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How to Use This Guide

Welcome to the Event Partner (EP) Guide! This document is designed to be used as a resource for learning about the event planning process, the responsibilities of the EP, and best practices for meeting those responsibilities.

This guide is designed to be chronological, beginning with the decision-making that goes into the initial planning of an event, and then moving through the stages of preparing for the competition. Topics that will be discussed include the different types of events that can be hosted through the Robotics Education & Competition (REC) Foundation’s programs, what equipment and volunteers might be needed for the event, and how to best organize all of these responsibilities with other event volunteers to help make the organizing of your event less stressful for each step of the process.

While this guide is meant to be as comprehensive as possible, your Regional Support Manager (RSM) from the REC Foundation can help you with more resources and information specific to your region. There is planning and resource sharing that is performed at the regional level, and your RSM will assist you regarding any resources specific to your region.

Even though EPs are responsible for their own event, you are not in this alone! Your RSM other EPs in your region, and your community are sources of support and assistance. Always keep the end goal in mind: the work you do will provide opportunities for students to learn through competition – opportunities they would not have without your hard work and dedication.

EP Guide Updates

This guide will be updated using feedback from new and existing EPs and REC Foundation Staff. Please send suggestions and feedback to: support@roboticseducation.org

Event Partner Overview

Introduction

EPs are the core of the REC Foundation competition programs and we are very grateful for your interest in becoming an integral part of our community. EP’s passion and involvement grow and sustain events and, in many cases, grow and sustain the teams themselves.

The REC Foundation is a non-profit organization that partners with VEX and EPs to support robotics events and initiatives aimed to inspire and motivate students to excel in STEM education. Each entity in this partnership contributes a vital role in providing fun and positive learning experiences through robotics events.
Event Partner Role

The EP acts as the coordinator of a planning team that organizes VEX IQ Challenge (VIQC), VEX Robotics Competition (VRC) or VEX U tournaments, leagues, scrimmages, and/or workshops. The EP is the leader who acts as the liaison between the REC Foundation and the planning team that runs an event. The key tasks are date and site selection, budget development, volunteer recruiting and management, volunteer training, team communication, event execution, uploading results, and follow-up. The EP must be an adult (18+) not currently on a VEX Robotics team in the VRC program.

As a leader, EPs are expected to exemplify the REC Foundation Code of Conduct in planning and running events. EPs can set an example for all students and mentors to follow.

REC Foundation Support Role

Regional Support Managers (RSMs) are REC Foundation staff that support VEX Robotics Events and VEX teams in a designated region. RSMs work with EPs in their region to plan the event schedule for the season and train new EPs. RSMs for each region can be found on RobotEvents.com/support. Some regions also have an Event Support Specialists (ESS) that are REC Foundation staff that provide event day support under the guidance of the RSM.

As an EP, you can expect the following support from the REC Foundation and your RSM in the robotics event planning and hosting process:

- Provide training and event planning resources.
- Provide documentation necessary to run events. These include but are not limited to the Game Manuals, Referee Guide, Judge Guide, EP Guide and Qualifying Criteria. Documents can be found at RoboticsEducation.org
- Communicate the process for becoming an EP and enabling your Robot Events account with the EP Role.
- Review and approve events posted on RobotEvents.com.
- Communicate the qualification criteria for events and how this process applies to your event.
- Provide regular check-ins with EPs prior to the event to ensure readiness, and follow-up with the EP after the event to verify uploaded results and acquire feedback.
- In certain cases, provide in-person event day support (RSM or ESS). If in-person support is not available, your RSM will be available by phone.
- Assistance with event management on RobotEvents.com prior to and following the event day.
Becoming an Event Partner

If you are interested in becoming an EP, please complete these steps:

- **Contact your Regional Support Manager (RSM).** Your RSM will explain the requirements, show resources available to you, and connect you to the community of other EPs.

- **Request EP account permissions on RobotEvents.com.** Create an account on RobotEvents.com (if you don’t already have one) and provide your RSM with your User ID. This allows your RSM to update your account status to “Event Partner” so you can create and manage events as well as get you future EP communications and offerings.

- **Complete the REC Foundation EP Certification (available Fall 2020).** The EP Certification is an online training tool to prepare EPs for hosting VIQC, VRC and VEX U events. The certification is accessible as a reference resource for new and experienced EPs.

- **Post your event on RobotEvents.com.** Work with your RSM to post your event on RobotEvents.com. More information on how to post an event is covered later in this guide.

- **Complete a background check in RobotEvents.com.** The REC Foundation’s top priority is the safety of its volunteers, staff, students, and entire community. In the best interest of our students, and for the safety of everyone participating in REC Foundation events, all EPs in the United States are required to undergo a criminal background check that complies with the Fair Credit Reporting Act (FCRA). Background checks are completed as part of posting your event in RobotEvents.com and are valid for three years. Your RSM will share more information about the background check process.

- **Gain EP experience.** It is highly recommended that EPs attend and volunteer at an event to learn more about the event planning and execution process prior to managing their own event. Your RSM can suggest events in your area to attend and connect you with an experienced EP.
Initial Factors to Consider in hosting an event

Your event starts with the decision to host an event. When making this decision there are many factors to consider that include but are not limited to the following:

Is there a need for an event?

This should start with a discussion with the Regional Support Manager (RSM) for the event region. They can recommend what types of events are needed and when it may be best to host the event to provide the best opportunities for teams.

Do you have resources from additional persons associated with your program?

You cannot do this alone! Hosting events requires volunteer support during the event planning process and on the day of the event. Consider finding volunteer and funding resources from your organization, community, and team parents.

Do you have access to the equipment to support an event?

A detailed list of equipment is reviewed in a later section and your RSM will review the equipment needs with you. One the first tasks undertaken in the planning process is to ensure your organization will have access to the needed equipment since it may determine your event capacity, venue and budget.

Do you have an available venue?

Events can be held in a variety of venue types, but the most common is a school gym or common area. Since many venues are used by multiple organizations, it's recommended that the venue is reserved prior to posting your event on RobotEvents.com.

It is highly recommended to reserve the venue the day or night before the event for setup. Ensure the venue is available for at least 4 – 6 hours the day before the event for setup and equipment checks.

Do you have the time to engage in this project?

Events are a great way to support your organization’s robotics program and provide a fun opportunity for students, but they do take several months of planning. Please ensure your organization has the resources and time to adequately plan for the event. This will make the experience easier for your event staff and provide a quality experience for teams.
Event Planning

The key to a successful event is the preparation leading up to the event day. You want to make sure that you schedule your event as far in advance as possible. During an event, the EP should not have any specifically assigned volunteer role. The EP’s job is to make decisions and solve issues that arise, and this will be a full-time role. You want to make sure you spend the weeks leading up to the event getting as much done as possible so that the event planning process is less overwhelming, and you can address any issues ahead of time. Even the most experienced EP will run into unforeseen circumstances on the day of the event, so having as much planned out in advance makes it easier to adapt to the unexpected.

Event Planning Resources

As an EP, you will utilize two REC Foundation websites and the VEX Tournament Manager Software:

- RoboticsEducation.org is where you can find program information, EP resources, current game manuals, and volunteer training resources.
- RobotEvents.com is where you can register teams, find and register for events, and create and manage your event.
- VEX Tournament Manager Software can be found at: https://vextm.dwabtech.com/

Event Planning Checklist

The Event Planning Checklist is a vital resource to assist in your event preparation. This checklist includes information related to VIQC, VRC and VEX U events, so all tasks may not apply to your event. It’s highly recommended to complete the tasks for your event program type in the suggested timeline. This will help spread out the tasks so that event planning is not overwhelming and ensure everything is ready for your event.

Event Planning Checklist: http://www.roboticseducation.org/eventplanningchecklist
REC Foundation Robotics Events

This section will review the various event types, outline the activities that occur in a competition, provide example competition agendas demonstrating the flow of activities for a one-day tournament or multi-day league, and include a brief overview of leagues. Your Regional Support Manager (RSM) will assist you in selecting the appropriate program, event type and event schedule.

Event Options are Varied

There are many ways to implement an event and the best resource is your RSM to assist with matching the event with your available venue and resources. The event types and layouts shared in this certification are models for best practices, but you will notice that no two events look exactly the same. The REC Foundation prioritizes a consistent experience aligned with the Game Manual and Judging process, but you will find that implementing robotics events can be tailored to your available resources to promote sustainability and a positive experience for students, volunteers, and EPs.

Events

REC Foundation robotics events are held locally, regionally, and nationally throughout the year in cities around the world, culminating in the world's largest robotics competition at the VEX Robotics World Championship. The events described in this unit include three of the REC Foundation programs:

- **VEX IQ Challenge (VIQC)**: Elementary School/Middle School
- **VEX Robotics Competition (VRC)**: Middle School/High School
- **VEX U**: College/University

Workshops

Workshops provide in-person or online opportunities for those in the robotics community to gain skills, promote STEM, and inspire students. Workshops can be customized as desired by the EP and held throughout the year. Examples of Workshops include camps, virtual or in-person training, and Girl Powered activities. Some workshops are designed specifically for EPs or volunteers, while others may be for student participants.

Scrimmages

Scrimmages are non-qualifying events (tournaments or leagues) that give teams an additional opportunity to test their robot designs. Scrimmage results do not upload to RobotEvents.com and are not listed on the VEX Via app. This means that any judged awards given out or Robot Skills scores earned cannot count towards any State/Regional or World Championship qualification. Scrimmages can follow the same format as a Tournament or League, or they can be customized as desired to meet the needs of the community.
**Tournaments**

Tournaments are the most common event type. Tournaments are typically one day events that feature Qualification Matches and Robot Skills Matches followed by Finals (VIQC) or Elimination Matches (VRC/VEX U). In most cases, judged awards are offered, and judging runs concurrently with the event. Tournaments without judged awards are allowed and may be easier for new EPs or for EPs that want to offer an additional event with fewer volunteers.

**Leagues**

Leagues provide multiple opportunities for a group of teams to compete. Leagues are events with three (3) or more Ranking Sessions plus a League Finals Session. Ranking Sessions include Qualification Matches and may offer Robot Skills Matches. Ranking Sessions are usually only a few hours long and are scheduled several weeks apart to give teams an opportunity to improve their robot designs and game strategies. The League Finals Session usually includes Robot Skills Matches followed by Finals (VIQC) or Elimination Matches (VRC). Judging is optional and is usually conducted at the League Finals Session.

Detailed information about how to host and run a league are included in the [League section](#) later in this guide.

**Signature Events**

Signature Events provide students with an opportunity to experience a world-class event with teams from outside of their normal event region. These events have stricter requirements than regular tournaments to give teams a mini-VEX Robotics World Championship like experience. Signature Events can be qualifying events and may qualify teams directly to the World Championship Event. Signature Events are approved through a different process from other types of events.

For the list of Signature Event requirements and application instructions, please see the [Signature Events section](#) later in this guide.

**Championship Events**

The term Championship refers to the event region’s championship event unless specifically describing the VEX Robotics World Championship which will include teams from all event regions.

Championship events include:

- Event Region’s Championship
  - State Championships
  - Designated Regional Championships
  - Provincial Championships
  - National Championships
- VEX Robotics World Championship
Most of the Championship events require qualification for teams to attend per the VIQC, VRC, or VEX U Qualification Criteria. Your Regional Support Manager will provide more information about hosting Championship events in your region.

**2020-2021 Season – Skills Only Events**

The REC Foundation is allowing Skills Only Events for the 2020-2021 competition season due to better accommodate varying health and safety circumstances. EPs should refer to the following website and documents, in addition to consulting with their RSM to learn more about alternate event formats and procedures:

- REC Foundation COVID-19 Updates
- Season Restart Guide
- VIQC Rise Above Game Manual
- VRC Change Up Appendix B
- Judge Addendum

**Event Activities**

A typical event is made up of several different activities that may overlap during the day. These activities include:

- Team Check-in
- Robot Inspection
- Event Meeting
- Qualifying Matches, Judging, and Robot Skills Matches
- Alliance Selection (VRC)
- Finals Matches (VIQC) or Elimination Matches (VRC/VEX U)
- Awards Ceremony

**Team Check-in**

A designated area where coaches will indicate their team(s) have arrived with the Check-In Volunteer(s). The coach will receive any pertinent information that may include inspection sheet, agenda, and pit map. All team participants should have completed the Participant Release Form online prior to the event. More information on how to verify completed Participant Release Forms will be covered in a later section.

- Participant Release Form (English): www.roboticseducation.org/consentform
- Participant Release Form (Spanish): www.roboticseducation.org/consentformspanish
Robot Inspection
When a team arrives at a tournament, their robot must be inspected to ensure it is in compliance with regulations related to size, parts (proper amount and usage of parts, no sharp edges, no modifications, etc.), and field control guidelines (correct version of the software and competition template loaded). What is legal or not is defined within the Game Manual and summarized on the Inspection Checklist. Inspections usually take about 30 minutes for small events and over an hour for larger events, depending on the number of inspection stations you have set up.

- VIQC Inspection Checklist
- VRC Inspection Checklist
- VEX U Inspection Checklist

Helpful Hint: Assign your referees, scorekeepers, and/or judges to this position. This is a quick and easy position that will be over by the time qualification matches are started.

Event Meeting
An event meeting is typically run by a Head Referee and/or the EP. All participants including students, coaches and other adults associated with the team are expected to attend. In this meeting, safety, rules, and behavioral expectations will be reviewed. Event-specific information, like where to line up and/or any adjustments to the schedule, are also provided.

- VIQC Event Meeting Announcements
- VRC/VEX U Event Meeting Announcements
Helpful Hints:

- Have everyone meet in the main competition area and shut down practice areas and other activities that might distract from the focus of the meeting.
- Take that time to thank your volunteers/sponsors, review expectations of the day and the schedule, introduce key volunteers, and go over the REC Foundation Code of Conduct.

