



How to Start a *FIRST* Robotics Competition (FRC) Team

So you want to start a FRC Team and get involved in the excitement and challenge of promoting science and technology careers to today's high school students. Welcome to the most amazing program you'll ever lose sleep over. Your students will benefit from working side by side with professional engineers gaining practical experience in construction, programming and problem solving. Your mentors will benefit from the opportunity to network with other engineers and educators from around the world. And everyone will have the hardest fun they ever had.

What do I need to get started?

- 2-3 professional engineers – these volunteers will guide your students through the engineering challenges inherent in the design and construction of a working robot.
- 2-3 additional adults – these volunteers will handle everything else; organization, communication with *FIRST*, registration, fund raising, shipping and travel arrangements. As your team matures, you may want more adults to help with website design, community outreach, book keeping, animation, special projects, etc.
- 15-25 high school aged students – as your team matures, you may find room for more students. More students will make it possible to participate in more aspects of the *FIRST* experience.
- Financial Sponsors – the 2012 registration fee, which included the kit of parts and participation in one competition event, was \$5,000 for veteran teams who reused elements from prior year kits of parts and \$6,500 for rookie teams. Teams may register for additional events at \$4,000 each. Most teams budget funds to purchase additional materials for their robot, to transport team members and equipment to events, to create team t-shirts, etc.
- A meeting place – to design, build, program and test a working robot, teams need access to a machine shop, enough room to practice the game challenge and secure storage space.
- Tools – students will be designing and creating a working robot. You will need hand tools, power tools and access to machine tools.
- Time – the minimum commitment would be to meet with your team several times a week from mid-December to the end of April. Many mature teams meet throughout the school year and some compete in off season events during the summer.

Season Overview

- October - Teams register in the Team Information Management System (TIMS) and choose the local Kickoff and competition events they want to attend.
- November/December – many teams hold strategy meetings; fundraise; hold trainings on building, programming or other aspects of robot design; and plan for the upcoming season.
- January – Kickoff is the official beginning of the FRC season. At Kickoff, teams watch a broadcast of the release of the game rules, learn the password to decode the FRC Competition manual and pick up their Kit of Parts. Teams have just six weeks to build a functioning robot to compete in the game.
- February –*FIRST* provides updates and email blasts throughout the build season to keep teams informed of important changes/improvements to the rules. On Stop Build Day, teams must stop work on their robot and seal it into an isolation bag as described in the rules.
- March – Competitions begin. Teams travel to District or Regional competition events to compete in the game and be judged for awards in design, creativity, innovation and culture changing behavior.
- April – teams convene for the *FIRST* Championship

Lead Mentor responsibilities

Recruit a team of Mentors. Enlist volunteers to be the Main Contact, the Alternate Contact, and the Shipping Contact. Ensure the Main Contact understands they will be receiving weekly emails from *FIRST* containing vital information they must share immediately with the rest of the team.

Register the team in TIMS. Choose your Kickoff location (or arrange to pay for your kit of parts to be delivered to your site) and pick the competition event(s) your team will attend.

Complete and submit a W-9 form.

Recruit sponsors, fundraise and apply for grants to ensure your team has enough funds to participate.

Secure a meeting location where the team may design, build, program, test and store a working robot.

Obtain tools. You will need hand tools, power tools and access to machine tools.

Schedule team meetings.

Establish a team structure that encourages full participation by students.

Attend a Local Kickoff if practical, or view the Kickoff broadcast with your team.

Inventory your Kit of Parts within three days of receipt and notify FRckit@usfirst.org of any discrepancies.

Read and comply with all game rules outlined in the Competition Manual.

Assist the team in setting objectives and developing timelines.

Encourage creativity and Gracious Professionalism.

Monitor email blasts from *FIRST* and respond as needed.

Check Team Updates twice weekly.

Monitor team forums for live updates and mentorship opportunities.

Ensure participant safety at all times.

Ensure the team has a working robot by the deadline.

Enlist an adult to arrange transportation to competition events. If an event is far away, they may also need to arrange housing and meals.

Attend competition events with your team. (See “What Happens at Competition” below)

Manage funds and record expenses.

Ensure required documents are submitted to *FIRST* as needed.

What Happens at Competition?

When you arrive, go directly to Pit Administration, hand over your team’s roster and Consent and Release forms and sign in. You will be given an information packet and be assigned a pit space.

If you arranged to ship your robot your crate will be waiting in your pit space. If you transported your robot to the event, you must find the official in charge of checking the isolation bag before you unpack your robot.

Set up your tools and supplies in the pit space.

Program your radio with the WPA key assigned to your team for this event.

Prepare your robot and take it to the robot inspection station.

Sign up for time on the practice field.

Send your robot drivers to attend the driver’s meeting

Locate the shipping desk, the spare parts desk and the machine shop (not available at all competition events) for future reference

Pay close attention to pit announcements for updates.

Resources

The *FIRST* website www.usfirst.org contains up to date information on the FRC season and links to helpful websites.

