Section 0

INTRODUCTION

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0 INTRODUCTION

0.1 WHAT IS THE *FIRST* ROBOTICS COMPETITION?

Take dedicated, enthusiastic students, teachers, engineers, and other professionals, add six weeks for design and fabrication and you get a wide range of amazing machines that are competition ready.

The *FIRST* Robotics Competition (FRC) is an exciting program that assimilates teams, sponsors, colleges, and technical professionals with high school students to develop their solution to a prescribed engineering challenge in a competitive game environment. The competitions, also known as co-opetitions, combine the practical application of science and technology with the fun, intense energy, and excitement of a championship-sporting event. The program results in life-changing, career molding experiences for its participants and is *a lot* of fun.

In 2009, FRC will reach nearly 44,000 students representing approximately 1,725 teams. FRC teams come from every state in the United States, as well as from Brazil, Canada, the United Kingdom, Mexico, Israel, and The Netherlands. FRC has become an international program and is continuously growing. FRC teams will participate in 42 Regional Competitions and approximately 300 deserving teams will qualify to go to the *FIRST* Championship at The Georgia Dome in Atlanta, Georgia.

This year's challenge will be presented at the 2009 FRC Kickoff on Saturday, January 3, 2009. At the Kickoff event, all teams:

- see the 2009 game field for the first time
- learn about the 2009 game rules and regulations
- receive a Kit of Parts (KOP). The KOP includes, but is certainly not limited to, 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.

0.2 GRACIOUS PROFESSIONALISM, A *FIRST* CREDO

Dr. Woodie Flowers, *FIRST* National Advisor and co-founder of FRC, asks

"Why do *FIRST* folks talk so much about that phrase?"

Dr. Flowers elaborates on the significance of gracious professionalism in *FIRST*, at work, and in life below.

> Obviously it would not make sense to endorse 'asinine professionalism' or 'gracious incompetence'. It is, however, completely consistent with the *FIRST* spirit to encourage doing high quality, well-informed work in a manner that leaves everyone feeling valued. Gracious professionalism seems to be a good descriptor for part of the ethos of *FIRST*. It is part of what makes *FIRST* different and wonderful.
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> Gracious professionalism has purposefully been left somewhat undefined because it can and should mean different things to each of us. We can, however, outline some of its possible meanings. 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*, one of the most straightforward interpretations of gracious professionalism is 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.

Understanding that gracious professionalism works is not rocket science. It is, however, missing in too many activities. At *FIRST*, it is alive and well. Please help us take care of it.

In the long run, gracious professionalism is part of pursuing a meaningful life. If one becomes a professional, and uses knowledge in a gracious manner, everyone wins. One can add to society and enjoy the satisfaction of knowing that he or she has acted with integrity and sensitivity. That's good stuff!

0.3 PROMINENT FRC AWARDS

FIRST recognizes both on-field and off-field team performance that promotes *FIRST*'s mission to change culture. Several awards celebrate team competencies including, but not limited to, technical expertise, community involvement, and safety practices. The two most prominent FRC awards are described below (however, for a complete list and description of awards available to teams, please reference Section 5).

0.3.1 The Chairman's Award

Every year, veteran FRC Teams have the opportunity to compete for *FIRST*'s most prestigious award, the Chairman's Award. The Chairman's Award was created to maintain focus on changing culture in ways that will 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. It represents the spirit of *FIRST*. 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. Past Chairman's Award winners who have been inducted into the *FIRST* Hall of Fame are listed below.

Year	Team	Official Team Name
2008	842	Honeywell / Arthur M. Blank Foundation / Science Foundation Arizona / Intel / Vegas Fuel / Wells-Fargo & Carl Hayden High School
2007	365	DuPont Engineering/DuPont CCRE/First State Robotics & MOE Robotics Group
2006	111	Motorola & Rolling Meadows High School & Wheeling High School
2005	67	General Motors Milford Proving Ground and Huron Valley Schools
2004	254	NASA Ames Research Center/Laron Incorporated/Unity Care Group/Line-X of San Jose/PK Selective Metal Plating, Inc. & Bellermine College Preparatory
2003	103	NASA/Amplifier Research/Custom Finishers/Lutron Electronics/BAE Systems & Palisades High School
2002	175	Hamilton Sundstrand Space Systems International/The New England Air Museum/Techni-Products/Veritech Media & Enrico Fermi High School
2001	22	NASAJPL/Boeing/Rocketdyne/FADL Engineering/Decker Machine & Chatsworth High School
2000	16	Baxter Healthcare Corporation & Mountain Home High School
1999	120	NASA Lewis Research Center/TRW, Inc./Battelle Memorial Institute & East Technical High School
1998	23	Boston Edison & Plymouth North High School

1997	47	Delphi Corporation & Pontiac Central High School
1996	144	Procter & Gamble & Walnut Hills High School
1995	151	Lockheed Sanders & Nashua High School
1994	191	Xerox Corporation & JC Wilson Magnet High School
1993	7	AT&T Bell Labs & Science High School
1992	191	Xerox Corporation & JC Wilson Magnet High School

0.3.2 The Woodie Flowers Award

The Woodie Flowers Award celebrates mentors who lead, inspire, and empower their team. Woodie Flowers Award winners demonstrate effective communication in the art and science of engineering and design. Founded in 1996 by Dr. William Murphy, the Woodie Flowers Award is presented to an outstanding engineer or teacher participating in FRC who lead, inspire, and empower using excellent communication skills.

Students submit an essay that nominates one mentor from their team for consideration. Past winners of this award are listed below.

Year	Name	Title
2008	Mr. Mark Breadner	Vice Principal, Toronto District School Board
2007	Mr. Dan Green	Director, New Technology Business Operations, Motorola
2006	Mr. Rob Mainieri	Teacher, The Preuss School at UCSD
2005	Mr. Paul Copioli	Staff Engineer, FANUC Robotics America
2004	Mr. David Kelso	Teacher, Central High School
2003	Mr. Andy Baker	President, AndyMark, Inc.
2002	Mr. David Verbrugge	Engineer, GM Proving Ground
2001	Mr. William Beatty	Beatty Machine & Manufacturing Company
2000	Ms. Kyle Hughes	Teacher, OSMTech Academy
1999	Mr. Ken Patton	Engineer, GM Powertrain
1998	Mr. Michael Bastoni	Teacher, Plymouth North High School
1997	Ms. Elizabeth Calef	Teacher, Bridgewater-Raynham Regional High School

0.4 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 at many different levels and by many individuals at the event.

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

Safe practices at the competitions are required, and teams are urged 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.