Detroit International Academy

**Grade Level** 10-12<sup>th</sup> Grade

**Design Team Membership:** Engineering Design Team

**IT/STEM Tools Used:**

VEX Robot and Easy C

**Project Overview:**

For both Team A & Team B, the objective of this project was to provide participating students to have hands-on experience on building and programming robots. Participation in VEX Robotics Round up competition was the primary goal. The students built a robot using a robot kit purchased from VEX robotics. The robot kit contains all the elements that are needed to build a robot. Each team designed a robot that was capable to pick up rings and place it on target. The students decided on the mobility of the robots, designed proper gripper to pick up the rings and programmed the robot so that it can be driven using a joystick. The students assembled the robot and tested and entered the VEX Round Up competition.

VEX Round Up is played on a 12'x12' square field configured as shown below. Two alliances – one “red” and one “blue” – composed of two teams each, compete in matches consisting of a twenty-second autonomous period followed by two minutes of driver-controlled play. The object of the game is to attain a higher score than your opponent alliance by scoring tubes upon goalposts, owning goalposts and by low hanging or high hanging from the ladder. A bonus is awarded to the alliance that has the most total points at the end of the Autonomous Period.