Judging

In the VEX Robotics Competition, teams of students showcase their knowledge and skill in designing, building and programming a robot. Students demonstrate their knowledge of the engineering design process by documenting their design process in an Engineering Notebook. Student drive teams exhibit their driving skill and game strategy during match play and skills challenges. All these activities are to be completed by the students with minimal adult assistance. Students must make the decisions, complete the work, and demonstrate their learning and knowledge for their team to qualify for judged awards.

Helpful Hint: Schedule enough judges to split up in groups to do the pit interviews. This makes the process more efficient (judging teams will work in parallel to interview all teams) and less overwhelming for your new judges.

Matches

Teams compete in matches during an event to showcase their abilities and robot designs. The types of matches are described in detail below.

Practice Matches

Practice Matches can be scheduled for practice that do not count towards a team’s rankings. Teams will be randomly paired and placed into matches in a similar manner as Teamwork or Qualifying matches. These matches are optional for an EP to run or, as an alternative, some EPs may choose to provide teams with unscheduled time for practice early in the day on competitions fields, and/or provide a dedicated practice field during the day.

Robot Skills Matches

There are two types of Robot Skills Matches:

- **Driving Skills Match**: A Driving Skills Match consists of a sixty (60) second Driver Controlled Period. There is no Autonomous Period.
- **Programming Skills Match**: A Programming Skills Match consists of a sixty (60) second Autonomous Period. There is no Driver Controlled Period.
Most events have dedicated fields set up for teams to complete Skills Challenge matches on a first-come, first-served basis. No team can run more than three attempts of each type of Robot Skills Match during each tournament or league session they attend. The Game Manual includes information on how a team’s Robot Skills scores are calculated and how teams are ranked at an event and on the Global World Skills list.

**VIQC Teamwork Challenge Matches & Alliances**

- **Qualification Matches:** Teams are randomly paired in an alliance for a set number of matches. Each Qualification Match is 60 seconds long and consists of two teams, operating as an alliance to score points.
- **Finals Match Alliances:** At the conclusion of the Qualification Matches, teams will be ranked based on Qualification Match performance and automatically paired in alliances. The top teams will then participate in the Finals Matches to determine the Teamwork Challenge Champions. Details of how teams are paired for their Finals Match Alliances are found in the Tournament section of the VIQC Game Manual.
- **Finals Matches:** The number of teams participating in the Finals Matches is found in the Tournament Section of the Game Manual. Each alliance will play one match, and the alliance highest score will be declared the Tournament Champions. In the event of a tie, information on the tiebreaking process can be found in the VIQC Game Manual.

**VRC Matches & Alliances**

- **Qualification Matches:** Teams are randomly paired into alliances for each of a set number of matches. Qualifying Matches have two teams as the Red Alliance and two teams as the Blue Alliance and the alliance to outscore the other is the winner of that match. Matches run for two minutes starting with an Autonomous period followed by a Driver Controlled period.
- **Alliance Selection:** After the Qualifying Matches, the top-scoring teams can choose their alliance partners for the Elimination Matches. Details of the Alliance Selection process is found in the Tournament Section of the VRC Game Manual.
- **Elimination Matches:** The Elimination Matches determine the Tournament Champions with both teams receiving that honor. Red Alliances and Blue Alliances face off against each other in a “ladder” format; the winning alliance moves on to the next round until one alliance has won over all opponents. More information about Elimination matches can be found in the Tournament section of the VRC Game Manual.

**VEX U Matches & Alliances**

VEX U closely follows the VRC format, however because each team builds and competes with two robots simultaneously, there is no random partnering for Qualification matches (opponent teams are randomized), and there is no Alliance Selection for the Elimination Matches. The Elimination Match brackets are automatically determined by qualification ranking.
Award Ceremony

Events conclude with distributing awards to teams in the main competition area. Teams can earn Judged Awards and Performance Awards at most events.

Work with your RSM to determine what awards can be offered at your event. The awards and their qualification status can be viewed by event participants in your posted event at RobotEvents.com under the awards tab.

Helpful Hint: Review the awards set up in your event on RobotEvents.com a couple weeks before your event to ensure they are correct and to share with your judging team as they prepare.

Hosting a VEX U Event

The REC Foundation’s VEX U program is for students engaged in post-secondary robotic programs. Many of these students have formerly competed in the VIQC and VRC programs, and are a wealth of knowledge for EPs as well as teams. These students can serve as mentors, volunteers and future EPs. You may want to solicit help from local VEX U teams for your VRC or IQ event.

VEX U tournaments are typically held in areas that contain a higher density of VEX U teams. Your RSM can help you determine if a VEX U Event is appropriate for your region. VEX U tournaments are typically smaller than VRC events and are held using the same fields and game elements. VEX U EPs should follow the general guidelines for hosting a VRC event, however there are some rule changes specific to VEX U.

Additionally, if there are not have enough teams to host a VEX U tournament you can choose to allow the VEX U team(s) to run Robot Skills at your VRC event. The VEX U Robot Skills scores are recorded separately from the VRC event and submitted to your RSM after the event has concluded. VEX U teams often will volunteer at area VRC events as well.

Recording VEX U Skills Scores at VRC Events

If the VEX U team will be running Robot Skills matches during a VRC event, the EP needs to ensure the following steps are completed:

1. **Inspection Sheets:** VEX U Inspection sheet(s) will need to be signed by the Inspector and the EP will submit the VEX U Inspection sheet(s) to their RSM after the event.

2. **Robot Skills Scoresheets:** Robot Skills match scores need to be recorded on a paper score sheet and signed by the Scorekeeper Referee assigned to the Robot Skills field. The Scorekeeper Referee should not be a VEX U team member for these Robot Skills matches. All the Robot Skills score sheets for the VEX U team(s) need to be submitted by the EP to their RSM after the event.
VEX U teams typically run their Robot Skills matches prior to the start of the VRC tournament so that the VEX U students will be available to volunteer during the VRC event. It is up to the EP’s discretion if they will allow additional Robot Skills matches for VEX U teams at other times during the VRC event.

**Helpful Hints:**
- Don’t forget to email the signed inspection sheet and score sheet for VEX U teams that run Robot Skills at VRC events.
- If they volunteer, feed them well.
- Send a follow-up email to their advisor in appreciation of their support of the program

**Sample Event Agendas**

Most events are conducted in one day, and developing an agenda is an important task to ensure there is adequate time for all the activities and to communicate to teams what to expect. The time allotted for each activity depends upon the number of registered teams, venue layout, and the game reset time. New EPs can review agendas from past events on RobotEvents.com to see examples and discuss their final agenda with their RSM. The agenda will be included when the event is posted on RobotEvents.com and can be updated as needed prior to the event.

The examples provided below show the flow of activities for a typical one-day event or multi-day league. EPs usually also include a lunch break for volunteers and team’s midway through the event, or otherwise have a system for giving their volunteers some time to take a break and eat.

**VIQC One-Day Tournament Agendas**

<table>
<thead>
<tr>
<th>Sample Agenda 1</th>
<th>Sample Agenda 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am</td>
<td>Check-in</td>
</tr>
<tr>
<td>9:30am</td>
<td>Event Meeting</td>
</tr>
<tr>
<td>10:00am</td>
<td>Qualification Matches</td>
</tr>
<tr>
<td>2:00pm</td>
<td>Finals Matches</td>
</tr>
<tr>
<td>3:00pm</td>
<td></td>
</tr>
<tr>
<td>8:00am</td>
<td>Check-in</td>
</tr>
<tr>
<td>10:45am</td>
<td>Event Meeting</td>
</tr>
<tr>
<td>11:00am</td>
<td>Qualification Matches</td>
</tr>
<tr>
<td>2:00pm</td>
<td>Finals Matches</td>
</tr>
</tbody>
</table>
**Helpful Hint:** The competition fields can be used as Robot Skills fields in the morning as shown in Sample Agenda 2. This gives teams more time to pass inspection and reduces the number of fields needed at an event. For larger events, it’s recommended to have a separate Robot Skills field open throughout the day to ensure teams have adequate time to do multiple Robot Skills attempts.

### VRC/VEX U One-Day Tournament Agendas

#### Sample Agenda 1

- **8:00am**
  - Check-in
  - Robot Inspections

- **9:30am**
  - Event Meeting

- **10:00am**
  - Qualification Matches
  - Judging
  - Robot Skills

- **3:00pm**
  - Alliance Selection

- **3:30pm**
  - Elimination Matches

- **5:00pm**
  - Awards

#### Sample Agenda 2

- **8:00am**
  - Check-in
  - Robot Skills
  - Robot Inspections

- **10:45am**
  - Event Meeting

- **11:00am**
  - Qualification Matches
  - Judging

- **3:00pm**
  - Alliance Selection

- **3:30pm**
  - Elimination Matches

- **5:00pm**
  - Awards

**Helpful Hint:** For smaller events, a single VRC field can be utilized for Robot Skills in the morning and Qualification matches later as shown in Sample Agenda 2. For medium and large events, it’s recommended to have a separate Robot Skills field open throughout the day to ensure teams have adequate time to do multiple Robot Skills attempts.
VIQC and VRC League Agendas
Leagues are a type of event that are different from Tournaments. A league consists of three or more Ranking Sessions, typically spaced out over several months, culminating with a League Finals session which includes Awards and Finals (VIQC) or Elimination (VRC/VEX U) Matches. A league session can occur in 2 – 3 hours using minimal resources to make it easier to host in smaller venues and after school hours on weekdays. Some leagues may take place at one location repeatedly, while others may host league sessions in multiple locations.

Event Venue Selection & Planning
There are many ways to implement an event and the best resource is your RSM to assist with matching the event with your available venue and resources. The event types and layouts shared in this guide are models for best practices, but no two events look exactly the same. The REC Foundation prioritizes a consistent experience aligned with the Game Manual and Judging process, but you will find that implementing robotic events can be tailored to your available resources and event space in order to promote sustainability and a positive experience for EPs, volunteers, and students.

HELPFUL HINT: When selecting a date for your event, consider holidays, test days and other major events that may impact venue and team availability.
Venue Types

Successful events can be coordinated without using a lot of space and resources. There are many venue options to consider when hosting an event, and your RSM can assist you with matching the event with your available resources. Competitions have been successfully run in schools, community centers, gymnasiums, conference centers, and other spaces.

Helpful Hints:

- Plan out how students will get their robots to a queuing area, to a playing field, and then back to their pit area. Many events will have queuing stations and one-way traffic to prevent congestion. Identify any bottlenecks in your layout and plan accordingly.
- You should have access to your event space ahead of time for setup. For Tournaments, it is recommended that you set up the night before and test all the electronics needed to run the event (i.e. VRC/VEX U fields, displays, sound system, and mobile scoring.) Optimally all you should need to do the morning of the event is power on systems.
- Create a to-scale a map of the venue – this is not only useful for event planning, but teams and judges would benefit from having a labeled pit map with venue landmarks noted – particularly if you event is spanning multiple rooms.

Venues for Tournaments

Tournaments are commonly held in school gyms because they have large open spaces for the competition fields, pit areas, audience seating, and other event equipment. Larger common areas, like a community center or school cafeteria can be an equally viable venue option. Larger events may choose to use a cafeteria for the pit area, since tables are usually already set up, and use another space such as a gym for their competition fields and audience. The venue selection will factor into how many teams can attend the event and thus the resources (equipment and volunteers) you will need to recruit.

Venues for Leagues

League sessions are intended to be easier to set up since there are usually fewer teams in attendance at each ranking session, and teams generally run a smaller number of matches per session. League sessions can be run in a classroom with only 1 – 2 fields and an Audience Display. Team Pit areas can be on desks and the audience viewing area can be seats set up near the field. Larger leagues that include Robot Skills matches at each league session may need to be held in a common area or gym.

VIQC Event Layout Options

The example VIQC Event layout demonstrates a larger event and can be scaled to meet your event needs and resources. Other event activities that may require additional
space include a concessions area, charging stations and private area for Judges to convene.

**Example VIQC Event Layout**

![Example VIQC Event Layout Diagram]

**VRC & VEX U Event Layout Options**

The example VRC Event layout demonstrates a larger event and can be scaled to meet your event needs and resources. Other event activities that may require additional space include a concessions area, charging stations and private area for Judges to convene.
Event Equipment Suggestions

The equipment and resources needed to host an event are varied depending upon the event size and number of teams. Consult with your RSM for assistance with developing a detailed list of equipment needed for your event.

Fields

<table>
<thead>
<tr>
<th>VIQC</th>
<th>VRC/VEX U</th>
</tr>
</thead>
<tbody>
<tr>
<td>6’x8’ Game Field(s):</td>
<td>12’x12’ Game Field(s):</td>
</tr>
<tr>
<td>• (2 – 3) Competition fields are ideal for most event sizes.</td>
<td>• (2) Competition fields are ideal for most event sizes.</td>
</tr>
<tr>
<td>• (1 – 2) Robot Skills fields. Only needed if a separate Robot Skills area is used.</td>
<td>• (1) Robot Skills field. Only needed if a separate Robot Skills area is used.</td>
</tr>
<tr>
<td>• (1 – 3) Practice fields</td>
<td>• (1) Practice field.</td>
</tr>
</tbody>
</table>
Helpful Hints:
- League sessions can be held with only (1 – 2) VIQC Fields or (1) VRC Field.
- Borrow fields from nearby organizations and teams attending the event.
- Fields can be reused every year. Only the game kits need to be replaced each season.
- Check with your RSM to see if there is an equipment trailer available to rent.

Team Pit Area
The team pits are a designated area for coaches and teams. Each team pit area will have a table and either access to an outlet or a charging area. This pit area will be where teams work on their robot, wait for matches or be interviewed by the judges. Pit tables should be clearly marked with the team’s designated team number using signs printed from Tournament Manager (under Reports).

