

# FIRST® Robotics Competition Mentor Guide

FIRST® is a global robotics community that prepares young people for the future.







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# Overview of FIRST® Robotics Competition

Teams of students are challenged to design, build, and program industrial-size robots and compete for awards, while they also create a team identity, raise funds, hone teamwork skills, and advance respect and appreciation for STEM within the local community. Volunteer professional mentors lend their time and talents to guide each team. It's as close to real-world engineering as a student can get. FIRST® programs gain access to education and career discovery opportunities, connections to exclusive scholarships and employers, and a place in the FIRST community for life.

Please visit our Vision and Mission webpage for more information about FIRST and our core values.

# Typical Season Calendar

This calendar is intended to help mentors know some of the major events that occur each season. View the *FIRST*® Robotics Competition Calendar online for exact deadlines each season.

#### **Year-Round Activities:**

To help ensure team sustainability, these are the things that teams should focus on year-round:

- Fundraising (see the Budgets & Finances section)
- Outreach

#### May - September

May – September is considered part of the off-season and some teams may choose to take a break while others may continue to meet. Check out the Off-Season section for more information.

- Create/Update your new/returning team (login to the FIRST Dashboard to get started)
- Fundraise and apply for grants (see the <u>Budgets & Finances</u> section)
- Lead mentor 1 and 2 Youth Protection Screening (due every 4 years)
- Connect with your Program Delivery Partner on off-season events or local training opportunities

#### September

September is when teams generally start meeting again (if they took a break) and begin preparing for the upcoming season. This is a great time to build new skills and engage with sponsors and the community.

- Recruit students and mentors
- Host Team Safety Meeting (see the <u>Youth Protection Program</u> section and <u>Safety</u> section)
- First round of event selection (check out this <u>User Guide</u> for step-by-step instructions)
- Select your Kit of Parts options (check out this calendar reminder for more information)
- Select which Kickoff you plan to attend (check out the <u>Kickoff webpage</u> for instructions)
- Team member skill development
- Review available grants (see the Grants section)

#### October

October is when season prep continues to pick up with many teams continuing to develop skills and beginning to focus on inventory and equipment.

- Select additional events
- Safety Animation Award opens (check out the Safety webpage for more details)
- FIRST Championship Waitlist Registration opens (check out the <u>Championship Eligibility Criteria</u> webpage for details on how to register)
- Inventory tools and materials

#### November

November is when teams start to finalize plans for the season (with numerous signup deadlines) and may begin working on awards submissions.





- FIRST Impact Award, Woodie Flowers Award, and Dean's List Award submissions open (see the Awards webpage for more details)
- Event Registration Closes
- Initial Event Payment Deadline
- Deadline to select which Kickoff your team plans to attend (check out the <u>Kickoff webpage</u> for instructions)
- Deadline to select how your team is receiving your Kit of Parts
- Pre-Kickoff Vouchers are available (check out the Kit of Parts webpage for more details)

#### **December**

December is when teams make final preparations for the season such as finalizing shop hours, plans to attend kickoff, and complete any pre-season equipment or material purchasing.

- FIRST Choice Round 1 (check out the Kit of Parts webpage for more details)
- Safety Animation Award closes (check out the <u>Safety webpage</u> for more details)

#### **January**

January not only starts the year, but it also kicks off the *FIRST* Robotics Competition season with the release of the game and the start of Build Season.

- Kickoff (see the Kickoff section)
- Replacement Parts
- Additional Kickoff Vouchers available (check out the Kit of Parts webpage for more details)
- Game Q&A Opens
- FIRST Choice Round 2 (check out the Kit of Parts webpage for more details)
- Build Season Begins (See the How to approach Build Season section)
- Additional Event Payment Deadline

#### **February**

February is a continuation of the build season and there are some award submission deadlines as well.

• FIRST Impact Award, Woodie Flowers Award, and Dean's List Award submissions due (see the Awards webpage for more details)

#### March - April

March – April is when teams attend local District and/or Regional Events. The culmination of the season is the *FIRST* Championship which brings together tens of thousands of students, mentors, and volunteers of all ages for the ultimate celebration of science and technology.

