



ORTOP Scholarship Information for *FIRST* LEGO League team

It is important that persons applying for an ORTOP scholarship have an understanding of the *FIRST* LEGO League program and what is expected of our scholarship coaches.

What is a *FIRST* LEGO League (FLL) team and what do they do?

If you visited a FLL team meeting you would see 6 -10 kids, ages 9 – 14, working with a NXT LEGO Mindstorm Robot kit. A few kids would be using the 1000+ parts in the kit to construct a LEGO Robot with motors, sensors (Light, Touch, Ultrasonic-distance and/or Sound) and the NXT brick that acts as the robot's computer. The robot would also have 3 or 4 wheels to help it move around.

Other kids would be at a 4' x 8' mat in a FLL competition table with Smart Move LEGO mission Models. They would be figuring out strategies for the robot's path or working with LEGO parts to construct attachments for the robot push, pull or lift items on the mission models to achieve the task.

Other team members are on the internet/looking in books researching the team's Project. The Project is a 5-minute presentation of the team's solution to the Smart Move Project Challenge.

See links for what is in an FLL NXT competition kit:

NXT kit <http://www.legoeducation.com/store/detail.aspx?by=6&pl=10&ID=1263>

Extra LEGO Elements <http://www.legoeducation.com/store/detail.aspx?by=6&pl=10&ID=1277>

NXT-G Software <http://www.legoeducation.com/store/detail.aspx?by=7&pt=8&ID=1670&c=0&t=0&l=0>

When a team purchases a FLL registration the above items are bundled and sold at a discounted cost of \$395 (plus S&H)

See this link for a video explanation of a previous year's robot mission.

<http://www.usfirst.org/firstlegoleague/community/TabbedPage1daa.html?id=1002>

See this link for details of last year's Project: <http://www.usfirst.org/firstlegoleague/community/fll/project.html>

What every FLL team needs:

Provided by the Team!

- A place to practice at least once a week, twice a week is better.
- A computer with a XP operating system or Mac OS X
- Committed Coach(es)!

Provided by the Team and/or by an ORTOP Scholarship

- *FLL Competition NXT Robot Set
- *Smart Move" Field Set-up Kit
- *A FLL Competition Table (scholarship may provide funds to buy materials, coach must find a way to build it)
- *A FLL 2009 Team Registration (comes with Coach handbook/ info DVDs)
- *ORTOP Qualifying Tournament Registration

** Items that can be provided by scholarship if team qualifies*

What is the Coach doing?

The coach is facilitating the team's progress, helping them with teamwork skills, helping them find resources, teaching the robot building and programming skills she/he learned at the ORTOP free coach workshops, serving snacks, keeping the team on task. It is up to the kids to solve the challenge. The Coach can enlist other adults to help with these activities.

For Workshop Information: <http://www.ortop.org/res.htm#work>

What else does a scholarship team coach do?

A lot, coaches are the heroes of *FIRST* LEGO League! This list of tasks can be divided among several adults depending on your school, program, organization or club situation. In a timeline order:

- **May – Sept. 1:** Apply for the scholarship. Earlier the better!
- **June – Sept:** Attend the required free ORTOP training workshops <http://www.ortop.org/res.htm#work> . This is a requirement for scholarship teams with rookie coaches.
 - Or attend SuperQuest LEGO Robotics week long training (www.techstart.org)
- **July – Sept.**
 - Do the paperwork associated with the scholarship.
 - Make sure you or ORTOP has registered your team. Know your FLL Team #.
 - Plan for transporting your team to the Qualifying Tournament.

- Buy materials to build a competition board to suit your needs.
 - <http://www.usfirst.org/firstlegoleague/community/fll/game.html#a1%20-%20The%20Table>
NEW!: The supports underneath are nice but not necessary. Your table can even consist of hinged 2" x 4' to form a border and place the mat on the floor. What ever works for your location! Overhead lights are optional starting in 2009.
- **Summer:** Arrange for a meeting place and schedule. Recruit other adults to help you with the team!
- **Spring – mid-Sept:**
 - Read your FIRST LEGO League coach handbook!
 - Look at robot and tournament materials as they arrive.
 - Recruit team members; try to include girls and minority students as estimated in the scholarship application.
 - Create a Meeting Plan and make parents/students aware of the ground rules. Some coaches put this in writing. It's your decision.
 - Conduct team meeting's for at least 90 minutes per week from September (early October) until the Qualifying tournament. First Task – Assemble the Climate Connections Mission Models and figure out a Team Name!
 - New Teams usually attempt 2 – 4 missions their first year and complete The Project presentation. Only 3 teams have completed all of the missions in ORTOP's seven years!
- **September 3th** – FIRST LEGO League releases the Smart Move Challenge to the WORLD!
- **Oct 1 – 12:** Register your team for a ORTOP Qualifying Tournament
- **November:** Practice the Project in front of other people if possible, practice doing your robot runs in 2.5 minutes, practice answering judge questions, make up questions from the rubrics in the handbook.
- **December:** Attend the Qualifying Tournament and have FUN!

What is the Tournament like?

Check out this video! <http://www.usfirst.org/what/fll/default.aspx?id=390>

The Qualifying Tournament is divided into 4 Parts. Each team is assessed in these areas.

- **Robot Performance** – making your robot run on the board and complete its programmed missions.
- **Technical Interview** – meet with a friendly panel of judges who ask your team about their robot and its programming
- **Project Interview** – make your 5-minute Power Puzzle Project Presentation in front of another friendly panel of judges and answer questions
- **Teamwork Interview** – teamwork and gracious professionalism are key values of FLL. The team is asked to do a surprise and fun teamwork activity for panel of judges and answer questions.
 - The tournament also has opening and closing ceremonies, an opportunity to meet other teams, see other robots, experience new things. Compete in friendly, sports-like tournament with the knowledge that “what is discovered is more important than what is won”.
 - Scholarship teams are expected to attend a qualifying tournament. Whatever your team's “state of ready”attend the tournament!

WHAT SHOULD I TRY TO ACCOMPLISH?

The team needs you to give them guidance and provide structure, encouragement, and most of all a fun experience. You should help your kids have fun with their robot while they get comfortable with technology and learn something about a real world problem. Team members win just for participating.

Resources:

- FIRST LEGO League provides an online forum for coaches.
- FLL Q & A webpage.
- ORTOP requires scholarship coaches to attend our free workshops.
- Official FLL Coach info will be sent to your email box on a as needed basis.
- The ORTOP Workshop Instructors welcome your questions during the season.
- ORTOPCoaches listserv: ORTOP will keep you updated of important information and tips!
- ORTOP tries to recruit industry engineers and technical people to be technical mentors for teams. A few people set up each year and we try to match teams to mentors.