

2012-2013 Application for FIRST Robotics Team 456

FIRST Robotics Team 456, Siege Robotics, provides students the opportunity to engage in engineering, science, technology, and business skills in a high-energy environment. Siege Robotics motivates students from all walks of life to develop skills through participating in a real life, hands-on experience. Siege Robotics has competed in FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition (FRC) for 13 years. FRC exposes students to engineering, fabrication, programming, web design, photography, presentations, writing, business processes, and much more. Studies have shown that participants in FRC are:

- Three times more likely to major in engineering.
- Ten times more likely to have had an internship or co-op in their Freshman year of college.
- More than twice as likely to pursue a career in science or technology
- More than twice as likely to volunteer in their communities.

Siege Robotics depends on funding provided by students and sponsors to cover the team expenses such as travel costs, registration fees, and building components. We expect to cover most of the costs through grants and fundraising activities to minimize the amount paid by the students. Each student will be assessed an activity fee and an additional travel cost for EACH trip THEY participate in during the year. Additional travel costs will be determined based on the location of the events we attend. We plan on attending 2 regional competitions this year and the championship event in St. Louis if we qualify.

The activity fee of \$200 is fixed and due by 31 December 2012. Additional travel costs will be determined based on grants awarded, fundraising, and actual travel costs.

All applications will be reviewed for missing or inaccurate information and a review of the student's academic records will be conducted by the schools. Applications with missing or inaccurate information, students with a most recent GPA of less than 2.5, excessive absences, or disciplinary issues deemed to be unbecoming of FIRST, ERDC, Team 456, and its other sponsors and supporters will be excluded from eligibility. The remaining applications will be reviewed by a selection committee made up of adult team mentors. The review process will consider the content of the application as well as letters of recommendation provided. Based on this review, the best applicants will be scheduled for an interview.

The team will be limited to approximately 30 students, hard decisions will have to be made and ultimately not everyone that applies will be accepted. **Each student is required to complete an application, including returning members. Being a member of the previous year's team is no guarantee of a place on this year's team.**

A completed application packet includes several elements:

- Student Application Form
- Student Consent Form
- Parent Consent to Participate Form
- Letters of Recommendation (optional)

If you attach your responses on a separate page, please limit your response to each question to no more than a half-page.

Completed applications may be submitted electronically (preferred) or in hard copy. If possible, all parts of the application should be submitted together. An electronic application can be downloaded from www.siegerobotics.org.

All applications are due on or before **August 31, 2012**. Late applications will not be accepted. All applications including the parent forms must be completed by the due date. Questions about the application and admissions process may be directed to Info@456Robotics.org.

Submission methods:

PDF e-mail attachment to Applications@456Robotics.org (*preferred*)

Hard copy submissions to:

456 Robotics Applications
P.O. Box 821792
Vicksburg, MS 39182

FIRST Robotics Team 456
Siege Robotics
Student Application Form

Student's Information

Name: _____

School Name: _____

Grade Level: ___ Freshman ___ Sophomore ___ Junior ___ Senior

Most Current GPA: _____

Home Address: _____

Home Phone: _____ Cell Phone: _____ Text OK? Y / N

Email(s): _____

Other Contact Info (FaceBook, etc.): _____

Parent or Guardian's Information

Name(s): _____

Home Number(s): _____

Cell Number(s): _____

Work Number(s): _____

Employer(s) _____

Email(s): _____

Do you have a driver's license? Y / N Your own vehicle? Y / N

Do you need to coordinate a ride to robotics meetings with a parent or another student? Y / N

How did you first learn about FIRST Robotics Team 456? _____

Please tell us about yourself. (Interests, Hobbies, Experience, etc.) _____

Discuss some of the skills that you could bring to the team, what you hope to learn from the team, and how you plan to contribute to the overall success of the team: _____

Please let us know what other after-school activities you are involved in during the year:

Fall Semester: _____

Spring Semester: _____

Summer Break: _____

What sort of career would you like to pursue? _____

FIRST Robotics Team 456
Siege Robotics
Student Consent Form

I understand by its very nature, competitive Robotics (including the use of tools) may put me in a situation in which serious or perhaps fatal accidents may occur. I agree to adhere to the instruction I receive from my adult mentors and teachers regarding the proper techniques to be used in robot construction and competition, and in the proper utilization of all equipment worn or used in lab work, construction, and at competition. I further agree that I will refrain from improper uses and techniques. Acknowledging such conditions and risks, I choose to participate in Robotics with FIRST Robotics Competition Team 456.