- Prior to attending an event, hold a refresher on Team Safety (see the <u>Youth Protection Program</u> section and <u>Safety</u> section)
- FIRST Championship Waitlist Registration closes (check out the <u>Championship Eligibility Criteria</u> <u>webpage</u> for details on how to register)
- District and Regional Events (check out the Events section)
- FIRST Championship (check out the FIRST Championship section)

## **Overview of Document**

Mentoring is an integral part of *FIRST* and largely contributes to the program's success. Every adult on a team is a mentor, simply because they lead through guidance. It is important to remember students need guidance, structure, encouragement, and most of all, a fun experience! When done correctly, this learning process builds and expands team members' self-confidence and knowledge. If the process has a strong foundation and works properly, mentors come away with as much as students do.

This document will focus on information to help successfully run a *FIRST* Robotics Competition team and help ensure students have the best experience. Be sure to also check out the <u>Effective Mentoring</u>





<u>Document</u> for tips and tricks on mentoring. We also encourage you to share both resources with other mentors on your team.

## The Lead Mentor Role

The role of the lead mentor(s) varies by team. Each team will need two adults to act as lead mentors that are registered in the <u>FIRST Dashboard</u>. Some teams have one person who does the majority of the role, others may have school administrators listed as the lead mentors, but the work is done by other mentors, and some teams even have multiple mentors who share the workload. How you divide up the work is completely up to your team, but these are the main responsibilities of the lead mentor(s):

- Act as the primary point of contact for the team
- Register the team for the season
- Preference events for the team to attend
- Kit & Kickoffs: Sign up to attend a Kickoff Event or indicate how you will receive your kit
- Organize team meetings
- Assign team roles
- Delegate team tasks
- Keep all contact information up to date on the Dashboard. Provide accurate email address, mailing address, and phone number to allow timely communication with FIRST, especially for use during school vacations and team travel.
- Manage team roster via the <u>FIRST Dashboard</u>; invite youth & other mentors, ensure they register and complete Consent & Release forms
- Monitor the FIRST Robotics Competition Calendar
- Read team email blasts and blog posts
  - Both lead mentor 1 and 2 are automatically signed up for email blasts, other mentors can subscribe by <u>signing up here</u>.
- Ensure team meets deadlines for events and award submissions
- Safety: Works with the team's Safety Captain to ensure Team Member safety. Review the <u>FIRST</u> Safety Manual
- Assign designated question asker for the Q&A Forum
- Follow information related to the Game and Season, including Team Updates
- <u>Kit of Parts</u>: Inventory the Kit of Parts to ensure items are not missing. Submit missing parts
  request by the posted deadline. Utilize the Virtual Kit of Parts voucher/password codes located in
  the Dashboard and other Kit of Parts elements
- Maintaining a safe and inclusive team environment

# **Youth Protection Program**

Part of your role as a mentor is to ensure safety for the students. *FIRST* strives to create an environment in which team members can grow, learn, and have fun with minimal risk of injury. The two lead mentors (for teams within the US & Canada) must be screened by our *FIRST* Youth Protection Program (YPP) but teams may choose to have all mentors screened. Teams can reference the <u>Youth Protection Program</u> page for a step-by-step guide and FAQs.

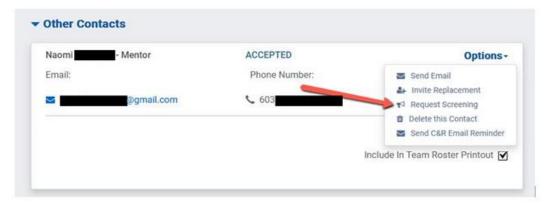
FIRST requires a minimum of two mentors to be with students at all times. If they are in different locations at the build site those two mentors should be within sight lines and be interruptible. FIRST recommends screening non-lead mentors if they are present in person and/or online for 30% or more of the team's meeting time and/or activities. Lead mentors can request mentors complete the YPP screening by following these steps (see screenshot below):

- 1. Log in to the FIRST Dashboard
- 2. Click on the blue "Primary Contacts" link located under the Team Contacts/Roster column
- 3. Locate the mentors contact card





- 4. Click options in the upper right-hand corner of contact role card
- 5. Select "Request Screening." The non-lead mentor will receive an email invitation to go directly to the screening vendor.



