

**Q&A about *FIRST*[®],
Connecticut *FIRST*[®]
and the *FIRST* Robotics Competition (FRC)**

What is *FIRST*[®]?

FIRST[®], which stands for “For Inspiration and Recognition of Science and Technology”, was founded in 1989 by inventor Dean Kamen to inspire young people’s interest and participation in science and technology.

Based in Manchester, N.H., *FIRST* is a 501(c)(3) not-for-profit organization that inspires young people to be science and technology leaders by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

While *FIRST*’s mission of inspiring young people to be science and technology leaders is directed at *all* students, the program has proven to be a particularly creative and successful method of engaging groups who are typically underrepresented in STEM education, e.g., females, inner-city youth, and individuals with disabilities. Overall, *FIRST* participants include: 74% male and 26% female; 16% African American, 5% Hispanic, 2% Native American, 3% Pacific Asian & Asian Indian/Middle Eastern, and 10% other minorities.

***FIRST* offers four programs:**

- The *FIRST*[®] Robotics Competition (FRC[®]) for Grades 9-12
- The *FIRST*[®] Tech Challenge (FTC[®]), also for Grades 7-12
- The *FIRST*[®] LEGO[®] League (FLL[®]) for Grades 4-8
- The Junior *FIRST*[®] LEGO[®] League (Jr.FLL[®]) for Grades K-3.

What is CT *FIRST*[®]?

- CT *FIRST* is the operating arm of *FIRST* in Connecticut, supervised by a Regional Director, and supported by a Senior Mentor, both part time paid positions.
- A local Executive Advisory Board, with members chosen for their experience, occupations, and relationships, share their knowledge and offer their skills to further the mission of CT *FIRST*
- In 2012, CT *FIRST* has 42 FRC, 24 FTC, 145 FLL and 70+ Jr.FLL teams.
- CT *FIRST* has incorporated with a tax ID of 45-5482105 and is in the process of obtaining its own 501c3 status.

What is the *FIRST*[®] Robotics Competition (FRC[®]) both on a regional and national level?

The [*FIRST*[®] Robotics Competition \(FRC[®]\)](#) is an annual event that helps high school students discover the rewards and excitement of education and careers in science, engineering, and technology.

FRC challenges high-school-aged students – working with professional adult mentors – to design and build a robot within a six-week period. The competitions reward the effectiveness of each robot, the power of team strategy and collaboration, and the determination of our students.

The Northeast Utilities [*FIRST* Connecticut Regional](#) robotics competition is the largest and oldest continuously running robotics competition in New England.

Why is *FIRST* important to our kids' education and their futures?

- *FIRST* provides project-based learning to inspire young people who might not otherwise have discovered an interest in and pursued education and careers in science and technology.
- A concerted effort is made at both the national and local levels to engage groups who are typically underrepresented in STEM fields.
- *FIRST* works closely with schools at every level to transform both the perception and reality of education in science and technology.
- Some of the finest colleges and universities support *FIRST* by providing scholarship opportunities, sponsoring teams, and providing mentorship, equipment, and facilities.
- As a result of the support of these colleges and universities, *FIRST* high-school students are eligible to apply for over \$14 million in scholarship funds to continue education in Science, Technology, Engineering, and Math (STEM).
- Corporations also support *FIRST* by providing employee mentors as well as financial and in-kind donations. In Connecticut, the leading corporate sponsors, in addition to our title sponsor Northeast Utilities, are: UTC, Stanley Black & Decker, Comcast, Aetna, XL Color, Konica Minolta, General dynamics/Electric Boat, Webster Bank and Covidien.

Who manages the teams and events?

- More than 100,000 volunteers worldwide and more than 5600 volunteers in Connecticut are expected to contribute in areas including mentorship, event management, recruitment, and team management.
- The growth and success of *FIRST* is a direct result of the efforts of the mentors, parents, teachers, corporate and community leaders, and citizens who volunteer their time and talent.

Is scientific, technology, or mathematic expertise required for students to participate in the *FIRST* Robotics Competition?

- Since there are critical roles for students in everything from design and building, to computer animation, to fundraising, marketing and research, every student can actively participate and benefit.
- In fact, *FIRST* programs are designed to inspire, motivate, and encourage students to learn basic principles while challenging more experienced students.
- *FIRST* programs embrace and encourage students of varying interests, abilities, and academic competencies and foster participation by *all* youth, regardless of income, gender, ethnicity, or background.

What is Gracious Professionalism™?