Helpful Hints:
- If you are low on outlets it is helpful to have a designated charging area for teams to utilize. You should also have a pit display to make it quick and easy for teams to know what qualification matches are being played or queuing up.
- If teams will need to share pit tables, they should accommodate space for teams to work on their robots and provide some seating for team members.

Safety

Electrical Cords
Electrical cords connecting event equipment should be secured to the floor to reduce tripping hazards throughout the venue during the event setup process. Cords can be secured using cord covers or non-residue tape like Gaffers Tape or Wrestling Mat Tape.

Walkways
Walkways should be designed for safe movement between event areas. Consider the flow of the event participants throughout the day, including teams that may be transporting robots. The venue should be ADA compliant (inside the U.S.) or follow local inclusion laws to allow access for all (outside the U.S.). Some venues may require approval from the Fire Marshal to ensure the walkways are appropriate for the venue size and capacity.

Event Budget
A well-planned budget should be the foundation of your event planning. Events within a region tend to share similar prices, but each individual event registration fee should reflect the expenses for the specific event. A budget will maintain and track the financial
health of the event and can help serve as a checklist of tasks that need to be delegated to others.

The goal of your budget should be to cover all the anticipated expenses of your event, including some income set aside for any unanticipated expenses. Extra income earned can go to support your robotics program or future events.

An event budget can be divided into several categories for the ease of delegation and tracking. Many EPs will start with the formation of a planning team. This team may be other staff at the organization or key volunteers willing to take on organization roles to better coordinate the different aspects of the event.

An example of a category that should be delegated is the organization of an event concession stand. Concession stands are often the largest source of income to support the event and involve several material and personnel matters that need to be organized in order to be successful. As such, it is recommended that this project be delegated to someone that has experience such as a parent group or school club that can take care of all of the details while keeping the EP informed.
Event Budget Expenses

Venue-specific Items
- Are there rental or facility fees?
- Are there custodial or security services required?
- Are there costs required for event insurance?
- Will this location require floor protections or coverings and is there a cost?
- Does the location have appropriate tables and chairs, or will they need to be rented?
- All events must be ADA Compliant or follow local inclusion laws. Will the event require additional costs to meet this specification?

Game-related Equipment
- Does the organization have access to needed game equipment such as fields and elements?
- Costs of any needed electronics? This includes computers, tablets, projectors, routers, cables, monitors and printers, power strips and extension cords, etc.
- Trophies: Make sure you arrange for any trophies you need for your awards. Additional trophies and plates from VEX are optional costs. Trophies can also be fabricated or purchased locally.

Office supplies
- Paper and toner for the printer.
- Clipboards, ink pens, highlighters and general office supplies. Judges, check-in, inspection, and referees could all use pens. Judges and Check-in can use highlighters. Referees and judges may also need clipboards.
- Gaffers or wrestling tape, clear tape, and sign/poster materials.
- Post-it notes, paper, and notebooks for the judging process.

Volunteer Supplies
- Referee shirts
- Volunteer shirts (optional). Many events will provide shirts to their volunteer staff. This helps to identify your volunteers during the event and will be appreciated as a memento of the day. Event Sponsors can be recognized as part of the shirt’s design.
- Food for Volunteers: Feeding your volunteers makes them far more likely to volunteer again.

Concession supplies
- Delegate to an interested volunteer or parent group.
- Running a concession stand gives competitors access to food and drink and is also an opportunity to recapture the cost of volunteer food as well as earn funds to support other aspects of the event.
RobotEvents.com Processing Fee

- Each team outside of your organization that registers for an event will incur a $5 fee to offset the costs of maintaining the RobotEvents.com system.
- Free Scrimmages and Workshops can be exempt from the $5 RobotEvents.com fee.

Event Budget Income

Event Registration Fee

- Coordinate with your RSM to review the typical event fees in your region.
- Event registration fees should cover the event expenses and can provide additional support for your robotics program.

Concessions

- Concession sales can provide a good source of income and be a convenient resource to teams during the event.
- Delegate to a student or parent group.
- Pre-ordering lunches is a great option at the event when food options are limited. Some businesses will give you a discount for ordering in bulk but may need advance notice and some general idea of how many pizzas or sandwiches to make. This ordering can even be done before the event by emailing team advisors.

Sponsors

- Many EPs are reaching out to local businesses like Car dealerships, Credit Unions, sign printers, T-Shirt vendors for support for their events. There is a lot of opportunity for mutually beneficial community engagement.
- Some events may recognize their sponsors through banners and signage, naming fields after their major sponsors, putting logos on volunteer T-shirts, and inviting representatives from their sponsors to give out an award, serve as volunteers, or say a few remarks during opening or closing ceremonies. Recognizing the sources of support in your community will help you to maintain and build upon that support in the future.

Helpful Hints:

- Your RSM can provide an example budget spreadsheet to assist with estimating expenses and income.
- If you are giving out trophies beyond what is contained in your EP Trophy Pack, consider making custom trophies or printing certificates using Tournament Manager (under Reports).
- Create a Parent driven fundraising team to explore additional funding resources.
Posting an Event on RobotEvents.com

EP Access

REC Foundation events are posted on RobotEvents.com to provide a method for teams to register for events and for EPs to manage their events. Posting an event on RobotEvents.com requires you to have an account on RobotEvents.com and your RSM will enable EP access to your account. EP access will authorize a new menu, called “Admin” to appear on the RobotEvents.com home page, which will take you to your EP Dashboard.
Instructions for Posting an Event

There are two resources that provide step-by-step instructions on how to create an event on RobotEvents.com.

- Posting Event Instructions: [www.roboticseducation.org/postingeventsinstructions](http://www.roboticseducation.org/postingeventsinstructions)

Most regions also have a shared, online planning document, which are used to help coordinate the dates and locations of events before they are put into RobotEvents.com. Your RSM can share the planning document with you to reduce event conflicts and ensure there are ample opportunities for teams to compete throughout the season.

Your RSM can also provide you with example events in the region that you can use as a template for your own information as you post your first event.

Event Approval

Contact your RSM and let them know that your event is awaiting approval. The RSM will review the information and let you know if anything needs to be revised or give feedback to improve the event content. The RSM will select which awards will qualify based on the qualification criteria and the region needs.

You will be notified by your RSM when your event is approved, and they will share instructions on any applicable EP discounts to competition products and trophy packs.

Background Check

REC Foundation EPs in the United States must pass a background check to be eligible to host an event. The REC Foundation’s top priority is the safety of its volunteers, staff, students, and entire community. In the best interest of our students, and for the safety of everyone participating in REC Foundation events, all EPs in the United States will be required to undergo a criminal background check that complies with the Fair Credit Reporting Act (FCRA). Background checks will be valid for three years. Your RSM will share more information about the background check process. EPs from outside the U.S. may have different requirements and should check with their RSM.

Commitment to Event Excellence

The intent of the Commitment to Event Excellence (CEE) is to communicate the partnership and expectations between the REC Foundation and EPs with the ultimate goal of providing teams with quality and uniform competition experiences throughout our programs. This agreement is between the REC Foundation, the Regional Support Manager (RSM) who provides support for the event region, and the EP who posts the event on RobotEvents.com.

During the event posting process, there is a required section to review and agree to the CEE before the event can be approved. If you have any questions or concerns about the expectations included in the CEE, please contact your RSM.

The REC Foundation and the RSM who provides support for the event region agree to:
1. Adhere to the REC Foundation Code of Conduct.
2. Train EPs and provide event planning resources for hosting REC Foundation Competitions.
3. Provide documentation necessary to run events on the RoboticsEducation.org website. This includes but is not limited to Game Manuals, Referee Guides, Judge Guide, EP Guide, and Qualifying Criteria.
4. Provide feedback on event configuration and settings before approving the event at RobotEvents.com.
5. Approve events posted on RobotEvents.com when appropriate.
6. Communicate the Qualification Criteria for events as it applies to Championship spots allocation for your event.
7. Assign EP product discounts as available and explain the ordering process.
8. Checks in regularly with EPs prior to the event to ensure readiness, and follow-up with the EP after the event to verify uploaded results and acquire feedback.
9. Provide event support with on-site or on-call RECF staff as determined by the RSM.
10. Assist with Tournament Manager setup and operation as needed.
11. Provide assistance with event management on RobotEvents.com prior to and following the event day.

As an Event Partner for the REC Foundation, I agree to:

1. Adhere to the REC Foundation Code of Conduct.
3. Seek out assistance from the RSM with questions or concerns about event planning or operation.
4. Endeavor to provide adequate staff to ensure a quality experience for all attendees per the Volunteer Guide recommendations.
5. Read and provide copies of the judging materials to judges and to monitor that all processes and procedures of the judging process are meeting the standards as specified in the Judge Guide.
6. Ensure the Head Referee has passed the Head Referee Certification and adheres to the rules and practices in the Game Manual, Official Q&A, and Referee Videos.
7. Endeavor to staff the event with referees and judges who are not affiliated with teams at the event to ensure unbiased decisions.
8. Communicate in advance with the RSM any change of status of the event including size, location, awards, and any other conditions.
9. Adhere to the Early Bird registration process, where applicable, and not attempt to circumvent or avoid the process.
10. Provide an Event venue with the following:
   a. Venue follows all local safety, security, and facility rules and requirements as mandated by the venue.
   b. Any insurance required by the facility is the responsibility of the EP.
   c. Venue is free and open to the public. Parking or other fees must be discussed with the RSM prior to approving the event.
   d. Venue is ADA compliant (inside the U.S.) or follows local inclusion laws to allow access for all (outside the U.S.).
   e. Venue provides adequate spectator seating, team pit areas, competition and practice fields, event electronics, audience and pit displays, and PA or sound system.

**Reviewing Events**

After your event is approved, it is important to periodically review your event to ensure that the information is correct. When your RSM includes the qualification level to your event, some awards may be added to your event. Please verify which awards appear in the Awards section several weeks prior to your event. For example, if you are hosting a blended event (ES/MS or MS/HS) and there are 10 or more teams from each grade level, then a separate Excellence Award will be added for each grade per the Judge Guide. You will need to ensure you have adequate trophies and communicate the awards to your Judging team prior to the event.

Some event information may not be modified by the EP after the event is approved. If you need changes to your event and you no longer have access to the fields, you will need to contact your RSM for assistance.

**Copying an Event**

Once you have created an event on RobotEvent.com, you can copy that event for additional events in the current season or for upcoming seasons.

1. Login to RobotEvent.com and select Admin to get to your EP Dashboard.
2. Select Events and modify the Season and Date Range filters to display the event that will be copied.
3. Select View in the Actions column for your event.
4. Select Copy this Event in Downloads & Links.
5. Select the appropriate Event Type in the dropdown menu.
6. Modify the Event Name and Date, and then update the event content as needed.
Event Management on RobotEvents.com

After your event has been approved, there are several features in RobotEvents.com available to you that will help you communicate to teams, order competition products, view event registration payments, and manage your event’s registered team list.

Detailed instructions with screenshots are included in the EP Certification (available Fall 2020).

EP Dashboard

The EP Dashboard is the central location to manage your posted events, view your EP Discounts, and view your EP checks. The EP Dashboard is accessed through the Admin link in Robot Events.

Finding Your Event

At the top of your EP Dashboard is a list of your posted events. This is a quick and easy way to view the Event name, Event date, Team Registration status, and the number of teams on the Waitlist. In the Actions area, you can select Edit to manage your event or select View to preview your event information.

Events for the current season will be listed on the EP Dashboard until one week after your event date. After that time, you can access past events using the search filters under the Events menu.

EP Discounts

Your RSM will discuss which discounts are available for your program type each season and when they will become available. EP discounts are assigned to the Event Administrator by the Regional Support Manager (RSM) once the event has been approved for the current season. The discounted products listed on the EP Dashboard and can be directly added to your cart. The EP Discount process may be different for those located outside of the U.S. The discounts are shown on the last step of the checkout process. If you do not see the discounts applied, then contact your RSM before completing the final checkout step.

Note: EP Discounts are intended to be used for equipment needed to run your event and should not be shared with other organizations.

EP Checks

When teams pay their event registration fees on RobotEvents.com, the REC Foundation consolidates those funds on a monthly basis and distributes a check to the EP. The check will include funds received in the previous month minus a $5 Robot Event processing fee per team.
Example:

Five team event registration fees were paid in January, and the event registration fee was $55 per team. The EP would be sent one check in February for a total of $250.

Team registration payments: (5) x $55 = $275
Robot Events Processing fee: (5) x $5 = $25

\[\text{Net amount: } 275 - 25 = 250 \]

The distributed checks can be viewed at the bottom of your EP Dashboard. Each distributed check will include the Payee Name, the total check amount, event code(s), event name(s), and the team numbers included on the check for each event.

Helpful Hints:

- If you have a question regarding EP payments, you can contact your RSM or the REC Foundation Accounting department at accounting@roboticseducation.org
- Periodically reconcile the funds sent to you before and after the event with the payment status information the Registered Team list.

Event Partner Q&A

RobotEvents.com has an integrated EP Q&A forum accessed through the EP Dashboard below the search menu. EPs can ask questions on the forum and respond to threads in the post. The questions are also monitored and answered by a REC Foundation representative on a periodic basis and approved answers are marked with a green checkmark. EPs are encouraged to post questions in this forum and connect with other EPs in the community.

Products

EPs can purchase VEX competition products through RobotEvents.com on their EP Dashboard. These products include items such as fields, field electronics, trophies, award and date plates. If the products are associated with an EP Discount for the current season, those products must be purchased through the RobotEvent.com website to receive the discounts (U.S. EPs).