Student Signature _____ Date _____

I understand that participation on the FIRST Robotics Team 456 is a privilege that can provide me with knowledge and skills that will benefit me for a lifetime. I agree with the philosophy FIRST upholds; "FIRST inspires in young people, their schools and communities an appreciation of science and technology, and of how mastering these can enrich the lives of all." I understand that, as a member of FIRST Robotics Team 456, my actions reflect on my team, school, sponsors, and other supporters of the team. I also understand and agree that as a member of FIRST Robotics Team 456, I am to keep my grade point average at or above 2.5 and will agree that I will refrain from using illegal drugs, alcohol, and tobacco. I also understand that, at the very least, I will be disciplined and/or dismissed from the robotics team if I participate in the use of illegal drugs, if I let my grades drop below acceptable levels, or act inappropriately.

I promise my fellow team members and mentors that I will try new things, learn all that I can, at all times do what is best for the good of the team, and I agree to act with Gracious Professionalism in all that I do while a member of FIRST Robotics Team 456.

Student Signature _____ Date _____

FIRST Robotics Team 456
Siege Robotics
Parent Consent to Participate Form
(Parental Permission)

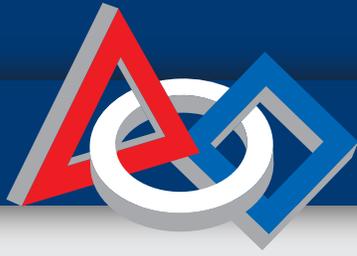
I/We, the undersigned parent(s) or guardian(s) of _____, understand that he/she wants to participate in and become a member of FIRST Robotics Team 456, Siege Robotics. I/We understand that costs are involved and the time commitment required to be a member of the team are extensive. I/We also recognize that by its very nature, and its involvement with the use of tools, competitive Robotics may put students in situations in which serious and perhaps fatal accidents may occur. I/We further realize that no amount of instruction, precaution, or supervision will totally eliminate all risk of injury. Acknowledging that such costs, commitments, and risks exist, I/we grant permission for our child to participate in robotics and robotics competitions as a member of FIRST Robotics Team 456, Siege Robotics.

Parent/Guardian Signature _____ Date _____

Parent/Guardian Signature _____ Date _____

FRC

FIRST® Robotics Competition



The **FIRST**® Robotics Competition: **OVERVIEW**

Since 1992, the *FIRST* Robotics Competition has grown from 28 teams to 2,400 projected for 2012.

Over 90% of the high schools and their company Mentors have stayed involved year after year.

What is it?

- A unique varsity Sport for the Mind™ designed to help high-school-aged young people discover how interesting and rewarding the lives of engineers and scientists can be.

Why is it unique?

- It is a sport where participants play with and learn from the pros
- Designing and building a robot is a fascinating real-world professional experience
- Competing brings participants as much excitement and adrenaline rush as conventional varsity tournaments
- The game rules are a surprise every year

How it works

The *FIRST*® Robotics Competition (FRC®) stages short games played by robots. The robots are designed and built in six weeks (from a common set of parts) by a team of high-school-aged young people and a handful of engineers-Mentors. The students program and remotely control the robots in competition rounds on the field.

Teams are formed in the fall. The annual *FIRST* Robotics Competition Kickoff in early January starts the six-week “build” season. Competitions take place in March and April. The *FIRST* Robotics Competition Regional events are typically held in university arenas. They involve 40 to 70 teams cheered by thousands of fans over three days. A championship event caps the season. Referees oversee the competition. Judges evaluate teams and present awards for design, technology, sportsmanship, and commitment to *FIRST*. The Chairman’s Award is the highest honor at *FIRST* and recognizes a team that exemplifies the values of *FIRST*.



