

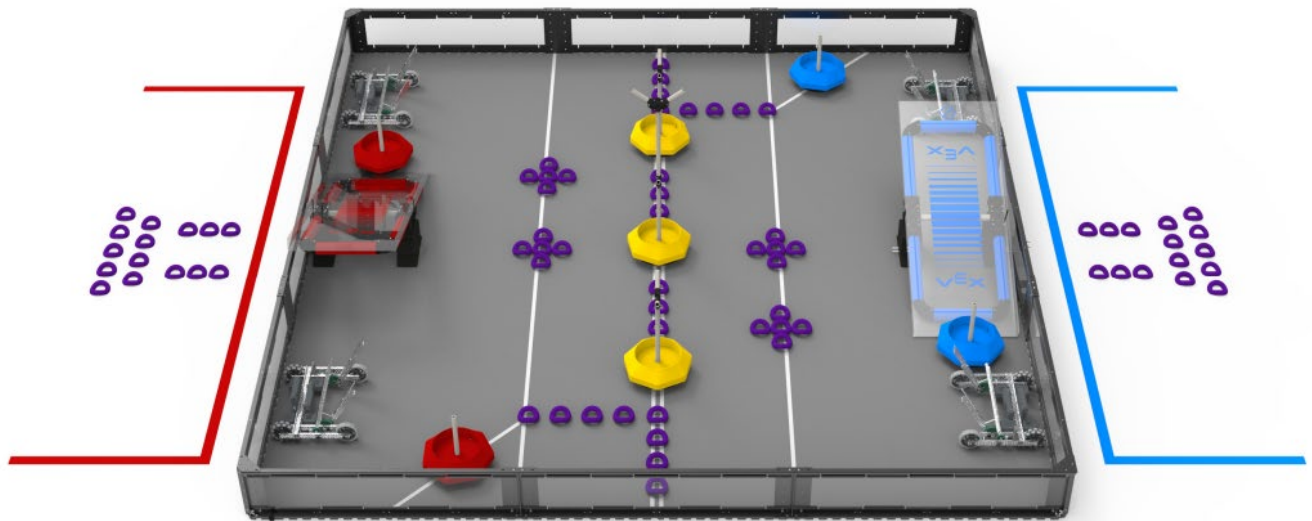
TSA VEX Robotics Competition National Championship at the 2022 National TSA Conference

TSA VEX Robotics Competition (TVRC) – Competition Guidelines

Overview

The VEX Robotics Competition (VRC) is the largest and fastest growing high school and middle school robotics program globally. Each year, an exciting engineering challenge is presented in the form of a game. TSA VEX teams - with guidance from their teachers and mentors - build innovative robots and may compete year-round in a variety of matches, including state competitions and the TSA VEX National Championship event held at the annual national TSA conference.

Challenge



For the 2022 season, the VRC game is '[Tipping Point](#).' Entries must be started and completed during the current school year.

VEX Robotics Competition Tipping Point is played on a 12'x12' (3.65m x 3.65m) square field configured as seen above. Two (2) Alliances – one (1) “red” and one (1) “blue” – composed of two (2) Teams each, compete in matches consisting of a fifteen (15) second Autonomous Period, followed by a one minute and forty-five second (1:45) Driver Controlled Period.

The object of the game is to attain a higher score than the opposing Alliance by Scoring Rings, moving Mobile Goals to Alliance Zones, and by Elevating on Platforms at the end of a Match.



There are seventy-two (72) Rings and seven (7) Mobile Goals on a VRC Tipping Point Field. Each Alliance has two (2) Alliance Mobile Goals, with the remaining three (3) Goals being neutral. Each Alliance also has a Platform located in their Home Zone.

Rings scored on an Alliance Mobile Goal will count for the respective Alliance, regardless of where it ends the Match. However, Rings scored on Neutral Goals will only count for an Alliance if the Mobile Goal ends the Match in their Home Zone!

As the Match draws to a close, Robots will start heading back towards their Alliance Platforms. Alliances can earn additional points for each Robot and Mobile Goal that ends the Match Elevated on a Balanced Alliance Platform.

The Alliance that scores more points in the Autonomous period is awarded with twenty (20) bonus points, added to the final score at the end of the match. Each Alliance also has the opportunity to earn an additional Win Point by scoring at least one Ring on each of their Alliance's Mobile Goals, and "Clearing" their Autonomous Win Point Line. This Bonus can be earned by both Alliances, regardless of who wins the Autonomous Bonus.

Participants design and build a robot using the engineering design process. The robot should be structurally efficient, capable of scoring in both robot and programming modes of operation, and demonstrate offensive and defensive strategies in tournament matches.

Eligibility

- A. All TSA VRC team members must be affiliated with the same TSA chapter for the current school year.
- B. Teams must affiliate with TSA for the current school year.
- C. Teams also must register as a TSA VRC team, via robotevents.com by May 15, 2022 to be eligible to participate in the 2019 TSA VEX National Championship.
Note: Registration on Robot Events is free.
- D. Participants are limited to two (2) teams per chapter, with a minimum of two (2) and a maximum of six (6) participants per team. Both middle school and high school teams may compete in the VRC event; there is no separate VRC division for middle school teams.

Attire

Competition attire, as described in the national TSA dress code (www.tsaweb.org/Dress-Code), is required for the duration of the event. Teams will be subject to a 20-point deduction in their final Excellence Score for any dress code violation.

Procedure

- A. TSA event registration: TSA state advisors approve and submit eligible TVRC teams for the national TSA



VEX Championship event, based on advancement guidelines. Additional teams may be waitlisted by TSA state advisors.

- B. Check-in: Participants check in their robots at the time and place stated in the TSA conference program.
- C. Inspection: Robots are inspected using official VRC inspection sheets. Students are present for the robot inspection. Robots must pass inspection in order to be eligible for competition. Repairs and adjustments may be made by students only, as required, in order for robots to pass inspection. Inspection must be completed within the designated timeframe and before a team competes in any component of the competition. Re-inspection of a robot may be ordered at any time throughout the competition by a referee to verify that a robot meets inspection requirements.
- D. Tournament Play: Follows the rules set forth in the VRC Tipping Point [game manual](#).
- E. Excellence Award: Judges review the team's Robot Skills score and the score of the team's submitted Engineering Notebook to determine the best overall TVRC team. Competition attire and team conduct throughout the event will be factors in the Excellence Award.

Additional Information

To register a VRC Team, visit robotevents.com

To find out more about the VRC game, 'Tipping Point,' visit:

- [Game Manual](#)
- [Game Video](#)
- [Appendix A - Field Specifications](#)
- [Appendix B - Robot Skills Challenge](#)