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# Introduction



## 1 Introduction

### 1.1 What is the FIRST Robotics Competition® (aka FRC)?

The *FIRST* Robotics Competition (FRC) pairs high-school students with adult mentors (primarily engineers and teachers) to design and build robots that compete against one another in this high energy “varsity Sport for the Mind™”. Each year at the Kickoff in January, a new, challenging game is introduced. These exciting competitions combine the practical application of science and technology with the fun, intense energy and excitement of a championship-sporting event. Teams are encouraged to display Gracious Professionalism™ and to cooperate while competing – known as “Coopertition™”.

In 2012, FRC will reach 60,000 high-school students representing approximately 2,400 teams. FRC teams come from nearly every state in the United States, as well as from Australia, Bosnia-Herzegovina, Brazil, Canada, Chile, Dominican Republic, Germany, Israel, Mexico, Puerto Rico, Turkey and the United Kingdom,. FRC teams will participate in 52 Regional Competitions, 14 FRC District Competitions, one State Championship, and one Region Championship, and approximately 340 deserving teams will qualify to go to the *FIRST* Championship in the Edward Jones Dome in St. Louis, MO.

This year's challenge will be presented at the 2012FRC Kickoff on Saturday, January 7, 2012. At the Kickoff event, all teams:

- See the 2012 game field for the first time;
- Learn about the 2012 game rules and regulations; and
- Receive the official Kit of Parts (KOP) which includes motors, sensors, chassis hardware, transmissions, software packages, control systems and batteries. The intent of the kit is to provide a level starting point for all teams.

## 1.2 Gracious Professionalism™, A FIRST Credo

Dr. Woodie Flowers, *FIRST* National Advisor and co-founder of FRC, elaborates on the significance of Gracious Professionalism™ in *FIRST*:

“*FIRST* celebrates high-quality, well-informed work done in a manner that leaves everyone feeling valued. Gracious Professionalism™ seems to be a good descriptor for a big part of the ethos of *FIRST*. It is one of the things that makes *FIRST* different and wonderful.

Gracious attitudes and behaviors are win-win. Gracious folks respect others and let that respect show in their actions. Professionals possess special knowledge and are trusted by society to use that knowledge responsibly. Thus, gracious professionals make a valued contribution in a manner pleasing to others and to themselves.

In *FIRST*, Gracious Professionalism™ means that we learn and compete like crazy, but treat one another with respect and kindness in the process. We try to avoid leaving anyone feeling like they have lost. No chest-thumping barbarian tough talk, but no sticky sweet platitudes either. Knowledge, pride and empathy comfortably blended.”

## 1.3 Prominent FRC Awards

*FIRST* values and acknowledges team performance, both on field and off, that promotes our mission to change culture. The three most prominent FRC awards that celebrate our culture are described below.

Additional awards recognize outstanding technical expertise, community involvement and safety practices. A complete list and description of awards available to teams as well as past winners to date can be found in *Section 6* of the manual.

### 1.3.1 The Chairman's Award

Every year, veteran FRC Teams have the opportunity to compete for *FIRST*'s most prestigious award; i.e., the

Chairman's Award, which represents the spirit of *FIRST*. This Award was created to maintain focus on changing culture in ways that would inspire greater levels of respect and honor for science and technology, as well as encourage more of today's youth to become scientists, engineers and technologists. The Chairman's Award honors the team that best embodies the goals and purpose of *FIRST* and is a model for other teams to emulate.

One team is chosen at each regional to receive this award; these teams go on to be considered for the Chairman's Award at the Championship. Teams who have won the Chairman's Award at the Championship are entered into the *FIRST* Hall of Fame.

### 1.3.2 The Woodie Flowers Award

The Woodie Flowers Award, founded in 1996 by Dr. William Murphy, celebrates outstanding mentors who lead, inspire and empower their team. Woodie Flowers Award winners demonstrate effective communication in the art and science of engineering and design.

Students submit an essay that nominates one mentor from their team for consideration.

### 1.3.3 The Dean's List Award

Now in its third year, this award celebrates outstanding student leaders whose passion for and effectiveness at attaining *FIRST* ideals is exemplary. Finalists are chosen by a panel of Judges at each FRC Regional, The Mid-Atlantic Robotics FRC Region Championship and the Michigan FRC State Championship. From the Finalists, the Dean's List Award Committee will select 10 Winners at the Championship in St. Louis, MO. Student winners are invited to a summit at *FIRST* HQ and DEKA which coincides with the FRC Supplier's Summit held over the summer.

Mentors submit an essay nominating a maximum of two (2) junior students from their team for consideration.

## 1.4 Safety: A FIRST Culture

Safety is critical within *FIRST* and must be observed continuously by all participants. As a part of the "Safety Awareness and Recognition Program", teams are observed and evaluated both at many levels and by many individuals at both the events and the Championship.

#### Key People in this Process:

*Safety Advisors* - evaluate team safety behavior and practices at Regional Competitions

*Referees and other Field Personnel* - observe safety on the playing field as well as adherence to the game rules

*Judges* - evaluate how teams have integrated safety into their robot designs when considering the team for technical

awards

*Teams* - Safe practices at the competitions are mandatory. Teams are required to adopt safe habits throughout the entire competition season including during travel to and from events and while working in their shops at home, etc...

More information on our safety program can be found here:

<http://www.usfirst.org/roboticsprograms/frc/safety-video-and-manual>



**PLEASE** take the time to read the sections of this manual. It was prepared with **YOU** in mind and is a great resource for important information you will need throughout the season.