While screening through the dashboard is only available for volunteers in the US and Canada, the other parts of the *FIRST* Youth Protection guide and training are applicable globally. Groups of mentors may take the training together, which can provide an opportunity to ask questions and discuss scenarios. YPP training is available on the Dashboard under the Access Thinkscape tab or via YouTube.



The *FIRST* Youth Protection Program has clear guidelines regarding adult and student interaction. Adults working in *FIRST* programs must be knowledgeable of the standards set by the *FIRST* YPP, as well as those set by the school or organization hosting their team. As a lead mentor, you must understand these policies as well as how to enforce and communicate them to every adult working with the team. *FIRST* has also put together these <u>Youth Protection Training Videos</u> which are intended to enable adults working with *FIRST* teams to recognize situations that may pose a threat to team member safety and take the actions necessary to prevent and report injuries.

All FIRST participants and volunteers of any age may report Youth Protection Concerns, Medical Incidents, and other concerns to FIRST using the FIRST Reporting Portal, or by emailing safetyfirst@firstinspires.org. Remember that in the United States and Canada there are laws that require individuals working with youth to report known or suspected instances of child abuse and neglect. You can find a complete list for the USA and other contact information on the Child Welfare Gateway website State Child Abuse and Neglect Reporting Numbers. The contact information for reporting suspected child maltreatment in Canada, you can find it on the Canadian Child Welfare Research Portal under the Provincial And Territorial Assistance page.





## **Equity, Diversity, and Inclusion (ED&I)**

Part of your role as a mentor is to be an example and to welcome and include all team members. *FIRST* is committed to fostering, cultivating and preserving a culture of equity, diversity, and inclusion. We embrace and encourage differences in race, ethnicity, national origin, sex, gender, gender identity, gender expression, sexual orientation, disability, age, religion, income, language, learning difference, or any other characteristics that make our adult-force and students unique.

FIRST collaborated with the National Alliance for Partnerships in Equity (NAPE) to develop training for mentors, volunteers, partners and other key stakeholders who work directly with students and are committed to creating a sense of belonging for students on teams.

We ask that all mentors take our complimentary, three-part training module course titled <u>Strategies for Inspiring Success for All</u>. These modules will equip mentors with specific strategies to support community outreach, student participation, motivation, engagement, and success through engaging and reflective activities on interactions with students. *FIRST* recommends mentors take this training when they first start engaging as a team mentor. It is also recommended that mentors retake this training on an annual basis to refresh on the tools and strategies provided to best work with all students.

We also recommend that all team members take the <u>Inspiring Youth Voice</u> training designed for *FIRST* students. It is intended to educate *FIRST* students about the importance of ED&I while providing strategies and recommendations to help *FIRST* create a more inclusive and diverse environment.

FIRST teams should be mindful of being inclusive to all team members which includes being cognizant of their backgrounds including but not limited to: their pronouns, sexual orientation, cultural norms, and more. To learn more about understanding gender identity terms teams can check out <a href="NPR's Guide to Gender Identity Terms">NPR's Guide to Gender Identity Terms</a>.

For additional resources visit the <u>Equity</u>, <u>Diversity</u>, <u>and Inclusion Training & Resources webpage</u> to find other resources for increasing your knowledge and practice on creating inclusive environments for all.

# **Safety**

Instilling a culture of safety is a value that every individual in the *FIRST* community must embrace as we pursue the mission and vision of *FIRST*. Safety is a vital part of the *FIRST* culture, having established the framework for safety leadership in all aspects of the programs. Teams should use the *FIRST* Safety Manual to understand and implement safe practices. *FIRST* has also worked with UL to establish online safety training for team members and mentors through the <u>Safety Learning Portal</u>.

# **Team Contact Responsibilities**

This section covers the team mentor contact roles within the <u>FIRST Dashboard</u> and how teams may consider breaking up the responsibilities for those roles.

