

# What is *FIRST*® Robotics?

*FIRST*® (For Inspiration and Recognition of Science and Technology) combines the excitement of sport with the rigors of science and technology. We call *FIRST*® Robotics Competition the ultimate “Sport for the Mind.” Student participants call it “the hardest fun you’ll ever have.”

*FIRST*® was founded in 1989 to inspire young people’s interest and participation in science and technology by engaging them in exciting mentor-based programs that build science, engineering, and technology skills and inspire innovation and foster well-rounded life capabilities including self-confidence, communication, and leadership. The vision of *FIRST*® is “to transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders,” states Dean Kamen, Founder. This 501(c)(3) not-for-profit public charity is based in Manchester, NH.

Under strict rules, limited resources, and an intense time limit, teams of students use 21st century skills to come together as a team and produce more than a robot! Students begin the process thinking they are building the robot, but in reality the robot builds each student into science and technology leaders by teaching valuable skills that will help them be successful in school and in life. Each season includes an exciting regional Championship. Qualifying teams progress to the International Championship that includes over 60 countries.

*FIRST*® is more than robots. *FIRST*® participation is proven to encourage students to pursue education and careers in STEM (Science, Technology, Engineering, and Math)-related fields, inspire them to become leaders and innovators, and enhance their 21st century work-life skills. Students form sub teams within each LASER (Laker Afterschool Science, Engineering, and Robotics) team such as: Programming, Fabrication, CAD (3D modeling), Marketing, Graphics, Public Speaking, Entrepreneur Planning, Strategy and numerous other key positions. Each team member has a job that requires him/her to work with teammates to compete with the robot, be interviewed, present projects and solutions, and form alliances with other teams from around the world. In one match you may be an alliance partner with a specific team and then the next match you might compete against that same team. Sometimes teams do not speak English, so youth must figure out how to communicate!

*FIRST*® teaches students to use Gracious Professionalism® where fierce competition and mutual gain are not separate notions. Gracious Professionalism® allows teams to compete, yet also treat one another with respect and kindness in the process. No one is treated like a loser and knowledge, competition and empathy are

comfortably blended. Coopertition® produces innovation and is founded on the concept and philosophy that teams can and should help and cooperate with each other even as they compete. Coopertition® involves learning from teammates. It is teaching teammates. It is learning from mentors. And it is managing and being managed. Coopertition® means competing always, but assisting and enabling others when you can. *FIRST*® is highly competitive but allows teams from across the world to share ideas, support each other and help each other even through competitions. The program teaches important 21st century skills sought by employers.

There are four progressions of *FIRST*® and we are proud that Camdenton R-III schools is the only district in Missouri to have all four progressions.

FLL (*FIRST*® LEGO League) Jr. - Grades 2-3: This level is an introduction to engineering where students focus on building a model that includes simple machines, documenting their work in engineering notebooks and researching a real-world problem.



FLL - Grades 4-6: Teams made up of ten youth research a real-world problem such as food safety, recycling, energy, etc., and develop a solution to this problem. In addition, they design, build, and program a robot using LEGO MINDSTORMS® to complete missions on a tabletop playing field.

FTC (*FIRST*® Tech Challenge) - Grades 7-8: Groups of students are challenged to design, build, program and operate robots to compete in a head-to-head challenge in an alliance format. Guided by adult coaches and mentors, students develop STEM skills and practice engineering principles (like keeping an engineering notebook), while realizing the value of hard work, innovation, and collaboration.

FRC (*FIRST*® Robotics Competition) - Under strict rules, limited resources, and an intense six-week time limit, teams of students are challenged to raise funds, design a team “brand,” hone teamwork skills, and build and program industrial-size robots to play a difficult field game against like-minded competitors. It is as close to real-world engineering as a student can get. Professional mentors volunteer their time and talents to guide each team.

Camdenton LASER 3284 was named the Central MO *FIRST*® Affiliate in 2017. The Affiliate oversees teams and growth in the region and helps produce tournaments for all levels of *FIRST*®. In November, the Camdenton LASER team of high school students helped coordinate and run three official *FIRST*® LEGO® League tournaments in Rolla, Nixa, and Columbia. In addition, they hosted the FLL Central MO Championship. In April, they will host the Central MO FLL Jr Expo.

Camdenton LASER *FIRST*® Tech Challenge teams from the middle school wrapped up their official season, with team 5905 making it to the Missouri State FTC Championship.

Three FLL teams (OBE, HDE, and ORI 565) made it to the State FLL Championship with ORI 565 advancing to the International LEGOLand competition in California in May.

The Camdenton LASER 3284 High School team is heading into their competition season with Regionals in St. Louis, Kansas City and Oklahoma City. The team’s preseason rankings are promising and it looks to be another outstanding

season for the team. LASER 3284 will be competing for regional champions with their robot, as well as continuing their quest to become a Hall of Fame team by winning another blue Chairman’s Award banner. The Chairman’s Award is the most prestigious award at the FRC level. LASER 3284 has earned four back-to-back Chairman’s Awards and was honored with the prestigious Engineering Inspiration Award last season in Texas. In addition, **the team will seek its tenth consecutive UL Safety Award after winning the UL Safety Award at the World Championship in 2017.**

