Creating and Managing a V5RC Competition Team

2026-27 Wisconsin Edition

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Why Competitive VEX Robotics?

- For students that have used the VEX product in their PLTW classes, VEX Competitive Robotics is the logical next step.
- Students will gain the following:
  - Practical follow-up to the concepts taught in PLTW
  - Problem Solving
  - Teamwork
  - Conflict Resolution
  - Communication
  - Strategy and Tactics
  - FUN

How to start a team?

- Put notice out to the school at large that you are considering starting a team, invite all interested to a informational meeting and/or draw from your PLTW classes or gather a group of like minded parents willing to put to gather a private team. Teams can also com from Scouting, 4-H, Churches or other organizations.
- Find nearby schools/teams who are involved and ask them many, many questions.
- Determine where and when your team will meet
- Register your team(s) with the appropriate governing body- $200 for first team
- Register for Events (events will run from $75-$85 per team per event)
- Download and have the coach/mentor and team read and understand the Game Manual for the current season's Game

What does a team consist of?

- An ideal team size is about 4-5 students. More than that and you have will have students with nothing to do.
- Roles to play (a student might play several roles)
  - Programmer(s)
  - Designers/Builders
  - Drivers
  - Engineering Notebook author (may be several)

What will it cost?

- The initial outlay may seem daunting, but remember that the parts bolt together. After the season, you take them apart and you have the parts for the next season.
- VEX Competitive Robotics are run on a continuous improvement model, most teams compete in, at least, 3 events prior to State.

What will it cost?

To get started, one of the following is recommended:

VEX V5 Competition Starter Kit - $1244.99

Or

VEX V5 Super Competition Kit - $2054.99

Additional Parts - highly recommended

- Additional Batteries - At Least one extra per robot
- Additional Motors
- Different Motor Speed Cartridges - under motors

Optional Parts - The Sky and your budget are the limit.

Additional Costs

Competition Registration Fees.

To register a team in the system is approx. $200. Qualifying Competitions have entry fees in the $80 to $90 range per event. If a team qualifies for State, the entry fee is approx. $175. And if miraculously a team should qualify for the World Championships, the entry fee is approximately, $1800. Not to mention transportation, lodging, meals, etc.

What will it cost?

Assemble An Adequate Tool Kit

Other than your VEX robot kit and your team members, it's a great idea (but not mandatory) to have extra wrenches, extra smart cable, batteries, and other spare parts, if your team budget allows for it. A few basic hand tools, like tin snips, a hacksaw and a metal file for sharp edges are good to have handy as well. Always be sure that everyone wears safety glasses while working on the robot and during competition matches.

What is the time commitment?

- For teachers/mentors
  - Depends on your structure
    - Most teams meet one or two times a week
    - Mostly after-school
    - Much variety and flexibility
  - Depends on how many competitions you choose to enter. Most are on Saturdays and will take almost all day.
- For students – see above

As a Teacher/Mentor, what do I need to know?

- How to keep the kids safe and on task
- The rules of the game
  - Rules regarding the robot
  - Rules about the playing of the game
- How to register teams with the governing body and for events
- School policies regarding transportation to events, if applicable
- School policies regarding purchasing of equipment and paying for events if applicable
- What to do at an event – 120 Things to do before 1st VEX Tournament - see link on Coaches Resource Page

What do the Students need to know?

- The rules of the game
- How to develop and maintain an Engineering Notebook
- The Design Process
- Programming the robot
- What to do at an event

What and When are Events?

- There are five types of events
  - League Play (limited to regions with enough team density)
    - Less formal than a weekend tournament
    - Usually held on week nights
  - Qualifying Events
    - Some events are level specific (High School Only, Middle School only)
    - Some events are blended with High School and Middle School competing together)
      - Held on weekends, typically Saturdays - see schedule link below
      - First Event - mid November
      - Last Event before State - Late February
  - Signature Events - Northeast Wisconsin Showdown
    - Typically Limited to a particular level (High School only or Middle School only, for example)
    - Multiple Day Event
    - Higher Cost
    - Usually Consist of Top Teams from around the Country
  - Regional/State Championships - Wisconsin
    - Can be multiple day events
    - Teams MUST qualify from a Qualifying Event within their region or state
  - World Championships
    - The icing on the cake.
    - Teams MUST qualify from their region/state or national championship

  - For Tentative Schedule of Events in Wisconsin

What happens at an event?

- Sample Agenda
- 7:30 AM - Doors Open, Practice Fields Open
- 8:00AM – 10:00AM Judging Interviews (most events)
- 8:00 AM - Concession Stand Opens
- 8:00 AM – 10:00AM Check-In / Inspection
- 10:15 AM – Drivers and Coaches Meeting
- 10:30 AM – Opening Ceremony (optional, not all events will do this)
- 10:45 AM – 2:30PM - Qualification Rounds
- 12:00 PM – 1:00 PM - Lunch (some events will have a scheduled lunch break)
- 10:00AM - 2:00PM - Skills Challenges (times may vary by event)
- 2:45 PM – 3:15 PM Alliance Selection
- 3:15 PM – 3:30 PM Alliance Strategy Meeting
- 3:30 PM – 5:00 PM Alliance Elimination matches
- 5:00 PM – Awards and Closing Ceremony

What are each of the parts of an event?

- Judging Interviews
  - The judges meet with the team to get information for the various judged awards
  - Every Team must be given the opportunity for an initial interview
  - Teams in consideration for a judged award may receive a follow-up interview.

What are each of the parts of an event?

- Inspection
  - Robot must fit into an 18’ by 18’ by 18’ cube
  - Must follow rules for materials used, etc.
  - Programming check
- Qualifying Rounds
  - 6 – 8 Qualifying rounds
  - Randomly paired with another robot
  - Determines seeding for the Elimination Round

What are each of the parts of an event?

- Alliance Selection - Video
  - At the end of Qualifying rounds
  - Teams will be arranged by qualifying order
  - 8 alliances of 2 robots will be selected (most events), more alliances may exist based on the size of the event.
- Elimination Round
  - Single Elimination Tournament
    - #1 seed plays the #8 seed, etc.

What are each of the parts of an event?

- Awards/Closing Ceremony
  - Often minor awards a given out in between rounds of the Elimination Round
  - Major awards announced at end
    - Excellence Award (Judged Award)
    - Tournament Champion Alliance
    - Design Award (Judged Award)
    - Innovate Award (Judged Award)
    - Robot Skills Award
    - Judges Award (Judged Award)
      - There maybe other awards as well depending on event size
      - No Team may win more than one Judged Award at a particular Event

Some Suggestions

- Get your team in Competitions early
  - They will learn a lot
    - Seeing other solutions to the problem
    - The VEX community is very helpful
      - Your teams should wander around the pits when they have time
      - Your teams should ask, ask, ask. Almost all teams are willing to help.
  - Nothing ignites their enthusiasm like competition
  - They can return home and work on a better design for the next competition
- HAVE FUN!!!!!!!!!!!!

Resources

Robotevents.com

Vexrobotics.com

Vexforum.com

Fox Valley Competitive Robotics