#### **Mentor:**

A mentor is an important part of any *FIRST* Robotics Competition Team. There is no limit to the number of registered mentors on a team. We urge teams to register all mentors within the *FIRST* Dashboard and to have them screened following the steps in the <u>Youth Protection Program</u> section. Mentors should also check out the <u>Effective Mentoring Document</u> for tips and tricks on mentoring. Key duties are outlined below:

- Youth Protection: ensure safety for the students. Start with the FIRST Youth Protection webpage
- Award Submissions: Assist to ensure submissions of <u>award submissions</u>.
- Monitor the FIRST Robotics Competition Calendar.





- Read team email blasts and blog posts
  - Both lead mentor 1 and 2 are automatically signed up for email blasts, other mentors can subscribe by signing up here.
- Follow information related to the Game and Season, including <u>Team Updates</u>
- Contact Information: Keep all contact information up to date in the Dashboard.
- Kit of Parts: Assist with all <u>Kit of Parts</u> processes, such as checking vouchers and being aware of expirations dates.
- Public Relations: Assist with collecting team information and how to share it publicly.
- Robot Transportation: Be familiar with the robot transportation responsibilities in case the lead mentor 1 or 2 needs support.
- Safety: Works with the team's Safety Captain to ensure Team Member safety. Review the <u>FIRST</u> Safety Manual.
- Support: Provide any support the lead mentors or team may need.

#### **Team Administrator:**

This adult representative is the purchaser for the team. A finance contact may be best qualified for this role to facilitate the team registration payment and meeting payment deadlines. A team is not required to list a team administrator, as the lead mentors have full administrative rights. Team Administrators cannot invite students or mentors. Key duties are outlined below:

- Submit the team registration payment for the season via the Dashboard. Pricing and payment information can be found on the Cost & Registration webpage.
- Upload Sales Tax Exempt Certificate, if applicable.
- Complete regrants and submit W-9 information.
- Dashboard: Assist in maintenance and updates of Team Information.
- Monitor the <u>FIRST Robotics Competition Calendar</u> for payment deadlines.

# **Team Recruitment**

# **Diversity in Team Recruitment**

Exploring, developing, and implementing strategies to become more inclusive and ensure access to our programs to all students (as well as access to key supports) is critical for *FIRST* to reach its goal and mission. ALL young people should have the opportunity to become science and technology leaders.

As a lead mentor, you have a vital role in ensuring that your team embodies this commitment.

# **Finding Team Members**

When recruiting students for a team, it is important to understand the population of the school or local community and focus recruiting efforts on attracting a broad range of students. Make sure recruiting efforts reach a cross-section of the school or community by targeting the entire school and welcoming individuals with different skills and experience. Include and encourage a diverse range of individuals to help with recruiting. Students are more likely to be interested in participating if they see and hear from their peers.

Suggestions for Recruiting Students:

- Utilize the FIRST ED&I Student Recruitment Strategies Tip Sheet.
- Use <u>FIRST videos</u>.
- Hang posters in the school, at the local library, in businesses, and in sponsor organizations.
  - Check out the Recruitment Section of the <u>Team Management webpage</u> for flyer templates.
- Include promotional materials in school newsletters or on school web sites.





- Hold a student assembly where there is a FIRST Robotics Competition video and demo.
- Have a local or previous year's team put on a demonstration at a school or community event.
- Give an overview of FIRST Robotics Competition in a series of classes where a variety of students are enrolled.
- Engage adults from local corporations, university students, and *FIRST* Alumni to speak about the value of participation.
- Enlist FIRST Alumni and participants on other FIRST teams to spread the word.
- Utilize FIRST stories

#### Youth Registration

All youth team members are required to complete the online youth registration to participate in *FIRST* team meetings, events, or competitions. Learn more about the <u>youth registration system</u> and how to get started. If you have a student or parent who cannot complete youth registration electronically, please reach out to your <u>local Program Delivery Partner</u> to request an exception and obtain a hard copy of the Consent and Release Form.

For assistance in completing the youth registration please direct the parent/guardians and students to contact Team Support by phone at 1-800-871-8326, <u>via email</u>, or via the chat feature on our <u>www.firstinspires.org</u> website.