Registered Teams

After your event is open for team registration, the Registered Team list can be viewed to monitor the event capacity and team payment status. There are two methods for accessing the Registered Teams list.

- On your EP Dashboard, select the number of registered teams shown as a blue number of how many registered teams compared to the event capacity.
- In the admin view of your event, select Registered Teams from the right-hand menu.
Team Payment Status

The Payment Status for each registered team can be found under the Paid Status column of the Registered Teams list. Payment Status categories are as follows:

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid yyyy/mm/dd</td>
<td>EP can expect to receive this payment (less the $5 fee) on the next monthly billing cycle.</td>
</tr>
<tr>
<td>Unpaid(pending)</td>
<td>EP needs to remind the team to upload a PO, pay by credit card, or pay the tournament directly.</td>
</tr>
<tr>
<td>PO Processing</td>
<td>In this case, a PO has been submitted, but the payment has not been received by RECF. The EP may need to remind the team to follow up with the Financial Contact to mail the check.</td>
</tr>
<tr>
<td>Marked paid by **** on yyyy/mm/dd</td>
<td>The EP can mark their own teams as paid, as well as teams that pay on site or when they have entered into an agreement by loaning fields, providing volunteers, etc.</td>
</tr>
</tbody>
</table>

Unpaid Teams Outside Your Organization

If you notice teams with an Unpaid(pending) status, it’s recommended to reach out to them to determine when they will be completing the payment process. The event registration fee is due upon registration and should be paid during the initial Check-out process. If you are experiencing issues with a team completing an event registration, please contact your RSM. In some cases, your RSM may suggest payment deadline policies for your region.

Teams that have an Unpaid(pending) status on the event day will only be allowed to participate at the discretion of the EP and the EP can require payment onsite. Some EPs will remove unpaid teams at a certain date and replace them with teams from the Waitlist. This process should be stated in your event General Information tab and included in the automated email sent to teams after registration.

Remember that some teams are a part of schools or other organization which may have a delayed process for executing payments. We ask that EPs use their own judgment and factor in the totality of circumstances when deciding whether to allow unpaid compete. Communicating with teams early and often is the key to making sure that there are no misunderstandings.

Teams from Your Organization

EPs can register their own teams and waive the registration fee since the funds go back to the host organization. When registering teams from their organization, select the Pay Later option in the Check-out process. Then go to the Registered Teams list, and select Mark Paid for the applicable teams. This will zero-out the order invoice for that team. This method can also be used for teams outside of your organization when you agree to waive their event fee if they are providing fields or volunteers.
Manually Adding Teams

Most teams will register through the event page, but in certain scenarios EPs can manually add teams to their event.

<table>
<thead>
<tr>
<th>Appropriate scenarios for manually adding teams</th>
<th>Scenarios that require RSM approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Adding teams from the EP’s organization to their own event</td>
<td></td>
</tr>
<tr>
<td>• Adding a team at the request of the RSM</td>
<td></td>
</tr>
<tr>
<td>• Adding teams for an Invitational Only event or League</td>
<td>• Adding teams over 10% of the event capacity</td>
</tr>
<tr>
<td></td>
<td>• Adding teams that would violate the Early Bird Registration policy</td>
</tr>
</tbody>
</table>

To manually add a team, go your Registered Teams list, and select the green +Add Team Button. When manually adding a team, you will need to enter the team number exactly, including the base number and letter suffix.

Waitlist

Teams can add themselves to an event Waitlist while the event registration period is open on the event’s Waitlist tab. Teams may decide to add themselves to an event Waitlist for several reasons including:

• The event capacity has been reached.
• They are not eligible to register during the Early Bird Registration period.
• They are interested in attending an Invitational Only event or League.
• The event requires qualification.

Teams are not automatically added to the event from the Waitlist for any circumstance. Instead, the EP can invite teams to the event from the Waitlist when appropriate. Inviting teams from the Waitlist is up to the discretion of the EP if no other policies are violated. If you are unsure about which teams to invite from the Waitlist, you can contact your RSM. In general, it is good to prioritize teams that are registered for (2) two or fewer events and then consider the date the team was added to the Waitlist.

The Waitlist can be accessed and managed by the EP from the admin view of the event on the right-side menu.

Helpful Hint: If the event has Early Bird Registration and teams add themselves to the Waitlist during this period, they will not be automatically added to the event once Standard Registration begins. Teams will need to return to the event page and complete the event registration process if the event capacity has not been reached.
Consent/Participant Release Forms

All team participants (players, coaches, and mentors) must complete a Participant Release Form (also known as a Consent Form) online prior to the event. When completed online, the form will be applied automatically to every official REC Foundation event the team registers for during the current season.

- Participant Release Form (English): [www.roboticseducation.org/consentform](http://www.roboticseducation.org/consentform)
- Participant Release Form (Spanish): [www.roboticseducation.org/consentformspanish](http://www.roboticseducation.org/consentformspanish)

Completed participant release forms for team members attending your event can be verified from the admin view of the event in the right-side menu. A downloadable CSV file with a list of completed consent forms is available in this **Consent Forms** event page.

Updating Event Information

At times it is necessary to make changes to your event posting, such as fine-tuning the agenda or adding awards. This is easy to do by simply editing your event. Once your event is approved, you may still make updates and add more details, but be careful to communicate any and all changes with the registered teams and your RSM. After the event is approved and posted, only your RSM can change the following items:

- Capacity increase of more than 10%
- Registration Open, Close and Release dates
- Qualifying awards

Emailing Registered Teams

When a team registers for your event, they will receive the automated email that you created under **Contact Information → Event Registration Email Body**. As it gets closer to the date of your event, it is good practice to email teams with specific details about the event, including a campus map, parking instructions, event schedule, lunch options, and a list of volunteer vacancies you need to fill.
Some common items to communicate include:

- Requests to teams for help providing volunteers or equipment for your event.
- Food Preorders/team information (such as # of people each team expects to bring, which helps estimate how much concession supplies are needed).
- Information for teams such as an agenda and concessions menu.
- Directions to parking areas/any parking regulations or rules.
- Requests to unpaid teams as to the status of their payment.
- Weather related delays or cancellations.
- A friendly reminder about the Code of Conduct and Student-Centered Policy.
- A friendly reminder about your “Doors Open” time & any venue specific policies.

To access the teams’ contact information, choose Registered Teams. Select Show All entries, then click the Download Registration Report as CSV link. The Primary Contact email address is available in the resulting spreadsheet. When emailing teams, use the Blind Carbon Copy (BCC) function in your email application. BCC allows you to send a message to multiple people without revealing the list of contacts to others and protects their privacy. When a contact replies to your email, only you will see that email. This helps to prevent email chains of people “replying to all” instead of selectively communicating.

Teams’ contact information is expected to be used only for necessary communications to teams for your event. This information should not be shared with others or used for any other purpose.
**Event Volunteers**

Event volunteers are the heart and soul of REC Foundation VIQC, VRC and VEX U events. We rely on Referees to keep things fair, Emcees to keep things exciting, and Queuers to keep things on schedule! Volunteering at robotics events can be rewarding and fun. There are a variety of volunteer roles available. Many volunteer positions do not require technical skills or experience, only a desire to support engaging learning opportunities for students. Whatever your potential volunteers are interested in, help them identify the role that best suits them. Support and training materials for your volunteers can be found at [www.roboticseducation.org/volunteers](http://www.roboticseducation.org/volunteers).

One of the hallmarks of a well-run event is that volunteers are comfortable and not overworked. Good planning ensures that all positions are well staffed, volunteers have opportunities to take breaks and receive a meal, and get a token of appreciation such as a shirt – volunteers that have a positive experience at your event are likely to return as volunteers in future years.

As the EP, you are ultimately responsible for recruiting all of the volunteers at your event, but there are a number of tools and strategies available to make this task easier. It’s highly recommended to designate a Volunteer Coordinator for your event to assist with volunteer recruitment, training, and event-day support.

**Volunteer Recruitment**

There are many sources where you can recruit volunteers. You need to get the word out early about your event and share the key message of robotics and STEM programs to find people who feel this truly resonates with them.

Start with those who have a vested interest in the success of your event.

<table>
<thead>
<tr>
<th>Parents (Families)</th>
<th>Teachers</th>
<th>School Administrators</th>
<th>Mentors</th>
<th>Local Teams</th>
</tr>
</thead>
</table>

In addition to your “home-grown” volunteer base, you can create a community of volunteers that will support events throughout the season and for years to come. Volunteers can be from any team or organization and their engagement and support at the event is critical as they often come to your event with prior experience.

- **Partner with Local Schools** – Contact nearby schools and agree to do a “volunteer swap” so they provide volunteers for your event, and you provide volunteers for their event.
- **VEX U Team Members & Alumni** – These are a great resource for volunteers, who will come with valuable experience and knowledge of the game and tournament structure. Many of these college student volunteers welcome the opportunity to give back to the robotics community.
- **Local Businesses and Sponsors** – REC Foundation VIQC, VRC and VEX U events are perfect for a team-building experience for local businesses and sponsors. Reach out to their HR department if you do not know someone in the company.
• **Schools, Colleges, Universities** – Classes, honor societies, sororities and fraternities may have community service requirements for membership, scholarships, or graduation. Give your local Army recruiter or College of Engineering a table in exchange for providing volunteers. Pre-service tech and student teachers are also ideal candidates for volunteering.

• **Community Groups, Organization Chapters, Church Groups** – Many will allow your team to make a presentation at a meeting or post information about your volunteer opportunity in a newsletter or bulletin.

• **Local Maker Community** – TechShop, Local UAW, NSBE, IEEE, SWE, Chamber of Commerce, or Libraries.

• **Online Resources** – Social media applications like LinkedIn, Facebook and Twitter, if you have existing accounts, or participate in groups with followers.

**Helpful Hint:** EPs can request that each team provide 1 or 2 volunteers. A few positions like Judges and Referees require that there is a level of impartiality, so outside non-affiliated volunteers are critical to the integrity of the event. If finding non-affiliated volunteers isn’t possible, endeavor to provide Judges and Referees represent multiple organizations from the event.

**Volunteer Management System**

The REC Foundation now offers EPs access to the Volunteer Management System at RobotEvents.com that we use for the VEX Robotics World Championship. Contact your RSM if you would like additional information about using the REC Foundation Volunteer Management System.

➥ [https://volunteers.robotevents.com/](https://volunteers.robotevents.com/)

There are other ways you can manage volunteers for your event online. Many smaller events do not require such tools; however, as your events grow, you may need some additional help to manage and schedule your volunteers. Most online applications have free basic functionality, with paid upgrade options, such as Google Forms, Google Sheets, SignUp.com, or SignUpGenius.com. Your RSM can assist you with finding the best management tool for your event.

**Volunteer Roles**

The table below includes Key Volunteer roles, which are event staff who will take on leadership roles to ensure that all REC Foundation rules and guidelines are followed, and that teams, spectators, and volunteers have a rewarding experience. These roles should be filled early, and these volunteers will need training prior to the event.
<table>
<thead>
<tr>
<th>Key Volunteers</th>
<th>Role Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event Partner</td>
<td>The EP acts as the liaison between the REC Foundation and the planning team that runs an event. The key tasks are date and site selection, budget development, volunteer recruiting and management, volunteer training, team communication, event execution, uploading results, and follow-up.</td>
</tr>
<tr>
<td>Head Referee</td>
<td>The Head Ref completes the Referee Certification Course and reviews the Referee Training Videos for the current season. He/She ensures the field is properly set up and observes all matches, identifies rule violations and cautions teams to avoid violations, enforces the game manual as written, answers score or rule questions from Drive Team members, ensures matches are running on schedule, and trains Scorekeeper Referees as needed.</td>
</tr>
<tr>
<td>Judge Advisor</td>
<td>The Judge Advisor completes the Judge Certification Course. He/She guides a team of volunteer Judges and is responsible for the judging process at the event. The Judge Advisor must know and understand the role of the Judges. Decisions on all judged team awards are made by the Judges in consultation with the Judge Advisor.</td>
</tr>
<tr>
<td>Tournament Manager Operator</td>
<td>The TM Operator is responsible for using Tournament Manager Software to set up the tournament schedule, initiate matches, record scores, and display match results and awards information at appropriate times. This person, ideally, will also be able to assist with AV equipment, tablets, printers, etc.</td>
</tr>
<tr>
<td>Volunteer Coordinator</td>
<td>The Volunteer Coordinator is responsible for organizing and assigning volunteers to appropriate roles, making sure that all areas are adequately staffed, and keeping volunteers happy (and fed).</td>
</tr>
<tr>
<td>Emcee</td>
<td>The Emcee is responsible for adding enthusiasm and energy, as well as a high level of engagement and understanding, for all event participants. The Emcee provides the play-by-play of the match, engaging the audience with effective color commentary regarding the action on the field, introduces the participating teams and provides informative program knowledge between matches, helping develop interest in the event and maintaining an upbeat atmosphere.</td>
</tr>
</tbody>
</table>

**Helpful Hint:** Before your first event, assemble your team of Key Volunteers and attend a nearby event. Your volunteer team should “job-shadow/assist” a veteran Key Volunteer at that event, before taking on the responsibility of serving in that role.

