



ADMINISTRATORS GUIDE TO FIRST ROBOTICS PROGRAM EXPENSES

FIRST has 4 programs under the umbrella all focused on inspiring more students to pursue careers in science, technology, engineering, and mathematics. All of the programs use a robot competition except the youngest group which is for K-3 and it is more of a make-it/engineering expo.

FIRST LEGO League Jr (FLL Jr) for students kindergarten through third grade is a research/design challenge and introduction to the engineering process. Kids go on a research journey, create a poster and LEGO model Present at Expo to reviewers and then all teams receive recognition. Expos can be organized at the local level and a regional expo will be held in March.



Costs are: (\$50 - \$300 per season)

- \$25 FLL Jr program fees (annual dues)
- \$25 Expo registration fees
- Teams can use any LEGO, must have one moving part with a motor. FIRST does offer a large kit of parts for about \$150

Registration: Never closes

Register Here:

<http://www.usfirst.org/roboticsprograms/jr.fl/registration>

Competitions/tournaments: Expo is held in the spring (RGV Local)

FIRST Lego league (FLL) has a new game theme each year, which also includes a student chosen project in which they research and propose a solution that fits their community's needs. The challenge is revealed in early September each year and the competition season is from November – March. Team size is limited to 10 students. Robots can be used year over year; thus reducing the annual investment.

Costs are: (\$1,500 - \$2,100 first season, then \$300 - \$900 per season to sustain program)

- \$225 FLL program fees (annual dues)
- \$300 - \$420 Lego Mindstorms robot kit (re-usable each year)
- \$65 game field set-up kit (new each year)
- \$70 - \$90 tournament registration fees
- \$500 - \$1,000 for team apparel, meals, presentation materials, promotional items for team spirit, etc.
- Other costs include travel if the event is out of town; these are single day events. Up to \$2,000 per event pending on where team plays including World Championship.

Registration: closes mid-September

Register Here: <http://firstinspires.org>

Competitions/tournaments: Qualifiers start in late fall and lead up to a regional championship in the spring.



First Tech Challenge (FTC) has a new game each year and robots are the size of a laser printer and the game is played in a 2 versus 2 tournament. At the tournament, teams will be randomly paired in the qualification rounds and then the top four will select alliance partners to compete in the elimination

bracket. Teams also give a presentation to panels of judges and earn awards for their robot design, CAD modeling, business plans, community out-reach, etc. The season mirrors the FLL season and team size is limited to 10 students as well. FTC is middle school and high school age youth but predominately HS. Robots can be used year over year; thus reducing the annual investment.

Costs are: (\$1,000 - \$5,000 per season)

- \$275 FTC program fees (annual dues)
- \$999 - \$1,300 REV robot kit (re-usable each year) plus teams will purchase additional parts plus fabricate using a select amount of raw materials from an approved list. Teams will also build portions of the game field.
- \$100 - \$300 tournament registration fees
- \$500 - \$1,000 for team apparel, meals, presentation materials, promotional items for team spirit, etc.
- Other costs include travel if the event is out of town plus room and board for 1-2 days; these are typically single day events. Up to \$6,000 per event pending on where team plays including World Championship.



Registration: Closes in Early October

Register here: <http://www.firstinspires.org>

Competitions/tournaments: League play will start in late fall and lead up to a Regional Championship, then a state level championship, then on to a World Championship in the spring.

FIRST Robotics Competition (FRC) has a new game each year and robots are 5 feet tall and weigh less than 120 pounds. The game is played in a 3 verses 3 fashion. Same as FTC, random pairing during elimination rounds and then top eight select alliance partners for the elimination rounds. Teams are interviewed and give presentations for awards similar to FTC. Team size is not limited as award categories also include 3D animation, website, plus the fact that the robots are bigger and more complex.

Costs are: (\$6,500 – \$25,000 per season)

- \$6,500 Rookie team registration includes 1st event registration plus a basic kit of parts. Veteran teams pay \$5,000 for 1st event. Teams can choose to raise additional money and register for multiple events during one season at \$5,000 per event.
- \$1,000 - \$3,000 and up for additional raw materials and parts to complete the robot build as the kit is not a full robot kit, but rather a set of useful components. Teams will also build playing field components to practice with.
- \$1,000 - \$2,000 and up for tools and equipment. Some teams will have schools that will allow use of district shop tools and equipment; other teams will have to purchase their own.
- \$500 - \$2,000 for team apparel, meals, presentation materials, promotional items for team spirit, etc.
- Other costs include travel if the event is out of town plus room and board for 3 days as these are not single day events. Up to \$15,000 per event pending on where team plays including World Championship.

Registration: Closes in Early December

Register Here: <http://firstinspires.org>

Competitions/tournaments: Regional Championship and World Championship in the spring.

Most teams will have multiple sponsors and will display sponsor logos on their uniforms, robots and pit areas during competitions.