## **Recruiting Mentors**

Anyone can be a *FIRST* Robotics Competition mentor. Time and interest are the only requirements. Having a diverse pool of mentors only benefits the team; some mentors bring business expertise, some technical expertise, and some are great at marketing. A *FIRST* team can use all these skills. Lots of adults may want to help but may be unable to commit to every meeting, so understanding the strengths and weaknesses of the mentors and the team's needs will help to identify the areas where additional support will be needed. Mentors may be parents, teachers, engineers, college students, scout leaders, *FIRST* Alumni, or members of the local community. Make sure recruiting efforts reach a cross-section of the community. Team members may be more comfortable if there are mentors on the team with backgrounds and interests similar to their own. Students can also learn a great deal from individuals with varied life, work, and learning experiences.

Always start by identifying the help you need and the time commitment that assistance will require. It's important that you know your community. Start by polling your team's parents/ guardians and families to see if there are any potential mentors in that group or if they know someone who may be able to help with either technical or non-technical aspects. Teams or mentors from your surrounding area (or even around the globe) might also be willing to video chat to help.

Some teams don't need technical help; they need support for administrative work, marketing, trip planning, driving to events, fundraising, etc. Or they might need help developing a Business Plan or learning about college and career preparation. As mentioned earlier, always start by identifying the help you need and the time commitment that assistance will require.

#### The FIRST Mentor Network sponsored by NI

Another avenue to help with finding mentors is the <u>FIRST Mentor Network sponsored by NI</u>. It is an interactive platform allowing teams to find mentors to work with virtually or face to face, locally or across the country, for a few hours or for a season. Lead mentors can build a team profile highlighting successes, goals, and desired mentor skill sets and experience.





# Setting your team up for success

Building a robot is just one of the many elements involved in being a successful team. Teams require roles, time management and plans to ensure sustainability.

## **Develop Roles Within the Team**

Develop roles so that team members feel as though they have a part in the process. Talk about skill sets, projects and subprojects, sub teams, enjoyment, time constraints, and rules set by the school or *FIRST*. Check out the <a href="How To: Organize a Team">How To: Organize a Team</a> or the <a href="How To: Effective Leadership">How To: Effective Leadership</a> resources.

## **Meeting Schedule**

Each team should decide on a meeting schedule that works for them. Some teams may decide to meet both in-person and remotely depending on the tasks. Remote collaboration has its positives and negatives so teams should evaluate what works best for each task. Teams can see the <a href="How To: Conduct Online Meetings guide">How To: Conduct Online Meetings guide</a> for tips on how to structure remote meetings.

The number of meetings a team needs will vary depending on what the team is trying to accomplish. Many teams meet once or twice a week in the summer/fall but will meet more frequently during build season. Check out the <a href="How to approach Build Season">How to approach Build Season</a> section for help with planning your team's meeting schedule.

## Tasks, Strategies, and Stress

Help team members clarify tasks and develop strategic plans for individual jobs. Defining a task list that includes complexity and showing their relationship to the timeline may make it easier for team members to plan and work together toward successful job completion. Remember, you are not just building a robot, but also building a team. Fun tasks and team building activities should be incorporated.

Watch for signs of serious stress among team members. This may be a time to intervene and ask if they need help or suggest that they take a break. 17% of youth (6-17 years) experience a mental health disorder (NAMI, 2020) and it's important to ensure students (and mentors) can take a break.

# **Suggested Tools**

One of the most important things you need in order to build a robot is tools. We worked with Team 3847, Spectrum, to create the <u>Tool Recommendations for FIRST Robotics Competition Teams document</u>. This document is intended to help teams that are newer to FIRST and includes a list of beginner tools as well as suggestions for more expensive tools and machinery that teams may want to acquire.

While the Rookie Kickoff Kit contains a computer that can run all of the software necessary to program and operate the robot, we recommend that teams have at least one additional computer for programming if possible. Teams may also wish to have additional machine(s) available to run CAD software or the tools used to support the team (e.g., photo or video editing software). Some software programs are made available to teams for free via the Virtual Kit.

# **Ensuring Sustainability**

Sustainability is key to ensure the program's longevity within a school/community and the impact the program has on students. Ensuring sustainability means that a team is focused on team retention for both students and mentors.