Other event volunteers are needed, but they require less training and prior knowledge of REC Foundation VIQC, VRC and VEX U events.
<table>
<thead>
<tr>
<th>Volunteer</th>
<th>Role Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judge</td>
<td>Evaluate student teams through interviews, Engineering Notebooks, and on the field performance.</td>
</tr>
<tr>
<td>Inspector</td>
<td>Conduct inspections to verify the robots comply with the rules and specifications outlined in the Game Manual.</td>
</tr>
<tr>
<td>Scorekeeper</td>
<td>Record scores using the TM Mobile app or paper score sheets. Verify recorded scores with the Head Referee as needed and with the student drive team after each match. Discuss possible rule violations with Head Referee after the match. Ensure fields are reset properly and robots are ready for the next match. (Same for Skills)</td>
</tr>
<tr>
<td>Referee</td>
<td></td>
</tr>
<tr>
<td>Field Reset</td>
<td>Accurately reset the competition field after each match. Note: students with high energy and younger children do well in this role.</td>
</tr>
<tr>
<td>Queuing</td>
<td>Assist with staging teams for upcoming matches.</td>
</tr>
<tr>
<td>Volunteer</td>
<td>Welcome volunteers and guests. Verify schedule, hand out materials, direct volunteers to appropriate the location.</td>
</tr>
<tr>
<td>Check-in</td>
<td>Welcome teams as they arrive. Verify teams, hand out materials, collect Engineering Notebooks, and direct attendees to the appropriate location.</td>
</tr>
<tr>
<td>Team Check-in</td>
<td></td>
</tr>
<tr>
<td>Pit Admin</td>
<td>Needed if pit areas are located away from the game fields. Serves in a customer service role to answer schedule and venue questions.</td>
</tr>
<tr>
<td>Practice Field</td>
<td>Oversee practice fields and ensure that all teams have equal access to practice time and use the fields in an orderly fashion.</td>
</tr>
<tr>
<td>Supervisor</td>
<td></td>
</tr>
<tr>
<td>Event Set Up</td>
<td>Assist with setting up the event and breaking it down after. Note: Many hands make light work.</td>
</tr>
<tr>
<td>Tear Down Crew</td>
<td></td>
</tr>
</tbody>
</table>

**Volunteer Staffing**

The EP and the Volunteer Coordinator should start recruiting as early as possible to fulfill these volunteer roles. Post clear information about the volunteer roles needed for your event in the Volunteer Content Block on RobotEvents.com to spark interest. This information will be viewable on the Volunteer tab on the public event page. You can also include a request for volunteers in the automated email that will be sent to teams when they register.
This table serves as a guide for staffing events of varying sizes.

<table>
<thead>
<tr>
<th>Volunteer Role</th>
<th>Small Event (up to 24 teams)</th>
<th>Medium Event (25-60 teams)</th>
<th>Large Event or Multi-Division Events (over 60 teams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division Manager</td>
<td>Optional</td>
<td>Optional</td>
<td>1 per division</td>
</tr>
<tr>
<td>Volunteer Coordinator</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Team Check-In/Info Desk*</td>
<td>1</td>
<td>1-2</td>
<td>2-3</td>
</tr>
<tr>
<td>Volunteer Check-In/Hospitality*</td>
<td>1</td>
<td>1-2</td>
<td>2-3</td>
</tr>
<tr>
<td>Head Judge Advisor</td>
<td>1</td>
<td>1</td>
<td>1 per division</td>
</tr>
<tr>
<td>Judge</td>
<td></td>
<td>2 for every 8 teams</td>
<td></td>
</tr>
<tr>
<td>Inspector*</td>
<td>2-4</td>
<td>4-6</td>
<td>6+</td>
</tr>
<tr>
<td>Head Referee</td>
<td>1</td>
<td>1</td>
<td>1 per division</td>
</tr>
<tr>
<td>Scorekeeper Referee</td>
<td>1 per field (VIQC)/ 2 per field (VRC/VEX U)</td>
<td>1-2 per field</td>
<td>1-2 per division</td>
</tr>
<tr>
<td>Robot Skills Scorekeeper Referee</td>
<td>1 per field</td>
<td>1-2 per field</td>
<td>1-2 per field</td>
</tr>
<tr>
<td>VEX TM Operator</td>
<td>1-2</td>
<td>1-2</td>
<td>1-2 per division</td>
</tr>
<tr>
<td>Queue Crew</td>
<td>minimum 1 per competition field with extra runners</td>
<td>2-4 per field</td>
<td></td>
</tr>
<tr>
<td>Field Reset**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emcee</td>
<td>1</td>
<td>1-2</td>
<td>1-2 per division</td>
</tr>
<tr>
<td>Pit Admin</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Practice Field Official</td>
<td>Optional</td>
<td>1 per 5 practice fields</td>
<td>1 per 5 practice fields</td>
</tr>
<tr>
<td>Set Up and Break Down</td>
<td>3-4 adults and many students</td>
<td>6-8 adults and many students</td>
<td>8+ adults and many students</td>
</tr>
</tbody>
</table>

* Possible dual roles

** Younger students, siblings, or teams on deck
Volunteer Training and Preparation

Providing the proper training for your volunteers is vital to hosting a well-run event. The REC Foundation offers numerous free, online training resources on the Volunteers Downloads website:

➥ https://www.roboticseducation.org/volunteer-downloads/

Select the program (VIQC, VRC or VEX U), and then select the “+” next to the volunteer name to show the training resources and documents. Note that the Volunteer names will appear blue for the VIQC program, red for VRC and black for VEX U.

The EP or Volunteer Coordinator can provide this link to each volunteer, requesting that each volunteer review the document and all posted training materials for their position(s) at least a week prior to your scheduled event.

In addition to assigning a review of the online training resources, an Onsite Orientation and/or Training Call should also be scheduled.

- **Onsite Orientation** is an in-person training session the evening before the event (often referred to as the “Night Before” event) so that volunteers can meet the volunteer team and get onsite training. Many “Night Before” events run practice matches if there is a host team or home team available to help set up. This will help build volunteers’ confidence, making the morning of your event run smoothly. Whether you host training the night before, or provide training onsite the morning of your event, plan to provide volunteers with the training documentation and materials required to successfully perform their roles and enjoy their event experience. This may include printing out hard copies of Volunteer Role Guides, field diagrams for reset, score sheets, etc.

- **Training Calls** held a week prior to your event allows for setting expectations and giving volunteers the opportunity to ask questions. Training calls specifically for the Referee/Scorekeepers and Judge Teams are strongly encouraged. Use a video conferencing application to bring your volunteers together and provide necessary training.
• **Sensitivity Training** – Remind volunteers this is a student event where they are working with children, so do what they can to make the kids feel comfortable – like taking a knee to get down on their level, talking firmly but positively, never touching or grabbing them, and also how to be sensitive to different cultures who may be competing. Volunteers should be instructed to never be alone with a student at an event.

**Volunteer Care and Appreciation**

Volunteers are essential to the success of your event. Here are some simple ways that you can show your appreciation. A happy volunteer who has a great experience will usually return!

- **Food & Drink (Hospitality Room)** – Make water and snacks available throughout the day and provide lunch for those who volunteer for a full event day. It’s highly recommended to stop the entire competition for lunch so that all volunteers can take a break and eat. If you have space, set up a Volunteer Break Room or roped-off area.
- **Recognition & Certificates** – If funding is available, use t-shirts and/or name tags to identify your volunteers as a valuable event resource. Recognize volunteers by providing them with a Community Service Certificate that you can customize with your event name and also record individual volunteer hours. (The Community Service Certificate for volunteers is available on the Volunteer Downloads website.)
- **Tokens of Appreciation** – Even on a small budget, consider giving volunteers (or key volunteers) a small gift certificate, like $5 to Starbucks or a local food joint.
- **Handwritten notes** – The power of a handwritten “Thank You” goes a long way in this day and age!
- **Social Media** – If you are active on social media, consider writing a brief recommendation for a key volunteer on LinkedIn or giving a shout out on Twitter with a photo if they go above and beyond the call of duty. Tag them on Twitter along with @REC_Foundation.
- **Follow Up & Keep in Touch** – Email your volunteers after the event to gauge satisfaction and collect opinions on event success. Also keep in touch with volunteers for future events.
- **Volunteer Appreciation Dinner** - Getting your volunteers together prior to the event can be very helpful and reduce chaos on the morning of the event. Some EPs will also incorporate volunteer training sessions in conjunction with the pre-event celebration.
Judging

The Event Partner Role

Judged awards at events provide a positive opportunity to acknowledge the amazing efforts made by students and volunteers, and provide a method to qualify teams for Championship events. The EP should endeavor to recruit adequate judges from a variety of backgrounds to provide the best experience for the judges and teams.

The EP is responsible for selecting which awards will be given out at their event. Some awards are required for qualifying events, but others are optional to offer. EPs are encouraged to give out more awards than the bare minimum in order to recognize more student achievements. Even if an award is non-qualifying, it validates the work students have done, and is something they can show their school or organization to further recognize the success of their program. Awards can be recognized with certificates as a low-cost option in addition to or in place of trophies. The three categories of awards given at an event are:

- **Judged Awards** – Team awards that are based on criteria included in the Judge Guide and the winners are selected by Judges.
- **Performance Awards** – Team awards that are based on robot performance on the field in match play and skills challenges. Judges do not determine on the field performance awards.
- **Individual Awards** – Awards that recognize the contribution of an adult volunteer or sponsor and are determined by the EP or event planning committee before the event. Judges do not typically determine individual awards.

On the event day, EPs oversee the operation of the entire event and provide support for the Judges and the Judge Advisor. The EP must know and understand the role of the Judges and the Judge Advisor to provide the needed support prior to and during the event. While EPs are responsible to ensure the Judge Guide is adhered to by their judging staff, **EPs may not recommend or assign judged awards to any team** and decisions on all judged team awards are made by the Judges in consultation with the Judge Advisor. EPs may recommend individual, non-team awards such as Volunteer of the Year.

The EP is responsible for ensuring the Awards are entered into Tournament Manager (TM) and uploaded to RobotEvent.com after the event is completed. The EP can coordinate these tasks with the Judge Advisor and the Tournament Manager Operator.

Your RSM can assist on clarifying the judging process prior to the event and on the event day. Do not hesitate to reach out to your RSM in the event planning process to ensure you and your judges have the training and resources needed to be successful. The Event Planning Checklist and the Judge Guide include detailed tasks to prepare for the judging process. Providing a positive experience for your judges will likely result in their return for future events.
Judge Guide & Judge Certification

The Judge Guide is located on the RoboticsEducation.org website and will need to be shared with the Judge Advisor and Judges. This guide reviews the awards and the judging process in more detail and is useful helping you to select which awards to be given at your event. Even though the EP does not participate in the judging process, it is important that you understand the process and can refer to the document if there are questions at your event.

- https://www.roboticseducation.org/judgeguide/

There is also a Judge Certification (available Fall 2020) that is recommended to be completed by you, your Judge Advisor, and Judges.

- https://certifications.vex.com/competition

Prepare the Judges Room

A private room where judges can convene is needed for most events to review engineering notebooks and discuss teams’ performance confidentially. The day before the event the Judge’s room should be prepared with their judging material and supplies.

- Put all of the gathered judging materials in the Judges Room.
- Post the list of awards to be offered in the Judges Room.
- Post the Standard Award Descriptions for the awards that will be offered on a bulletin board, whiteboard, or wall in the Judges room. Allow room for Post-It® notes or scrap paper with notes to be posted below the Standard Award Descriptions.

Event Day Judging Tasks for the EP

After check-in closes and the match schedule has been generated, print the following reports from Tournament Manager and distribute one to each Judge Team and the Judge Advisor:

- Team list
- Match list by team number
- Match list by match number (optional)
- One set of the Awards Ceremony Scripts for the Judge Advisor/Award Presenters. (Judged Awards)

During the event:

- After the qualification matches are completed, print reports in Tournament Manager of the Match Rankings and Robot Skills Rankings and deliver them to the Judge Advisor for consideration during judging deliberations.
- In the (rare) case that no teams meet the minimum requirements for the Design and Excellence Awards, contact your Regional Support Manager. The award configurations will need to be adjusted at RobotEvents.com. The Tournament Manager Operator will also need to uncheck the awards using Tools→Options→Awards.
• The Judge Advisor will complete and turn in the Awards Ceremony scripts with the Award Winners to the EP or Tournament Manager Operator so they can be entered into the program.
• The EP can review the Award winners to verify the Judge Guide has been followed. For example, no more than one team should win a Judged award. If there is a question, the EP should consult the Judge Advisor and review the Judge Guide together. Only the Judge Advisor and Judges should make changes to the Award winners, if needed.

After the last Finals (VIQC) or Eliminations (VRC/VEX U) Match has been scored:
• In TM, At the Awards tab, click Auto Fill Winners to populate the performance awards fields.
• In TM. At the Awards tab, verify the Award Winners for the Judged Awards are populated with the winning teams as entered by the Judge Advisor.
• Print out the Award Ceremony Scripts under Reports in TM and give them to whomever is presenting the awards. The Award Ceremony scripts will now include the team information for each Award Winner.
• Gather the teams in the main area and present the awards.
• Remind the Judge Advisor to take home all judging notes to destroy, unless there is a paper shredder on-site. Judging notes or used rubrics should never be returned to teams or thrown in the trash whole where notes could be retrieved and identified.

Helpful Hints:
• In Tournament Manager (Reports), you can print an award summary sheet as well as award scripts. Have the Judge Advisor check those sheets against their notes in case of a mistake when the team numbers were entered.
• Encourage your Judges to give out the awards! They have worked very hard all day to select the winners, and this is a rewarding experience for them and the students. If you have any event sponsors, they can also be asked to send volunteers as judges and can give out awards – this is a great opportunity to recognize your event sponsors while simultaneously recognizing student achievement!

After the event is completed:
• Coordinate with the Tournament Manager Operator to upload the event results to RobotEvents.com. The award winners should be viewable on the public event page on the Awards tab if the upload was successful.
• Contact your RSM if there are any errors uploading the results.
The Qualification Process

This section will cover the qualification process for REC Foundation competitions and how qualifying spots are added to events.

**Note:** Should anything in this section contradict the Qualifying Criteria documents, those documents shall take precedence. The Qualifying Criteria documents are available at RoboticsEducation.org.