What is needed to start a team:

- Three to six engineers or other professional Volunteers encouraged by their company’s management
- 15 to 25 high-school-aged young people led by a teacher, ideally supported by the school principal and a group of parent Volunteers
- Funding (of \$15,000 to \$30,000) to participate in 2 to 3 Regional competitions provided by a single, company, a group of companies, and/or through school fund-raising efforts

What is needed to host a *FIRST* Robotics Regional Competition:

- Funding (\$150,000 to \$200,000) raised from corporations, foundations, individuals, and administrations
- Volunteers to organize, raise funds, recruit new teams and support the competition itself (judges, referees, announcers, security, etc.)



FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY **FIRST**

What has been accomplished to date:

- Since 1989, the *FIRST* Robotics Competition has grown from 28 teams to 2,400 projected for 2012
- 91% of the high schools and their company Mentors stay involved year after year
- A proven positive impact on student interest in engineering
- Participants learn the great values of teamwork, self-starting, character, time management, etc.
- In most schools, participation in the *FIRST* Robotics Competition has had a broad positive impact beyond the team itself. The *FIRST* Robotics Competition is included as a varsity sport in yearbooks
- Volunteers return to participate year after year
- *FIRST* has received major media coverage of events and the impact of the *FIRST* Robotics Competition

Hope for the future

We know the FIRST Robotics Competition will have succeeded when:

- More than half of high schools are funding their *FIRST* teams as varsity activities
- More than 12,000 corporations are volunteering engineers-Mentors for these teams year after year
- *FIRST* Robotics Competition events are as common as any other high-school sports event
- The *FIRST* Robotics Competition season is televised
- The *FIRST* Volunteer organization is recognized and admired worldwide

Get Involved!

Join or start a team in your area



Sponsor a team, event, or local *FIRST* program



Become a team Mentor or Coach



Volunteer to fill over 100 roles

For information about *FIRST*® in your area:
WWW.USFIRST.ORG/CONTACTUS
603-666-3906



FIRST® Robotics Competition

FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY

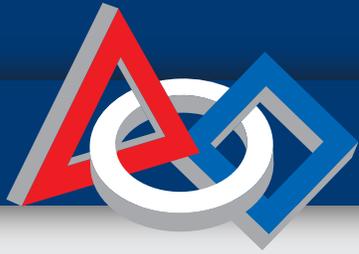
200 Bedford Street ■ Manchester, NH 03101 ■ USA

WWW.USFIRST.ORG

FIRST®, the FIRST® logo, FIRST® Robotics Competition, and FRC® are registered trademarks, and Sport for the Mind™ is a common law trademark of the United States Foundation for Inspiration and Recognition of Science and Technology (FIRST).
© 2011 FIRST. All rights reserved.

FRC

FIRST® Robotics Competition



The **FIRST**® Robotics Competition: **HOW IT WORKS**

2012 FRC® FACTS PROJECTED

60,000 high-school-aged young people

2,400 teams

24,000 Mentors and Adult Supporters

7,500 other Volunteers

More than 3,000 sponsoring companies

Kit of Parts for all teams

6 week build season

53 Regional Events

2 Qualifying Championships

15 Qualifying Competitions

1 Championship
Edward Jones Dome
St. Louis, MO
April 25-28, 2012

Hardest Fun Ever

The **FIRST**® Robotics Competition (FRC®) combines the excitement of sport with science and technology to create a unique varsity Sport for the Mind™. FRC helps high-school-aged young people discover the rewarding and engaging world of innovation and engineering.

Inputs:

- Teams of 15-25 High-school-aged Young People
- Professional Engineers, Mentors
- Teachers, Parents, Community
- Corporate Sponsors
- New Game Challenge Each Year

Outputs:

- Real-world Engineering Experience
- Technological Literacy
- Inspired Minds
- Teamwork Skills
- Career Path



“...It’s like life. You never have enough information. You never have enough time. The kit of materials may be what you have in the warehouse. There are always people doing competing things and you must have a strategy. We’ve created a microcosm of the real engineering experience.”