Sustainability starts with the culture of the team, to be welcoming to new members and a home for veteran members. The size of the team is unique to each individual team's situation and depends on





funding, resources, and space. The size of the team may ebb and flow as seasons progress. Mentors should be aware of the graduating vs recruitment rate to ensure the team does not get too small or too big. Reference the <u>for payment deadlines</u>.

Team Recruitment section for tips on how to recruit new students and/or mentors.

Lead mentors are critical to guide the teams through the seasons, but teams should also be able to run if that lead mentor ever needs to step down or take a break. The team should have a plan in place to transition mentors as needed.

# **Budgets & Finances**

Running a *FIRST* Robotics Competition team is like running a small business so it's important to set a budget. Each team's budget will vary depending on what they are trying to accomplish and the resources in their area.

Develop a team mission statement and business plan (check our Section 1.2 of the <u>Fundraising Toolkit</u> for an overview and examples), and decide what your team goals are. These will help you develop a budget and determine fundraising targets. To see average costs, please see the <u>Example FIRST</u>

Robotics Competition Budget.

Check out our <u>Fundraising Toolkit</u> or our <u>Fundraising 101</u> for ideas on fundraising and check out our <u>Sponsor Relations</u> guide for ideas on how to structure sponsorship opportunities.

#### **Grants**

*FIRST* has a variety of grants to help teams. To see what grants your team may qualify for, please visit our <u>Grant Opportunities page</u>. This grants page is updated regularly, so check back often to see new team grant opportunities. In addition to *FIRST* grants, teams should consider checking for grants offered by companies in their area and/or checking with their <u>local Program Delivery Partner</u>.

### **Awards**

FIRST Robotics Competition celebrates the excitement of competition both on and off the field. Our awards celebrate the <u>FIRST Core Values</u> which makes us so much more than robots!

Most awards are judged at the event where volunteer judges walk around in the pits to interview students about their team's accomplishments. Please see the <u>Awards page</u> for more information.

There are a few awards that do require pre-submitted information in order to be eligible. Adult and student Award Submitters are designated by the lead mentors and are responsible for submitting nominations for awards, as per each award's guidelines. Please see the <u>Awards page</u> for more information.

# Kit of Parts

Each season, *FIRST* Robotics Competition teams receive a Kit of Parts (KoP). The KoP is not designed to be a "bolt together" solution to play the game, but is a starting point, containing mostly donated components from Suppliers across multiple industries. The Kit of Parts System consists of three parts available to teams through a variety of sources:

- Kickoff Kit A box of parts delivered to teams at the start of the season.
  - As part of the Kickoff Kit, a KitBot is available. The KitBot is designed to be able to play some aspects of the game, but not all. It's also designed so teams can build the KitBot and then further iterate on it to add additional features if they choose. Teams will still need basic power tools (drills, saws, etc.) in order to build this robot.





- FIRST Choice Items available via an online menu in exchange for credits issued to all teams.
- Virtual Kit products available directly from the Supplier either via download or custom order.

For more information about the Kit of Parts, including deadlines, check out the Kit of Parts webpage.

## **Kickoff**

Kickoff is the event that starts the *FIRST* Robotics Competition season and is when the new game is revealed! During the broadcast, teams will hear from special guests and the details of the season's game.

Local areas may host Kickoff events to allow teams to come together to watch the broadcast. Local Kickoffs are most important because this is typically where teams receive their Kickoff Kit. These events may also choose to host workshops to help teams. Teams may choose to have their whole team attend a Kickoff event or they may send a few people to pick up their Kickoff Kit or they may choose to not attend a Kickoff and instead have their Kickoff Kit shipped directly to them, but fees may apply. Local Kickoffs are typically publicized in September/October and teams should sign up to the event that works best for them. Teams can reference the Kickoff webpage for instructions on how to sign up for a Kickoff event.

# How to approach Build Season

Build season is the time teams work on designing, building, and programming their robot. It begins immediately after Kickoff and goes through the first event the team attends.