Championship events require teams to qualify before they can register for the event. The Qualification Process provides a structured method for teams to qualify from local events, to championship events, to VEX Robotics World Championship.

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### Event Regions

An *event region* is a defined geographic area that is usually a state, province, country, or territory, and teams and events belong to an event region. In the U.S., most event regions are a state. Outside the U.S., most event regions are a province, country, or territory. The REC Foundation determines the boundaries of event regions with respect to governmental boundaries, geography, and team distribution. In some cases, the REC Foundation will combine or split geographic areas for event regions to serve the needs in that area.

Each event region has a championship event that qualifies a certain number of teams in that region to VEX Robotics World Championship. Some event regions have more than one championship event, however teams can only attend one championship event in their region.

### Qualifying Events

A *qualifying event* is an event that makes a certain number of teams eligible to register for a championship event. Events must follow the Qualifying Criteria to be qualifying events. Be sure to discuss the qualifying criteria with your Regional Support Manager (RSM). Your RSM will help ensure your event follows the qualifying criteria.
Here are a few of the basic qualifying criteria:

- Events must be posted (by the EP) and approved (by the RSM) before the deadline included in the qualifying criteria. (May be different for VEX U events.)
- Events must be open for registration for at least 8 weeks before the event date (or before the first event date if multiple event dates, such as leagues).
- If fewer than 6 organizations (base numbers) have registered for a tournament, one organization may not represent more than 1/3 of the registered teams. (Not applicable to Leagues)
- Events must adhere to all the rules in the season’s Game Manual, Official Game Q&A, Judge Guide, and Official Judge Q&A.

Awards

An award is recognition for a team’s achievement at an event. Awards are usually recognized with a trophy at an event; however, this is not an absolute requirement. Some awards may be recognized with a printed certificate. Awards are categorized into either performance-based such as Tournament Champion or Robot Skills Champion, or judged awards such as the Excellence Award or Design Award.

Qualifying Award

A qualifying award is an award that makes the team eligible to attend the championship event.

The specific awards that will qualify teams to the championship event are based on the number of qualifying spots assigned to the event and are determined by the rules in the Qualifying Criteria. Your RSM will configure the qualifying awards for your event and can be viewed on the event’s Awards tab. Here are a few examples of the qualifying awards based on the number of qualifying spots assigned to an event:

- 1 Spot – (1) Excellence Award winner qualifies to the championship event
- 3 Spots – (1) Excellence Award, (2) Tournament/Teamwork Champions Award winners qualify to the championship event
- 4 Spots – (1) Excellence Award, (2) Tournament/Teamwork Champions, (1) Design Award winners qualify to the championship event
- And so on, according each program’s Qualifying Criteria document.

When a team earns a qualifying award, an invitation is automatically sent to the team through robotevents.com when the results of the event are uploaded. The invitation allows the team to register for the championship event.

Qualifying Process for Teams to Championship Events

Teams may participate in as many local qualifying events (tournaments or leagues) as they wish. If the team earns a qualifying award at an event in their region, the team qualifies for the championship event in their region. Teams may participate in only one championship event in their region.
Teams may attend events outside their event region and earn a qualifying award at those events, but the qualification invitation is passed to the next eligible team based on the Robot Skills rankings at the event.

*For example, if a team from Region A earns the Excellence Award at a qualifying event in Region B, they cannot attend Region B’s championship event. The team from Region A will take home their earned award, but the qualification invitation to Region B’s championship event will pass to a team at the event from Region B with highest Robot Skills score at the event.*

Events with teams who are out of region should not consider their locations in determining judged awards, rather teams should be based on their merits as articulated in the Judges Guide.

Teams may earn more than one qualifying award at an event, and the "double qualification" is passed to the next eligible team based on the Robot Skills rankings at the event. Teams may earn qualifying awards at more than one event during the season; there is no "look-back" to see if a team has previously qualified to a championship event.

**Helpful Hint:** Your RSM will ensure all invitations due to double qualifications or out of region teams are completed once the event results are uploaded to RobotEvents.com. It is not the responsibility of the EP to complete these invitations, and qualification questions from teams should be referred to the RSM for that region.

If the championship event in the team’s region is not filled to its stated capacity through qualifying awards, teams may qualify through the World Skills Standings sorted for the event region. Teams invited through World Skills Standings are invited by the RSM in ranked order after the results of the last qualifying event in the region has been posted to RobotEvents.com.

**Qualifying Spot Assignments to Championship Events**

The number of qualifying spots from local events to championship events is determined by the RSM and is likely to be different in each region. The number of qualifying spots is calculated using several factors:

- The team capacity of the championship event in the region.
- The number and team capacities of qualifying events in the region.
- The historical rates of double qualifications in the region.

Qualifying spots are assigned proportionately to events based on the capacity of the event. Larger events are likely assigned more qualifying spots than smaller events.

*For example, in a given event region, events with a capacity of 16-24 teams might receive 3 spots, and events with 25-32 teams might receive 4 spots.*
Because there is a variation in the distribution of teams, qualifying events, and championship events across event regions, there is a variation in the number of qualifying spots between events of a similar size across event regions. Each season, your RSM reviews these factors and determines the qualifying spots. Your RSM will assign the qualifying spots to the qualifying events in your region when the calendar of events is finalized for the current game season, typically in early October.

**Qualifying Spot Assignments to VEX Robotics World Championship**

The number of qualifying spots from Championship events to VEX Robotics World Championship is determined by the REC Foundation leadership team. Qualifying spots are assigned proportionately to each event region based on the number of teams in the region during the prior season and the capacity of VEX Robotics World Championship. Additional spots may be assigned to some event regions.

**Tournament Manager**

The software used by all official events to set up displays, calculate scores and rankings as well as to upload those results to RobotEvents.com is called VEX Tournament Manager. It can be downloaded here: [https://vextm.dwabtech.com/](https://vextm.dwabtech.com/) and is periodically updated throughout the season. Within the software, a user selects the robotics competition program, type of event, and other attributes of the event. While there are some differences from robotics competition program to program, most processes function the identically across all types of events and programs.

Tournament Manager comes with excellent documentation, found by selecting View User Guide in the Help menu. The REC Foundation and your Regional Support Manager also provide periodic trainings, and it is suggested that users familiarize themselves with the software by running a test event offline. This will not have uploaded results but will allow you to test the software functionality. It is recommended that prior to your event, you run a full test of your equipment to identify any issues or faults well in advance of the competition. Setting up the number of teams and number of fields, you can also get a stronger sense of the appropriate times to set for your event agenda.

Using TM on a computer that is connected to a router will allow you to set up multiple displays, use Raspberry Pis to control fields in VRC, set up mobile scoring on phones or tablets, and if also connected to the Internet, access to results being uploaded to VEX Via.

Prior to your event, you may wish to utilize Tournament Manager to print pit signage, field signs, or drive team badges, as well as printing game documents such as scoresheets or inspection forms. These can all be found under the Reports menu.

When setting up your event, you will be asked to enter a Tournament Manager (TM) code as well as a Robot Events (RE) Code. Both codes can be found when accessing your event through the admin portal on RobotEvents.com. When creating your event, this will transfer the settings, including the awards being offered and the team information, from RobotEvents.com and set up your event accordingly. When your event is done, these codes allow your event results to be successfully uploaded.
Tournament Manager & Raspberry Pis

Raspberry Pi’s are miniature computers that are generally used to perform single tasks. In the case of Tournament Manager, a Raspberry Pi can be used to run a VRC field or output a display. This is a budget-friendly alternative to using a laptop or other computer to create a display.

Newer Raspberry Pis can be run wirelessly, so a display (for instance, a ranking display in a pit area adjacent to the competition field) can be set up without running an ethernet cable between it and a router. Raspberry Pis deployed as VRC Field controllers and display timers should still be connected via ethernet. These are not required to run events and are considered an “advanced” option for users comfortable with the technology and setup involved.

Further training on integrating Raspberry Pis can be found on these websites:

- Raspberry Pi Quick Start (From TM User Guide)
- Raspberry Pi Setup – Written instructions
- Raspberry Pi Setup – Video Presentation

Scoring Matches: Matches can be scored using either paper score sheets, with scores transcribed into Tournament Manager, or can be scored using tablets, with the scores being confirmed by a Tournament Manager Operator. Printable scoresheets can be found under Reports in Tournament Manager.

Helpful Hint: Mobile scoring on a tablet is preferred as it streamlines the scoring process. It is recommended that EPs keep some paper scoring sheets handy in case of an equipment failure. Matches can still be run and scored using paper while the issue is being troubleshooting.

At the end of the event, assist the Tournament Manager operator to upload and finalize the event in Tournament Manager:

- Click File → Upload Results to Robotevents.com, click the Finalize check box, and click Upload Now.
- The event results will not upload and finalize unless the awards in Tournament Manager and the awards at RobotEvents.com match exactly. Contact your Regional Support Manager if you have difficulty uploading and finalizing the results.
- If the event qualifies teams to a higher-level event, the qualification emails will be automatically sent to the team contact listed in RobotEvents.com after the results have been uploaded and finalized.
Code of Conduct & Student-Centered Policy

The REC Foundation Code of Conduct and Student-Centered Policy are designed to guide behaviors for participants at REC Foundation VIQC, VRC and VEX U events and provide a positive experience for event participants and volunteers. Violations of these policies are rare but are serious matters that should be investigated.

Communicating COC and Student-Centered Policy Information

As the EP, you have a vital role in this investigative process if you notice or are alerted to such violations by the Head Referee or other event participants. If you are not sure if something is or is not a violation, call your Regional Support Manager and they can provide you with guidance. Below are a few recommendations to communicate these policies at your event.

- Go over our Code of Conduct and Student-Centered Policy in your Event Meeting. This information is included in the Event Meeting Announcement document. Ask if anyone has any questions regarding these policies to come see you. Educating people to prevent violations from happening in the first place is the best outcome.
- If an issue should arise, discuss it with those involved off to the side or in a hallway, someplace quiet, not in public view on or near playing field. Raising voices to be heard over the sounds of competition can be misinterpreted as aggression and having an argument in public can make people feel embarrassed, which in turn can make them more defensive.
- Work first to educate before to escalating to your RSM for potential sanctions or misconduct violations.
  - People can become passionate and lose awareness of how their behavior impacts others. They may not be doing something with the overt intention of violating rules.
  - By giving teams a warning about behavior, you make it abundantly clear what the expectations are from teams at the event, and for teams that do not mean to act maliciously, this warning will be enough to solve the issue.

Game Manual Rules: G1 & G2

The Game Manual references the REC Foundation Code of Conduct and Student-Centered Policies in Rules G1 and G2, respectively. Violations of the REC Foundation Code of Conduct and Student-Centered Policy may involve additional escalation beyond the Head Referee's initial ruling, including (but not limited to) investigation by a REC Foundation representative during or after the event.
Reporting a Violation

If a Code of Conduct or Student-Centered violation occurs at your event, please contact your RSM, as well as start gathering information that will only be shared with the REC Foundation staff:

- Pictures or videos of the violation at the event. Try to include team numbers to identify the team or the individual in question. This applies only to COC and student-centered issues. Videos or pictures related to Head Referee rulings are not permitted per the Game Manual rules.
- Witnesses of the violation and their contact information.
- A written account of what transpired. Request that witnesses send you an email with their detailed observations as soon as possible or take written notes of their statement.
- Any additional evidence that may inform the REC Foundation of the situation.

This information needs to be communicated to the RSM in a timely manner so they may start an investigation.

All teams need to be given the initial benefit of the doubt until the REC Foundation can review the evidence presented and reach out to those teams. Investigating violations based on hearsay is difficult and they should be carefully considered before reporting. For instance, an email making a claim that a team has adults working on the team’s robot at a competition may not actionable unless there are videos, photos or verified witness statements of that happening. Unfounded accusations are discouraging to teams that are accused and do a disservice to the integrity of our enforcement process. Actions should never be taken against a team without corroborated evidence.

If you warn a team about their behavior, even if they corrected their behavior at your event, please make a note of their team number and discuss with your RSM. Teams that make violations of the same type repeatedly at different events, even after their behavior was previously addressed, may still be issued a sanctioned for violating these policies. The REC Foundation depends on our EPs to alert us to this negative behavior, and to try to correct these issues on an event level.

Remember, it is always a better experience for all parties involved if violators are given an opportunity to correct their behavior rather being penalized, however with egregious or repeated violations of our policies, sanctions for those violations can be issued if warranted.
Signature Event Requirements

REC Foundation Signature Events give teams the opportunity to play at a tournament that is of the highest caliber and provides an experience above and beyond a standard tournament. Some Signature Events have the added bonus of qualifying teams directly to the VEX Robotics World Championships. These events rely on the dedication of EPs who provide these world class experiences for teams. Applications to host Signature Events are open to all experienced EPs and are evaluated based on the criteria below.

Once EPs submit proposals to the REC Foundation to offer Signature Events the proposals are evaluated based on two overall aspects of the proposal:

1. Technical Level of Sophistication
   a. Sufficient staffing to run matches on time
   b. Sufficient number of practice fields, skills fields, and qualification matches
2. Overall Feel and Team Experience of the event
   a. Quality of the venue
   b. Extras such as a combination of items including banners, elevated fields, special medals, and VIP guests

In order to assure high-quality Signature Events, the REC Foundation reviews proposed Signature Events based on the following criteria.

