

FIRST Inclusion Guide

By FRC 3009

Preface

FIRST emphasizes 6 Core Values within their programs: Discovery, Innovation, Inclusion, Impact, Teamwork, and Fun. While FIRST generally does a good job at promoting these values to staff, volunteers, and team members, they do not offer much guidance to teams on promoting Inclusion within their own programs.

This guide is written from the personal experience of multiple youth on FRC team 3009 who are members of the communities that we will discuss. In this document, we cover numerous tips on making team activities more accessible to people with physical/mental impairments, those from varying socioeconomic backgrounds, and those living in secluded areas. We discuss equitable practices for your team members, and also give advice on designing outreach activities around increasing equity and inclusion in robotics.

Lastly, we have provided small suggestions for those running FIRST events on what they can do, beyond what is already recommended by FIRST, to make sure everybody has equal access to their events. Not all of these will be possible at each venue but we hope Program Delivery Partners and Event Directors around the world will strive to offer as many of these accommodations as possible.

While reading this guide, remember that the goal is not simply to allow underrepresented or underserved students to participate, but to thrive in FIRST programs. This means that females, ethnic minorities, and those with disabilities should have as much access as anybody else to key roles on the team including drive team, Impact team, and pit crew.



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Promoting Gender Diversity

One of the most marginalized groups in FIRST and STEM as a whole are females. Studies have found that FIRST Robotics Competition teams average 30% female participation¹, similar to the low rates found in most STEM fields after high school². What can be done to make FIRST more inclusive to females?

- Recruitment
 - **Represent your team's diversity.** If possible, ensure at least one girl from your team is at each recruitment event. Many people see STEM as a place for males. Showing that girls participate too can encourage more female students to try it out.
 - **Plan recruiting events with your audience in mind.** Do not recruit solely at places or events with mostly male attendees. Try to recruit in locations whose crowds are truly representative of your local community's demographic.
 - **Don't make a gender quota.** Your goal is not to "achieve" a certain percentage of female participation on the team. Your goal is to ensure that every female who is interested in the team has the same opportunity and encouragement to join as everybody else.
- Within The Team
 - **Don't let guys dominate your technical roles.** Often teams that boast a >40% female participation push the girls on the team to business or outreach teams. While many males and females will want to pursue non-technical roles on the team, encouraging *all* members to be involved in the robot side of the team will increase female student retention and learning outcomes.

¹ "Girls in FIRST: SOTAbots FIRST Team 2557." *Sotabots*, www.sotabots.com/girls-in-first. Accessed 4 Mar. 2025.

² "Global STEM Workforce." *Society of Women Engineers*, 7 Feb. 2025, swe.org/research/2023/global-stem-workforce/.



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- **Listen to the girls.** Oftentimes, female students get spoken over at competition, especially those in roles such as drivers, drive coach, and scouters. Ensure that when having team strategy meetings, you don't interrupt anybody even if you think you know better. (This goes for students from other teams as well)
- **Impact Initiatives**
 - **Repeat.** Everything mentioned above also applies when running community events. If running a robotics camp for younger students, make sure that the girls in the camp are being given opportunities to thrive just as much as the boys. (Younger boys especially may have biases they've picked up from their environment that can cause them to mistreat girls in STEM programs. Make sure to keep an eye on students to ensure everyone is included)



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Promoting Socioeconomic Inclusion

A major goal of the FIRST programs is to encourage people who normally would not have the opportunity to engage with STEM. Teams can help facilitate this by eliminating policies that may be unintentionally barring certain students from participating. While we understand not all of these tips are possible for every team, we encourage you to try your best to implement as many as possible.

- **Within the team**

- **Eliminate team fees.** Ideally, team fees would be nonexistent for all teams, but we also know many teams rely on this income to survive. Try implementing a staged approach, where first you eliminate membership fees and only have travel fees. As you replace any missing income with extra sponsors, work towards eliminating any economic requirements to being involved with the team.
- **Provide transportation to regionals.** Even if you are going to your home regional, try to arrange for all team members to ride together, in a van or a bus depending on your team size. This takes the stress off of individual students who may not have their own car or whose families can not transport them.
- **Organize carpooling for team meetings.** Many teams meet right after school, which is convenient except for students who rely on the bus to get home every day. These students may not be able to participate in after-school activities if your district does not provide late buses. Having team members who have access to their own transportation take other members home opens your team up to a new group of people.



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Physical Disability Accessibility

FIRST offers some good advice to Program Delivery Partners and other event staff on maintaining accessibility in their [Accessibility Guide](#) for FIRST Tech Challenge and we recommend you all go give that a read. Here we would like to give a couple extra tips specifically for teams on creating an accessible space.

- Within The Team
 - **Make the team workspace accessible.** This advice is somewhat circular but it is important that the room(s) that your team work in are accessible to those with mobility issues. This means adding ramps to elevated areas, and ensuring all areas of interest are accessible through walkways at least 36 inches wide.
 - **Provide accessible tools.** Many tools come with options that have larger handles, or are easier to use one-handed. Opt for these versions whenever possible to ensure everyone can work on the robot together.
 - **Know your teammates.** Understand your members' needs. Many disabilities are not outwardly visible, but may require special equipment or respite that you can help with. Make sure anything needed to alleviate symptoms of your teammates' disabilities (Whether constant or sudden) is on hand wherever they may be.
- At Competition
 - **Offer resting places in your pit.** We usually bring 2-3 chairs from our shop to keep in our pit. Not all mobility issues make someone unable to walk, some may make standing for long periods of time extremely fatiguing or painful.



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Intellectual and Developmental Disabilities

- Within The Team
 - **Communicate clearly and concisely.** Many people with mental disabilities may have trouble picking up on social cues. While these cues are an essential part of how humans communicate, make sure that all instructions and conversations are direct enough that these team members can easily understand.
 - **Include these students in key roles. (Even the speaking ones!)** It may be your first instinct to put the people who are the best speakers on Impact team or speaking to pit judges, but that is simply not what FIRST is about. These students are the ones that can benefit most from a role that involves judge interactions and you should encourage them to take them on.
 - **Train team members on handling disabilities.** Sometimes mental disabilities can be hard to assess and help with. Make sure all of your team members are able to interact productively with each other. This will help encourage teamwork and collaboration without excluding certain members.