Woodie Flowers
FIRST National Advisor

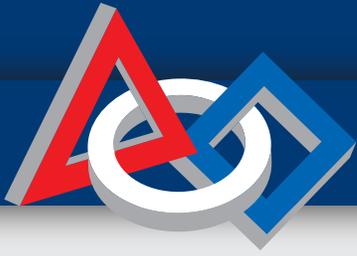


FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY **FIRST**

WWW.USFIRST.ORG

FRC

FIRST® Robotics Competition



The **FIRST**® Robotics Competition: **TEAMS**

GET INVOLVED!

“...the most memorable and important part of my life in high school... being on the team proved to me the importance of teamwork in a very real and concrete way... the team provides an opportunity to apply the knowledge learned in school from many subject areas.”

Ian McKenzie

Woburn Robotics Team
alumnus, went on to
University of Waterloo
(Canada) in Systems
Design Engineering

FIRST® Robotics Competition (FRC®) allows students to:

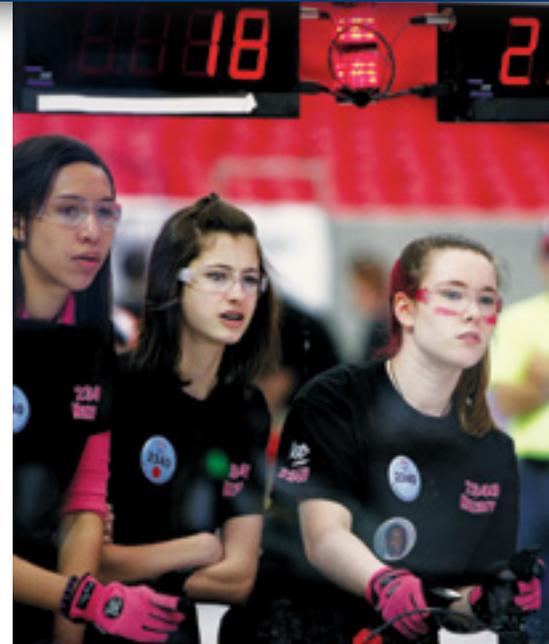
- Learn from and play with the “pros” of the science and engineering world
- Apply math and science concepts to design, build, test, and compete with robots
- Gain hands-on experience solving real-world problems
- Discover the excitement and rewards of science and technology careers

Every student – regardless of his or her scientific, mathematic, or technological expertise – can participate and benefit. There are critical roles for students in:

- Design, building, and driving
- Computer animation and programming
- Research
- Fundraising
- Public relations and marketing

Your **FIRST** team will need:

- Dedicated students with a variety of capabilities
- Coaching and enthusiastic support from school faculty
- Industry engineers, technicians, or other professionals
- Community support to coordinate the project beyond the design and build phase
- Corporate Sponsors to help with the cost of participation



*“I tell you and you forget.
I show you and you
remember. I involve you
and you understand.”*

Eric Butterworth

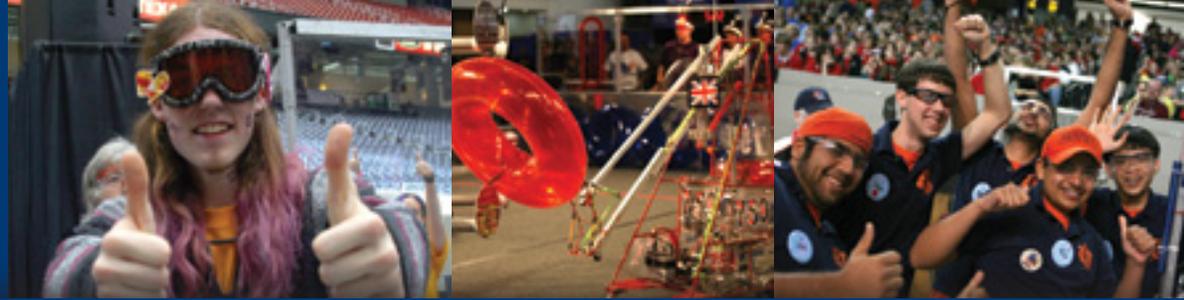
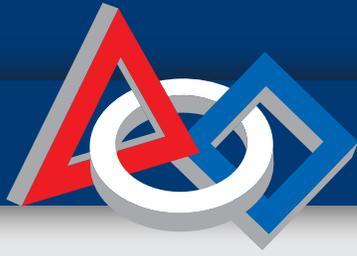


FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY **FIRST**

WWW.USFIRST.ORG

FRC

FIRST® Robotics Competition



The **FIRST**® Robotics Competition: **INSPIRING**

Improving young people's attitudes towards science and technology, and building self-confidence.

89% of FRC alumni reported an increased understanding of the role of science and technology in everyday life.

86% of FRC alumni reported an increased interest in science and technology.

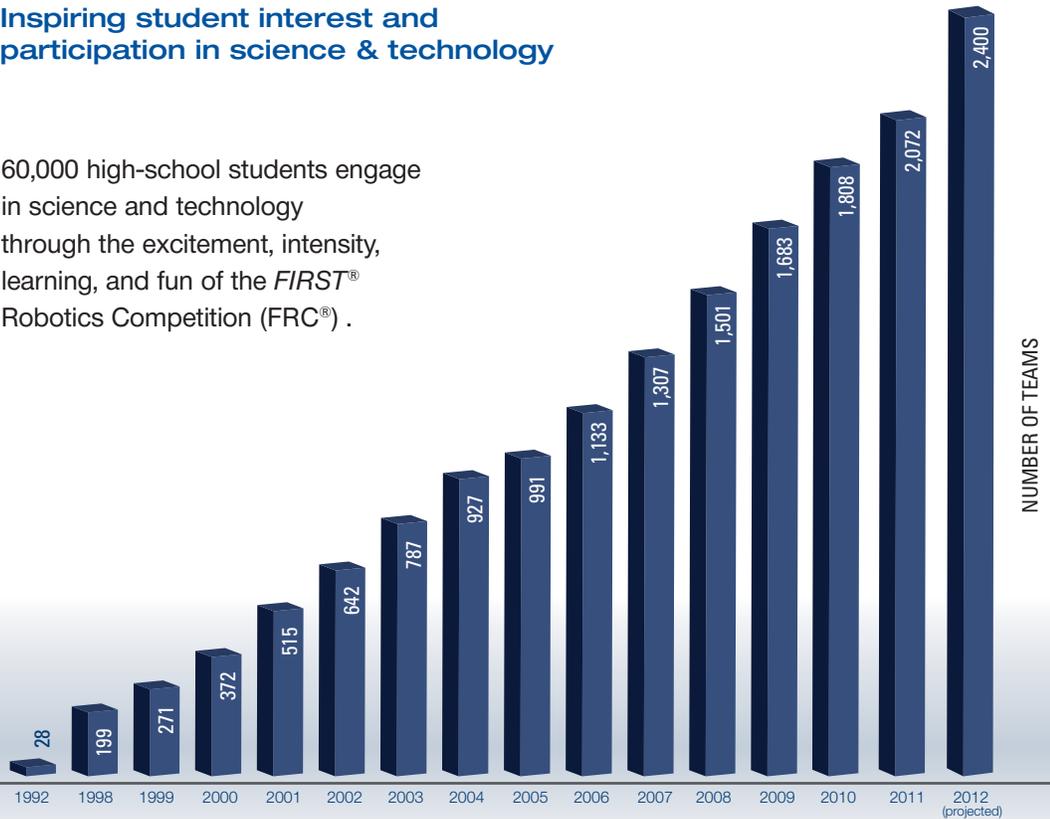
89% of FRC alumni reported increased self confidence.