These technical requirements are required for all Signature Events:

1. No more than 75% of teams registered from the same region.
2. An opening ceremony that welcomes the teams, spectators, volunteers and invited guests. Note: A standard Driver’s Meeting or Event Meeting does not satisfy this requirement.
3. A closing award ceremony concludes the event. While some awards may be given out before the final match, the Tournament or Teamwork Champions and Excellence Award are recognized after the final match. The event staff, volunteers, teams and special guests should be recognized for their effort and participation during the award ceremony.
4. Teams are given the opportunity to run exactly three (3) Driving Skills Matches and three (3) Programming Skills Matches.
5. All competition fields for Qualifying Matches and Finals Matches are raised off the floor to the same height between ten (10) and twenty-four (24) inches.
6. An adequate number of fields for Qualifying Matches, Skills Challenges and Practice Areas.
   a. The number of fields for Qualifying Matches assures each team plays at least seven (7) Qualifying Matches for VRC and VEX U and at least eight (8) Qualifying Matches for VIQC.
   b. There is at least one (1) Skills field for every thirty (30) VRC or VEX U teams. Additional skills fields are added for every additional 30 teams participating.
   c. There is at least (1) Practice field for every 16 teams.
7. The number of qualified event staff or qualified volunteers is sufficient to run the event.

8. There must be a Certified Head Referee for every Division. Additionally, there are two (2) Scorekeeper Referees for every VRC competition field and one (1) Scorekeeper Referee for every VIQC competition field. Scorekeeper Referees are required to have read the game manual, the referee guide and have watched the referee training videos.

9. The Judge Advisor has previous experience as a Judge Advisor and has read and agreed to follow the Judges Guide.

10. A Division manager oversees the running of Tournament Manager, field operation and queuing on each division.

11. There is an experienced VEX TM Operator for every Field Set.

12. There is at least one (1) Lead Robot Inspector.

13. There is at least one (1) Announcer or emcee per division.

14. Planning includes an adequate number of general event staff or volunteers.
   a. A minimum of one (1) pair of Judges for every ten (10) teams.
   b. A minimum of one (2) Queuers for every Qualifying and Finals Match field.
   c. A Field Reset crew for all VRC and VEX U Divisions.
   d. A minimum of one (1) Practice Field attendant for each practice field area.
   e. At least one (1) Robot Inspector for every twelve (12) teams.
   f. At least one (1) Check-in Attendant for every twenty-four (24) teams.

15. Each team attending is given adequate space in the Pit area with their own dedicated power supply. 10’ x 10’ pipe and drape booths are preferred; however, the following can be substituted if space is unavailable.
   a. VRC Teams provided a pit table that is at least six (6) feet in length.
   b. VIQC teams provided a pit table that is no less than four (4) feet in length.
      Note: This may be an eight (8) foot table shared between two teams.
   c. VEX U teams provided a table that is no less than eight (8) feet in length or two (2) tables that are no less than six (6) feet in length each.
   d. Teams must be given a floor space that is at least fifty (50) square feet

16. The event is properly branded with the REC Foundation signature event logo and the appropriate program logos (VIQC, VRC and/or VEX U).

17. Event plans have setup and decoration being completed before the scheduled team check in with competition fields set up properly for matches.

18. The event utilizes the appropriate displays in Tournament Manager
   a. There is a Filed Queue monitor on each competition
   b. The Audience Display is visible to the majority of the competition spectators.
   c. A Pit Display is displayed in the Pit Area.
While not required, the following criteria will be used to evaluate the quality of the team Experience at a Signature Event:

1. How many seats per competition field is at the event? A minimum of 24 seats per field is recommended.
2. Does the venue or associated area provide an added team experience that encourages teams to attend.
3. Are there plans to Live Stream or provide remote viewing?
4. Are Trophies/Award Banners/Medals for winners/participants customized for the event?
5. Are all Participants provided Event Pins, patches or stickers?
6. Will venue Banners be customized to adequately represent the REC Foundation, sponsors and host organization?
7. Will the event feature a high production value in terms of the following:
   a. Stadium quality sound
   b. More than one announcer/Emcee for game play
   c. Appropriate Music played throughout event with special targeted music during Finals

World Qualification from Signature Events

Signature events qualify teams to Worlds based on how they are categorized. They are either designated as a level 1 or 2 event as follows:

Level 1 Signature Event Requirements: One (1) Worlds spot awarded to the Excellence Award Winner.

1. There are at least twenty-four (24) teams for VRC and VIQC and six (6) VEX U teams registered for the event.
2. The following trophies are judged and awarded: Excellence Award, Design Award, Robot Skills Award and Judges Award.
3. The event broadcasts to VEX Via live during the event.
4. The event uses video overlay with cameras on the competition fields during Qualifying and Finals Matches.
5. The event displays the Award Slides in Tournament Manager for the Closing Awards Ceremony.
**Level 2 Signature Event Requirements:** VIQC and VRC competitions will have three (3) Worlds spots, one (1) awarded to the Excellence Award Winner and two (2) spots awarded to the Tournament or Teamwork Champions. VEX U events will have two (2) Worlds spots, one (1) awarded to the Excellence Award Winner and one (1) awarded to the Tournament Champion.

1. There are at least forty (40) teams for VRC and VIQC and twelve (12) VEX U teams registered for the event
2. The following trophies are judged and awarded: Excellence Award, Design Award, Think Award, Amaze Award, Build Award, Create Award, Robot Skills Award and Judges Award.
3. The event is a two (2) day event, with at least three (3) Qualification Matches on each day.
4. The event is broadcast to VEX Via live during the event.
5. The event uses video overlay with cameras on the fields for Qualifying and Finals Matches.
6. The event displays the Award Slides in Tournament Manager for the Closing Awards Ceremony.

**Note:** The process for double qualification from Signature events is found in the Qualification Criteria document located on the REC Foundation website:

➥ [https://www.roboticseducation.org/](https://www.roboticseducation.org/)

**Leagues**

The purpose of this section is to help EPs understand the fundamentals of league play and host successful leagues. Leagues provide multiple sessions for teams to participate in the VIQC, VRC and VEX U programs. Leagues are events with three (3) or more Ranking Sessions plus a Finals Session. Ranking Sessions are usually only a few hours long and are best scheduled several weeks apart to give teams an opportunity to improve their robot designs and game strategies. The Finals Session is the last session of the league and this is when Elimination matches (VRC and VEX U) and Finals matches (VIQC) are played and trophies are awarded.

**Qualifying Criteria for League Events**

For Leagues to be Qualifying events, they must follow the Qualifying Criteria. Should anything in this guide contradict the Game Manuals or Qualifying Criteria documents, the Game Manuals and/or Qualifying Criteria documents will take precedence.

**Best Practices**

Leagues have been around for many years, and below are suggestions based on what has been successful throughout the years.
Posting the League on RobotEvents.com

1. Ensure you have confirmed dates and venues for the Ranking Sessions and Finals Session.
2. Create the League Event at RobotEvents.com. Use the first Ranking Session date as the first “Start” and “Stop” Date.

![Start Date *](10/24/2019) ![End Date *](10/24/2019)

3. Add each ranking session and the finals session. Select “+New Date” and repeat for each session. You can specify different locations (venues) for each league session.

**IMPORTANT!** All the league sessions must be added before the league can be approved.

![Event Dates/Venue + New Date](event_dates_venue.png)

4. Include the agendas for all Ranking Sessions and the Finals Session in the Agenda content block.
5. Review the Posting an Event on RobotEvents.com section of the EP Guide for more detailed instructions on posting an event.
6. Set the Registration Opens date as early as possible, more than 8-weeks before the first Ranking Session.
7. Consider setting the Event Capacity to a number larger than the capacity of the smallest venue and ask teams to sit out one of the ranking sessions. Encourage teams who are sitting out to come to the event as volunteers in a non-refereeing and non-judging role. This allows more teams to participate and provides more event volunteers.

Ranking Sessions

1. Share resources. Just because it is your event this week, does not mean that you have to create everything new. Use equipment, volunteers, and ideas from the other sessions as a starting point.
2. Keep things as simple as possible.
   a. Run VRC fields on a competition switch if you do not have field electronics.
   b. Use 1 computer with a single Audience display
   c. Only play 3-4 Qualification Rounds, then be done.
   d. For those with technical expertise, use tablet scoring for quick scoring and verification.
3. Start with a Practice Session before a Ranking Session to have a thorough orientation.
4. Plan time for inspections.
5. Allow teams to choose their own pit table.
6. Plug in a few power strips for charging stations. Do not try to provide power at pit tables.
7. Do NOT do any judging during the Ranking Sessions. Save this for the Finals Session.
8. If offering Robot Skills Challenge Matches, offer them at all ranking sessions. If skills is only available at some ranking sessions, teams who attend those sessions will have an advantage over those who miss those sessions.
9. Provide drinks and snacks for volunteers. A happy and well-fed volunteer is likely to help at a future event!

**Finals Session**

1. Start the session with Judging and Robot Skills Challenge Matches. Once Judging and Skills are both completed, then continue to the Alliance Selection for VRC or Elimination/Finals Matches for VEX U and VIQC.
2. Involve as many teams as possible in the Elimination and Finals Rounds.
3. In VRC, when choosing Brackets, choose either 8, 10, 12, 14, or 16 seed brackets per the VRC Qualification Criteria.
4. If giving awards for which you do not have trophies, you can print certificates from TM.
5. Provide drinks and snacks for volunteers. A happy and well-fed volunteer is likely to help at a future event!

**Tournament Manager for Leagues**

**First League Session**

Make sure your computer is connected to the Internet before creating the first league session. The team list, awards list, and league dates/venues are downloaded from robotevents.com when the first league session is created.

Make sure you have a USB flash drive handy to save a copy of the tournament.

1. Log into [RobotEvents.com](http://RobotEvents.com), click **Admin**, click **Events**, and click **View** for your league event.
2. Record the **Event Code** and the **TM code**. You will need these to set up TM.
3. Start TM and click **Create a New Tournament**. Navigate to a known folder on your computer, then type a name for the file and click **Save**.

**IMPORTANT!** The same TM file MUST be used for every league session including finals. You MUST know the name and location of this file.
4. **Welcome**: Read the welcome page then click Next.
5. **Event Code Setup**: Check **Event is listed on RobotEvents.com**. Enter the **Event Code** and **TM Code** from Step 2 and click Next.
6. The available league sessions will show in a pop-up window. Select the first session and click Continue.
7. **Program Type**: Verify the program type is selected and click Next.
8. **Tournament Type**: Most leagues select **Small Tournament**. Select **Medium** or **Large** if appropriate and click Next.
9. **General Setup**: The Event Name is filled-in with the name from robotevents.com; you may change it if you wish. Enter a unique password and click Next. Note: The password is used for TM web server functions or to connect another computer to this instance of TM.
10. **Game Scoring Configuration**: Make sure the current game is selected and click Next.
11. **Team List**: Verify the teams have been downloaded from Robot Events or import teams from the appropriate CSV file from robotevents.com and click Next.
12. **Teams at League Session: Check in**: Select teams if they have checked in. If teams are still checking in, leave all the boxes checked. If some teams are not present when check in ends, you can use the Team Check In feature and rerun the match schedule later. Click Next.
13. **Elimination/Finals Match Setup, Field Set, Skills Challenges, Pit Display Setup**: The default values should work for most leagues. If skills will be offered at any of the ranking or finals sessions be sure to add at least one Skills Challenge field. Refer to the League Play Guide for recommendations on these settings. Adjust if needed.
14. **Schedule Setup**: Adjust the schedule for the expected number of teams and the time for the league session. Refer to the League Play Guide for recommendations on the number of matches to be played during ranking sessions.
15. Create Matches, Awards Setup, Web Publishing Setup, Setup Complete:
The default values should work for most leagues. Adjust if needed.
16. If some teams are not present when check in ends:
   a. Click the Team List tab, click on a team that is not present, on the right-
      hand side uncheck the Checked In box and click Save. Repeat for each
      team that is not present.
   b. Click Tools, Regenerate Match Schedule, read the welcome screen and
      click Next. Under Checked In Teams at the top of the screen, select
      Exclude nn teams that have not checked in. Adjust the match schedule
      if needed and click Next.
   c. Click Create Qualification Matches then click Next and Finish to
      complete the new match schedule.
17. Print the Match List and Announcer Sheets and run the matches.
18. When the matches for this session are complete, save a copy of the TM file on a
    USB flash drive. Click File, Save Copy of Tournament, navigate to the USB
    drive and click Save.

   IMPORTANT! You MUST use the TM file from this session to start the next
   session. If you will be using the same computer for the next session you can use
   the TM file on this computer’s hard drive. If you will be using a different computer
   for the next session, you can use the copy of the TM file that was just saved to a
   USB flash drive.

   IMPORTANT! DO NOT create a new tournament (a new TM file) for each
   session. Doing so will prevent match results and rankings from carrying over to
   the next session.
19. You may also save log files or export event data (File menu) and save to the
    USB flash drive.
20. Click File, Upload Results to RobotEvents.com. Do not check Finalize; that is
    only done after Finals are complete. Click Upload Now to upload the results of
    this session to robotevents.com.
21. View the event on RobotEvents.com to ensure the data has been properly
    uploaded. Contact your RSM if you see any errors or if you have questions.

Subsequent League Ranking Sessions (Not Finals Session)

1. Open the TM League File from the previous session:
   a. If using the same computer that was used for the previous session: Start
      TM, click Open an existing tournament, locate the TM file that was used
      for the previous session and highlight it, then click Open.
   b. If using a different computer than was used for the previous session: Copy
      the TM file from the USB flash drive to a known location on the computer’s
      hard drive. Start TM, click Open an existing tournament, locate the TM
      file that was used for the previous session and highlight it, then click
      Open.
IMPORTANT! You MUST use the TM file that was used for the previous session. Failure to do so will prevent match results and rankings from carrying over from the previous session.

2. Select the appropriate league session from the list and click Continue.
3. Step through the wizard and adjust settings as needed for the new session. You can refer to the previous instructions for help. The settings from the previous league session will be the default.
4. Schedule Setup: Add qualification matches for this ranking session. This should be the same number of matches as the other ranking sessions.
5. Setup Complete: If Preserve skills challenge scores is shown, make sure it is checked to ensure skills scores are saved from previous ranking sessions. Click Finish to complete the wizard.
6. Repeat Steps 16 – 21 from the First League Session instructions above.