- Gracious Professionalism™ is a cornerstone of *FIRST*; it was coined by *FIRST* National Advisor, Woodie Flowers.
- “Gracious Professionalism is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community.
- With Gracious Professionalism, fierce competition and mutual gain are not separate notions. Gracious professionals learn and compete like crazy, but treat one another with respect and kindness in the process.

What is Coopertition™?

- Coopertition™ produces innovation. At *FIRST*, Coopertition is displaying unqualified kindness and respect in the face of fierce competition.
- Coopertition is founded on the philosophy that teams can and should help and cooperate with each other even as they compete.

- Coopertition involves learning from and teaching teammates, learning from Mentors and managing and being managed.

How do mentors and students work together to build the robots?

- *FIRST* creates powerful mentoring relationships between the students and professional mentors. Meaningful involvement of adults in children's lives is proven as an essential component for developing young people's potential.
- At the high school level, teams include engineers and other professionals from some of the world's most respected companies.
- Students work closely with and learn from these "stars" of the engineering world. High school students are encouraged to start and mentor teams of younger aged students and to volunteer at their competitions.
- Peer mentoring of veteran *FIRST* participants is also growing, and high school students start and mentor younger age groups and manage their competitions.

Who are some of the organizations that support CT *FIRST*?

FIRST is supported by a strong network of corporations, educational and professional institutions, and individuals around the world and in Connecticut.

Here in Connecticut, The Northeast Utilities *FIRST* Connecticut Regional competition and many of Connecticut's FRC teams receive support from numerous sponsors, including:

- The **Northeast Utilities Foundation, United Technologies, Stanley Black & Decker** and **Aetna**, who also provide major funding.
- It also receives **generous contributions from General Dynamics-Electric Boat, Covidien, Xerox Corporation, Ensign-Bickford, Burns & McDonnell, Webster Bank and McCormick, Paulding & Huber. Comcast, Konica Minolta Business Systems and XL Color** make major in-kind contributions to Connecticut *FIRST* programs.
- The **MetroHartford Alliance, the Connecticut Technology Council and the Connecticut Business & Industry Association (CBIA)** also provide **valuable resources** including time and talent from professional mentors, services, equipment, financial contributions, and volunteers.
- The **Department of Economic and Community Development** and **Connecticut Innovations** are also strong supporters of *FIRST* in Connecticut.

What do the students win?

- Teams compete for a series of awards honoring accomplishments in areas including engineering, design excellence, competitive play, sportsmanship, and high-impact partnerships between schools, businesses, and communities.
- A judging committee of professionals makes award decisions.
- The most prestigious award is the Chairman's Award, which recognizes the team that best represents a model for other teams to emulate and best embodies the purpose and goals of *FIRST*.
- Any high school participant is also eligible to apply for over \$14 million in scholarships from leading engineering colleges and universities.

What are the benefits of participating in *FIRST* programs?

- Throughout their *FIRST* experience, students gain maturity, build self-confidence, learn teamwork, and gain an understanding of professionalism.
- Students have fun while building a network of friends and professional mentors who enrich their lives.

A 2011 Brandeis University evaluation of *FIRST* participants from a random national sample of FRC teams found:

- Almost all (97%) FRC participants have an interest in learning more about science and technology as a result of their participation on a *FIRST* team.
- Most (91%) FRC participants are more interested in going to college as a result of being on their *FIRST* team.
- 90% of FRC participants are more interested in having a career that uses science and technology.
- The large majority of FRC team members (over 90%) indicate an increase in teamwork skills, problem solving, time management, and communication skills as a result of their experience on their *FIRST* team.
- Sponsors benefit by finding future employees and interns.
- Mentors benefit from renewed inspiration and a reminder as to why they chose Science, Technology, Engineering, and Math (STEM) as a career.
- Volunteers are recognized as an integral and vital part of the way in which young people connect to the real world, in their own communities and in the world at large.

How can volunteers get involved?

The best ways to start discovering the rewards of *FIRST* are:

- Attend the *FIRST* Robotics Competition Regionals at the Connecticut Convention Center!
- Contact a mentor from a local team to help
- Visit the Connecticut *FIRST* web site at www.ctfirst.org
- Contact Connecticut *FIRST*'s regional director, Sue Glasspiegel, at 860-651-9994, sglasspiegel@usfirst.org

Interested volunteers can visit Connecticut *FIRST*'s website at www.ctfirst.org for more information about how to become a mentor.