The FRC Team Handbook, available on www.usfirst.org, has more detailed information for team leaders. Teams communicate with one another and with *FIRST* mentors on the Team Forums <http://forums.usfirst.org/>

Regional Directors and Senior Mentors are available to help your team connect with other teams in your area and find local sponsors.

Team Email blasts – are sent to the team Main and Alternate Contact weekly during the season and are archived on the *FIRST* website.

Bill's Blog contains up to the minute information directly from the man in charge <http://frcdirector.blogspot.com/>

Team support is available 8:30AM-5:00 PM EST from FRCteams@usfirst.org OR 1-800-871-8326 x0 Please choose only one method of contact as leaving multiple messages about the same question slows down the response time for everyone.

Glossary

Award Submissions – *FIRST* recognizes FRC teams for excellence in design, creativity, innovation, culture changing behavior and competition performance. For a list and description of awards given to teams at events and for details on submission requirements visit www.usfirst.org.

Consent and Release forms – every mentor and team member who attends a *FIRST* event must complete and submit a Consent, Release, Hold Harmless and Authorization to Reproduce Physical Likeness form.

Competition Manual – this document contains information and rules specific to the season.

Deadlines – important registration, Kit of Parts, robot shipment and awards deadlines are available in the FRC Season Calendar on our website.

FIRST (For Inspiration and Recognition of Science and Technology) is a 501(c) (3) not-for-profit public charity founded by inventor Dean Kamen to inspire young people's interest and participation in science and technology.

Game Q&A – Teams may leave questions for the Game Design Committee (GDC) on this forum.

Gracious Professionalism is a cornerstone of the *FIRST* philosophy. For a description, please visit our website.

Grants – traditionally some *FIRST* sponsors make grant money available to teams in specific circumstances. Details are available on our website.

Kit of Parts (KOP) – FRC teams create competition robots from a common set of parts contained in the official Kit of Parts. To obtain your Kit of Parts, you must register in TIMS and indicate your intention to either attend a Local Kickoff event and pick up your KOP there, or to pay to have your kit of parts shipped directly to your worksite. Teams must inventory the contents of their Kit of Parts within three days of receipt and notify FRckit@usfirst.org of any discrepancies. The contents of the KOP are kept confidential until Kickoff.

Stop Build Day - FRC teams must stop work on their robot on or before Stop Build Day. The robot must be sealed into an isolation bag as described in the rules.

Rookie Team Criteria – rookie teams have special incentives, therefore, there are specific criteria that must be met for a team to be considered Rookies.

Team Information Management System (TIMS) – FRC teams must register in TIMS to participate in Kickoff and FRC competition events. Once your team is registered, you will receive ongoing team email blasts including information on grants, award submissions and changes to season information. The earlier your team registers in TIMS, the more prepared you will be at Kickoff.

Q&A

Q **How do I find out when FRC Competition Events will take place?**

A Once the schedule is finalized, a chronological list will be posted on www.usfirst.org You can also use the “what events and teams are in my area?” link to search for events by state.

Q **How do I edit my Team Name in TIMS?**

A Your official “Team Name” includes the names of all your sponsors and partner organizations. The team name will automatically update once you enter this data. Please note: You must include at least one high school or youth organization, even if this school or organization does not sponsor your team financially.

Q **I filled in my information in TIMS, but I can’t register for events!**

A Your team’s information page in TIMS is separated into sections under light blue headers. Everything in the “Team Profile” section must be completed before you can select an event under “Event Registration.” A green check mark will appear in the “Status” column next to completed sections. Incomplete sections are marked with an X. Click the blue “Edit/View” button next to any section to enter or update the required information.

Q **How do I make sure that I get my Kit of Parts?**

A During the registration process, your team must select both a Kickoff location and a Kit of Parts pickup location. If you attend a Local Kickoff and want to pick up your kit while you are there, select Local Kickoff from the kit pickup menu. If you would like to have your KOP sent directly to a school or business location of your choice and are willing to pay additional shipping charges, select My Site from the menu. *Please note: you WILL BE charged for shipping the KOP if you select My Site. My Site shipments will arrive at your location a few days after Kickoff.

Q **My team wants to attend the FRC Championship. How do we register?**

A Rookie teams are not eligible to compete at the Championship in their first year unless they win a qualifying award at a Regional Event. For a list of qualifying awards, see www.usfirst.org

Q **I have a question about the rules for this year.**

A Please be sure to thoroughly read the FRC Competition Manual posted on the FIRST website. If you have questions about interpreting a rule or about information contained in the FRC Competition Manual you may submit your question online using the Game Q & A forum. <http://forums.usfirst.org/>

Q **Why can’t you answer my rule question by email or phone?**

A Many teams probably have the same question you do. Submitting your question to the Game Q & A for the appropriate year allows members of the Game Design Committee (most of whom are volunteers and do not work in the *FIRST* office) to review and discuss your question in an online forum and allows all teams to benefit from their response.