Final League Session – The League Finals

1. Repeat Steps 1-5 from the Subsequent League Ranking Sessions instructions above but do not create any qualification matches
2. Verify Team Ranking: After completing the setup wizard for the League Finals session, click the Rankings tab and verify the qualification rankings are correct before creating the VIQC Finals Matches or starting the VRC Alliance Selection.
3. Verify Alliance Settings: Click Tools, Options, Finals to verify the number of teams/alliances in the finals. Adjust if needed.

For VRC:

1. Print Announcer Sheets for alliance selection, enter alliance selections, and finalize alliances.
2. Print the Elimination Ladder and Announcer Sheets and run the Elimination Matches. Continue with step 6 below.

For VIQC or VEX U:

1. Click Matches, Create Finals Matches. If any teams in the Included Teams list are not present, move them to the Excluded Teams list. The number of teams in the finals matches is determined at the Finals Matches Setup screen that was presented in the wizard, not by the number of teams in the Included Teams list.
2. Print the Finals Match List and Announcer Sheets and run the Finals Matches. Continue with step 6 below.

All Programs:

1. When the Judges are finished selecting judged award winners, select the Awards tab and enter all judged award winners. If desired, select Auto Fill Winners to enter the Skills winners, print selected Award Ceremony Scripts, and present selected awards between elimination/finals matches.
2. When the elimination/finals matches are finished, select the **Awards** tab, **AutoFill Winners**, print remaining **Award Ceremony Scripts**, and present the remaining awards. The Excellence Award is the highest judged award and is presented last.

3. Repeat steps 16-21 from the **First League Session** above.

4. Celebrate!

**Best Practices for Leagues**

- Consider a sticker system to mark teams inspected at the 1st session and then just do a quick visual and measurement check on the following events. This speeds up the inspection time after the 1st inspection.
- Give teams an off week in the schedule and encourage them to support the event while they are not competing as volunteers.
- Form a partnership with another EP to share game resources and volunteers.
- Ask each team to provide 1 volunteer for the event.
- Keep the event simple with technology.
- Collect the design notebooks at the last regular session and return them at the League Championship.
- All award judging is at the League Championship.
- Offer limited skills at each session if possible.
- Start the League with a Practice session. This should include inspection and troubleshooting robots as well as the flow of the event for students.
- Consider the cost of the event to reflect the amount of sessions and matches.
Glossary

**Award** – Recognition for a team’s achievement at an event. Awards are usually recognized with a trophy at an event, however this is not an absolute requirement. Some awards may be recognized with a printed certificate. Awards are either performance-based such as Tournament Champion or Robot Skills Champion, or judged awards such as the Excellence Award or Design Award. Not all awards are qualifying awards (see qualifying awards).

**Championship Event** – An event that restricts registration to teams unless they have qualified for the event. Teams qualify for a championship event by earning a qualifying award at an event that qualifies teams to that championship event.

**DORO** – Director of Regional Operations. The REC Foundation staff member responsible for managing RSMs in multiple regions and providing leadership for initiatives within the organization.

**Double Qualification** – See Event Double Qualification and Region Double Qualification.

**EP** – Event Partner. The designated adult that is responsible for planning and executing the VEX Robotics Event.

**ESS** – Event Support Specialist. The REC Foundation staff member responsible for day-of-event support in their designated region as assigned by RSMs.

**Event Double Qualification** – Two or more qualifying awards that are earned by one team at one event.

**Event Region** – A defined geographic area that is usually a whole state, province, country, or territory but might also be part of one of these. The REC Foundation determines the boundaries of event regions with respect to governmental boundaries, geography, and team distribution.

**Invitation** – The permission provided through robotevents.com that allows a team to register for a championship event. An invitation is issued to a team through robotevents.com when the team wins a qualifying award.

**Local Event** – A tournament or league that is not a championship event. Local events may be qualifying events or non-qualifying events (see Non-qualifying Event).

**Non-qualifying Event** – An event that does not qualify teams to a championship event. Also called a scrimmage.

**Qualifying Award** – An award earned at a qualifying event that qualifies the team to a Championship Event.

**Qualifying Criteria** – A document published by the REC Foundation each season that details the criteria that events must follow in order to be qualifying events, the qualifying award structure, and other factors regarding qualifying events and qualifying awards. Available at roboticseducation.org.
Qualifying Event – An event that makes a certain number of teams eligible to register for a championship event. Qualifying events follow the Qualifying Criteria and have one or more qualifying awards assigned to it.

Qualifying Spots – The number of qualifying awards that will be given at an event. The number of spots determines which awards a qualifying awards, following the tables of qualifying awards in the Qualifying Criteria document.

RSM – Regional Support Manager. The REC Foundation staff member responsible for supporting EPs and events in their designated region.

Scrimmage – An event that does not qualify teams to a championship event.

Season Double Qualification – Two or more qualifying awards that are earned by one team at two or more events in the same season.

World Skills Standings – A list of the highest Robot Skills Scores posted by teams at qualifying events. Refer to the Qualifying Criteria document for details on team rankings for World Skills Standings.

VIQC – VEX IQ Challenge (Elementary School [12 and younger] and Middle School [15 and younger])

VRC – VEX Robotics Competition (Middle School [15 and younger] and High School [19 and younger])

VEX U – VEX University (University/College)
Event Troubleshooting Guide

Before the Event

- Always set up the night before an event if possible.
- Always test the fields, displays, and sound before starting matches.
- Always test your printer and check you have extra ink/toner.
- Have one or more VEXnet Competition Switches available (VRC/VEX U).

During the Event

Scenario 1: (VRC/VEX U) At the start of a match the entire field goes DEAD!

There are several things that may be happening. Check the following:

1. Did the Ethernet cables get disconnected?
2. Are the lights on the match controller

Recommended action if 1 or 2 are not the case:

- Have all teams disconnect their controllers.
- Restart Tournament manager and re-configure fields

If a team has a damaged controller (Ethernet socket) it may have shorted the system. Look at all cables and then have teams plug in to the system one at a time. Make a list of teams for future reference in case this happens again.

Scenario 2: The event has progressed to the afternoon, with 8 scheduled matches per team. All is going well except it is evident that the event is going longer than expected. There are transportation concerns, or you need to end the event earlier than planned due to weather. NOW WHAT?

- Use Tournament Manager to reduce the number of matches to get you back on schedule by using the menus in TM to navigate: Tools → Options → Qualification Matches: Lower the number.
- When you return to view the list of matches, any matches over the number of matchers per team you specified will be greyed out and you can proceed to alliance selection
- Remember to announce the change in matches and why.

Scenario 3: My event has one Audience Display and one Pit Display, the Pit Display stops working. NOW WHAT?

While you troubleshoot, use Tournament Manager to show rankings and queuing on main audience display between matches until you get the problem resolved.

1. Look at the data connection to the pit display – is it connected?
2. Did the computer controlling the display time out?
3. Restart and ensure that the IP address is correct.
Scenario 4: (VRC/VEX U) I am running two fields and in the middle of the event a Driver Interface or Match controller quits. NOW WHAT?

Get your VEXnet Competition Switch and start/stop matches manually until resolved.

A Referee should be positioned to control all four robots. The Tournament Manager program will still show time and sounds. You may want to have lengths of ethernet cable long enough to reach all 4 drivers set aside for this purpose.

Start the trouble shooting process with the field controls.

1. Check the USB and Ethernet connections
2. Reconfigure the field electronics.

Scenario 5: We are ready to start Qualification matches and three late arriving teams are not inspected and are in the first few matches. NOW WHAT?

You have 3 basic choices:

1. Run the matches without the teams (avoid if possible).
2. Delay the Event.
3. Best choice is: Have the Inspector do a Size and Safety check of the robot and allow them to play the one match.
   a. If the Head Referee determines the robot is out of size or unlikely to pass an inspection, the students can support their Alliance partner at the field without their robot on the field and still get the match points.
   b. If the Head Referee allows their robot to participate, the team must be fully inspected as soon as the match is over. If they fail the inspection the match is a disqualification for the team (not the alliance).

The final decision on this rests with the Head Referee.

Scenario 6: I underestimated the amount of Skills Fields and resources needed. NOW WHAT?

Use the Main fields during Lunch for skills runs if possible.

Scenario 7: My Head Referee is ill and did not show up. NOW WHAT?

Gather the remaining referees and see if one of them can take the position. You may want to plan your volunteers to include backups and alternates for key roles. Ensure you have a copy of the Game Manual handy to address any rule questions.

Scenario 8: I am ready to start the qualifications and my printer will not work. NOW WHAT?

Follow these steps:

- Use Tournament manager to display team matches on the audience and/or pit displays. Participants can take pictures of the schedule for later use
- Print your qualifications to Microsoft PDF writer or other generic program, save and transport to another printer.
- Seek another printer to use later.
Scenario 9: (VRC/VEX U) When the Driver Control Period is activated by Tournament Manager, both robots on one of the alliances go back into autonomous mode. NOW WHAT!?  

Follow these steps:
- Check the Ethernet port on both of the team’s controller.
- Look to see if one of the wires that makes a connection to the cable is out of its slot and shorting with another wire.
- Have the team gently nudge the wire back into place to resolve the short.
- If this is not possible try to find another controller for the team.

Scenario:10: (VRC/VEX U) A team reports that the field is not working correctly and that their robot worked fine on the other field or other side of the field. NOW WHAT!?  

Follow these steps:
- Inspect the Ethernet connection on the Controller to make sure that the portion of the port that engages the retention clip on the Ethernet cable is not broken. (see photo)
- If the port is broken explain to the team that the Ethernet cable can do several things which will cause the robot to” stop working". This not only includes the cable pulling out, but it is also the cable moving into the socket too far or moving from side to side in the socket. All of these may interrupt the communication with the robot on the field.

NOTE: The port in the picture on the right is broken and can cause a robot to stop working on the field.
Scenario 11: (VRC/VEX U) A robot does not work properly on the field and the team claims it is the field because the “robot worked fine when we tested it”. NOW WHAT!?

Follow these steps:

- Explain to the team that the field functions as a switch for all 4 teams.
- Have the team double check to make sure they are using the competition template in their program.
- Have the team double check to make sure they are using the correct firmware.
- Make sure to tell the team to load the correct firmware first. Then reload the correct program on the correct competition template.
- Keeping a copy of the firmware and competition template on a thumb drive is a good idea (teams will often manage to slip by this in inspection).
- This is best tested with a VEXnet Competition switch.

Scenario 12: I cannot get the sound to work correctly on my field after restarting TM. NOW WHAT?

- Field sounds are output through the Audience Display.
- Open Audience Display on the computer that is attached to the sound system.
- There are unique circumstances when you will need to restart the Audience Display even though you see it running.
- Sounds can also be played from the Field Control window. Make sure sound is checked.

Scenario 13: (VRC/VEX U) The wrong field activates when the match is started. NOW WHAT!? 

- Use TM to correctly assign the fields or switch the Ethernet cables connecting the Alliance Station towers to the field controllers.
- To re-configure the field controllers by assigning them to the correct fields, go to the system tray and right Click the Match Controller Icon.

Scenario 14: I am trying to set up a small network of computers to run multiple displays as well as Tournament Manager. I am unable to get the machines to connect and get an error message when logging into the tournament server. NOW WHAT!? 

Follow these steps:

- Check to be sure all computers are running the same version of Tournament
- Make sure that firewalls are off so that machines may connect to one another.
- Check to be sure the computer is in Airplane mode.
- If a computer’s networking allows connection by both Wi-Fi (which should never be used with a Tournament Manager server computer) and a hardwire, the computer may not be able to distinguish between the two connections and will become “confused”.


Scenario 15: I have multiple computers in a local network and have to restart TM during a hectic event. The person who set up the fields is not the person running Tournament Manager and has left the building on an errand. The person running Tournament Manager is having difficulty finding the IP address of the server to log all machines back in. NOW WHAT!?

- Go to the “Help” pull down menu in Tournament Manager to get the IP address of the server.
- A good practice/habit is to find the server IP address while setting up the system and writing the server’s IP address on either blue painter’s tape or a sticky note and placing it on each machine in the network. A second item that you may wish to place on each computer is its purpose, i.e. “field timer display 1”, “field timer display 2”, “pit display”, etc.

Scenario 16: Your event is running over time and a helper has decided to modify the event to reduce the number of matches being played to end on time. Unfortunately, rather than using the Tools -> Options -> Qualification Matches method described earlier to reduce the number of matches, they reran the wizard and erased all the match scores as well as the match list. NOW WHAT!?

- Tournament Manager has an automatic backup feature that creates backup files of a tournament on every machine that is networked to the tournament server.
- Find and open the “VEX” folder on the computer. Its location will depend on the operating system your computer is running. Once the VEX folder is open, find a “Tournament Manager” folder. This folder contains the “Automatic Backup Folder” containing a number of backup files. Restore your event with these files by opening the correct file in Tournament Manager.
- Use the time-date stamp to help identify the correct backup file.
VRC License Plate Template

At VEX Robotics Competition events, robots must display license plates with the team number on two opposing sides. Two robot license plates are sent to teams with paid team registration fees. License plates can also be ordered from VEX Robotics:

http://www.vexrobotics.com/vexedr/products/view-all/276-3938.html

Use the following images for robots that require license plates to pass robot inspection at an event. Write your team number on the image after printing. You will need to print this page twice to give a team a full Red and Blue set of plates:
**VIQC License Plate Template**

Use the following template for robots that require license plates at an event. Write your team number on the image after printing.

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<thead>
<tr>
<th>VEX IQ Challenge</th>
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