Here is one very high-level schedule for how to approach the Build Season. Many factors affect this schedule including years of experience, number of students/mentors, machining resources, actual time between kickoff and your first event, etc. You should feel free to modify this timeline to what works best for your team as there is no single right way to how a team should approach Build Season. It's up to your team to figure out what may work best for you.

Table 10-1: Build Season Timeline

Week **ACTIVITY** 3 5 6 7 8+ Initial Strategy (~First 2-3 days) Mechanism Brainstorming + Choosing prototype concepts (~2 days) **Prototyping Detailed Design** Mechanism Fabrication Assembly (includes wiring) **Initial Programming** Test and Finalize Programming Practice/Testing Iterating

Some resources you may find helpful to guide specific aspects of the robot design process include:

- Kickoff Worksheet
- Design 101
- Prototyping 101
- Programming 101





If your team is attending multiple events, you may decide to make improvements to your robot between events. Using what you've learned from testing (i.e., your event) to iterate and make improvements is a crucial part of the engineering process!

#### **Post-Event**

One of the best ways to create and sustain team morale is to host a team debrief after an event. This debrief should be used to celebrate your team's successes and get feedback on what aspects you could improve. Use this as an opportunity to change the narrative if an event did not go as planned. This could include everything from the robot to logistics to interviews with judges. If your team is going to multiple events, the debrief may help your team decide what areas to improve prior to that event. Teams may choose to do one debrief after each event, or one at the end of the season but it's highly recommended to hold at least one debrief to let all members voice their opinions.

## **Events**

Going to an event is one of the highlights of being on a *FIRST* Robotics Competition team. All teams are expected to follow the <u>Event Rules</u> at all official *FIRST* events. Teams should make sure they are prepared for the event and can do so by reading the <u>District and Regional webpage</u> for more information on how to preference events, what to expect including judging, scouting, robot inspection, what to bring to events, and more.

Some events may be day trips for your team whereas others may require an overnight trip. Check out the How To: Arrange Team and Robot Transportation guide for tips on organizing travel to events.

## **FIRST** Championship

FIRST Championship is the culmination of the season's FIRST programs, bringing together tens of thousands of students, mentors, and volunteers of all ages for the ultimate celebration of science and technology. Teams from around the world earn spots at FIRST Championship by participating in District or Regional Events. For more information check out the FIRST Championship website.

## Off-Season

Some teams may take a break during the summer and/or fall whereas some teams choose to meet year-round. If your team decides to meet year-round, here are some ideas for your team to focus on:

- New student recruitment
- Fundraising for the next season
- Training this could be machining, CAD, wiring, presentation skills, etc.
- Outreach to your local community
- Organizing Build Space
- Adding/Maintaining Team Resources
- Off-Season Events Off-season Events are unofficial gatherings that utilize FIRST program
  content for which there is a participation fee or sponsorship funding. Many local teams or local
  Program Delivery Organizations may choose to hold Off-Season Events.
- And more!





## Resources

This guide is intended to be a starting point for mentors. Mentors should also consider looking at the following resources:

- <u>FIRST Robotics Competition Email Blasts</u> Archive of *FIRST* Robotics Competition team email blasts.
- <u>FIRST Robotics Competition Blog</u> Blog posts from the director of FIRST Robotics Competition and guests.
- <u>Season Materials Webpage</u> A link of resources related to each season's game including the manual, team updates, and more.
- <u>Team Management Resources</u> A collection of resources to help teams with some of the aspects of running a team such as organizing your team, fundraising, and more.
- Technical Resources A collection of both mechanical and software/electrical resources to aid teams.
- WPI Lib Control System and Programming documentation to help with wiring and programming your robot.
- <u>FIRST Robotics Competition Awards Page</u> A page that shows all of the current *FIRST* Robotics Competition Awards, award deadlines, and links to the guidelines for the awards.
- Find Local Support A page to find your local Program Deliver Organizations that partner with FIRST in each community that include Program Delivery Partners (PDPs) and FIRST Senior Mentors.
- FIRST Robotics Competition Social Media:
  - FIRST Robotics Competition YouTube,
  - FIRST Robotics Competition Twitter, and
  - o FIRST Robotics Competition Facebook

Teams can contact Team Support for any additional questions.