Source: Brandeis University Impact Evaluation

FRC TEAM GROWTH

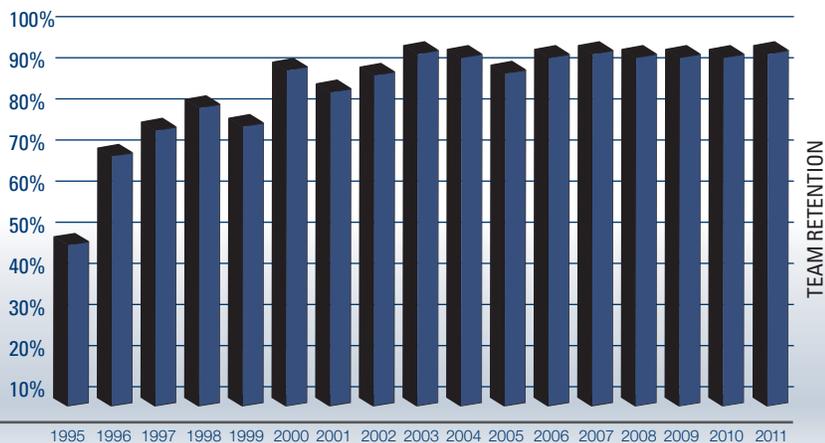
Inspiring student interest and participation in science & technology

60,000 high-school students engage in science and technology through the excitement, intensity, learning, and fun of the **FIRST**® Robotics Competition (FRC®).



FRC TEAM RETENTION

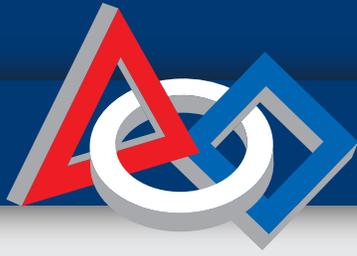
FIRST Robotics Competition's team retention rate of 91% is evidence of the high quality of participant interest and experience.



FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY **FIRST**

FRC

FIRST® Robotics Competition



The **FIRST**® Robotics Competition: CAREERS

“This is the only sport I know of where everybody who plays can become a pro.”

Walter P. Havenstein
CEO

Science Applications and
International Corporation
(SAIC)

Chairman, *FIRST*

Compared to a group of students with similar backgrounds and achievement in high-school math and science, FRC alumni are:

10 times as likely to have had an apprenticeship, internship, or co-op job in their college freshman year (27% vs. 3%).

More than twice as likely to expect to have a science or technology-related career after college (45% vs. 20%).

Four times as likely to pursue a career in engineering (31% vs. 8%).

Source: Brandeis University
Impact Evaluation

Enabling careers in science and technology

Every student can actively participate in and benefit from the *FIRST*® Robotics Competition (FRC®), even those who may not be partial to science, math, or technology. In *FIRST*, there are critical roles for students in everything from design and build, to computer programming and animation, as well as to fundraising, research, and community outreach.

Throughout the FRC experience, students gain maturity, build self-confidence, learn teamwork, and gain an understanding of professionalism. They learn skills along the way that all but guarantee them extraordinary career opportunities in a host of exciting fields:

Math

(algebra, geometry, trig, calculus)

Science

(physics, chemistry, experimentation)

Language Arts

(writing, public speaking)

Business

(marketing, public relations, fundraising)

Finance

(accounting)

Computer Science

(programming, software development, 3D animation)

Fabrication

(woodworking, metalworking)

Mentorship

Working side-by-side with professionals

Teamwork and Cooperation™*

Gracious Professionalism™**

* Defined on back of flyer



Investing in the Future Workforce

Sponsors and Mentors find future employees and interns through their involvement with FRC. According to a Goodman Research Study, two-thirds of student participants indicated interest in working for one of their team Sponsors after completing their education, and one fifth had plans to work for one of their team Sponsors in a summer internship or a part-time job.

“FIRST isn’t about building robots, it’s about developing life skills. The kids learn skills in relationships, teamwork, finance, fundraising, budgeting, and project management. The partnership between academia, the community, and industry...will build our future employees and future citizens.”

Steve Sanghi

Chairman of the Board,
President & CEO
Microchip Technology

Member of the
FIRST Board
of Directors



FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY **FIRST**

WWW.USFIRST.ORG