

Start Your Own GSWISE FIRST® LEGO® League Robotics Team

Do you have a troop of Girl Scout Juniors or Cadettes that are interested in science, technology and engineering? Do they enjoy solving problems, working as a team and helping others and their community? If you answered yes to any of these questions, invite your girls to join a FIRST® LEGO® League (FLL) team.

FLL is the result of a partnership between FIRST (For Inspiration and Recognition of Science and Technology) and the LEGO® Group. FLL encourages youth to think like scientists and engineers as they create an innovative solution to a real world problem by designing, building and programming an autonomous robot. Each year, Girl Scouts of Wisconsin Southeast (GSWISE) support teams as the FLL presents a new theme with a new set of challenges. To learn more about FLL or the 2014 theme, visit www.firstlegoleague.org.

The FLL experience is indescribable! While it does require a lot of hard work and a significant time commitment, the benefits girls gain from the program will only help them to become better leaders of tomorrow. Girls gain the courage and confidence to talk to others about their research and raise awareness of real world problems, become creative and innovative, find out more about their character and passions, explore a variety of STEM careers, work as a team and make an impact in their community, all while having fun.

In this brochure you will find everything you need to know about FLL and how to become involved as a coach, mentor or parent as well as learn about the exciting opportunities that lie ahead for girls. For additional questions or to submit an application, please contact me at cpolak@gswise.org or 414-443-3986.

Yours in Scouting,

“Bot”

Crystal Polak

Event Pathway Manager-STEM



“After learning about robotics and working with senior citizens, I think I want to be some kind of doctor when I grow up.”

- 2012 participant

Team Dynamics

To form a team, six to ten girls in grades 4-8 in fall 2014 and two or more adults need to come together. Girls can be from mixed grades, schools, troops, etc. Interested teams need to complete an application (found at the end of this packet), and submit to GSWISE. In addition, teams will need to find a place to practice weekly for the duration of the season. Adults and girls **do not** need to have any previous experience with robotics or engineering to participate. An overnight training (all expenses paid) is held in August to prepare teams for the season.

Note: FLL is open to all youth in grades 4-8 so GSWISE teams will compete against all boy and co-ed teams.

Girl Scout Membership

The FLL season begins at the end of the membership year and continues into the next, therefore every girl and coach that participates on a GSWISE FLL team must agree to become a registered member of Girl Scouts for both membership years. Girls and coaches will be required to register for both years prior to the beginning of the season. Failure to meet this requirement could mean removal from the program. In addition, all coaches and mentors affiliated with the team must complete a *Volunteer Application and Background Check Authorization* for the safety of the team.



The FLL Challenge

Each fall, FLL provides teams around the world with an annual challenge. The challenge is based on a set of real-world problems facing scientists and engineers today. It has two parts:

- 1) **The Robot Game:** Teams design, build, program and test an autonomous robot that must perform a series of tasks or missions on the competition table.
- 2) **The Project:** There are three main steps:
 1. **Identify a real-world problem** related to the theme. Investigate the problem and explore existing solutions.
 2. **Create an innovative solution.** "Innovative" means the solution is not already in use by someone else. Instead, it is a new idea or an improvement on an existing idea that your team develops based on existing solutions.
 3. **Share your research and solution.** This allows team members to showcase what they have learned and created. This could involve presenting at a town meeting, talking with a government official or speaking in a school assembly or in front of a class.

The regional tournament will include an opportunity to give a **project presentation**. The presentation should share the project in a creative and thoughtful way. Presentations should be both creative and filled with quality information. You will have only five minutes to present your project, including set up.



Tournaments

Each GSWISE team is required to compete at two tournaments.

1) **Mock Tournament:** This tournament serves as a practice for teams before their actual regional tournament. All GSWISE teams bring their project posters and robots to compete against the other GSWISE teams. Judges volunteer to host the robot matches and score teams so they can see roughly where they stand in relation to the regional tournament. This gives teams one to two weeks to make changes and improve their robots. Teams can also get feedback on their projects and solutions from the other GSWISE teams.

2) **Regional Tournaments:** All GSWISE teams are required to participate in a regional tournament to fulfill grant funding requirements. At regional tournaments, several awards are handed out to teams, and a handful of teams may advance to the state tournament. One team from each state tournament will advance to the national tournament. Regional tournaments in Wisconsin occur throughout the month of November and the state tournament occurs in early December. The national tournament usually occurs in April. Each team will select their top three choices for tournament dates and location based on the team's schedule. FLL ultimately decides which of the three options teams will attend.

Equipment

GSWISE provides each team with a laptop, a LEGO® EV3, extra battery, charger, storage containers and a field set-up kit. GSWISE staff will take care of all registrations for teams and tournaments. It is important that you maintain contact with GSWISE staff in a timely manner to ensure deadlines are met.

Time Commitment

Every team is different so the commitment will vary. Most teams meet one-two times a week for one-two hours at a time. As the date of regional tournaments approach, teams may increase meeting time and frequency to ensure they are prepared for competition. The season kicks off in mid August and ends in November. Of course, if your team advances to the state tournament, your season will be extended to mid December.

Cost for Teams

While GSWISE covers the major expenses of the FLL experience, there are some costs to the team. Each team is responsible for their team identity which includes team T-shirts designed and produced/ordered by the team. In addition, teams also give away swaps at the tournaments (regional, state and national). Teams are also responsible for the construction and cost of materials for a practice competition table, poster presentation materials and all food and travel expenses associated with meetings and tournaments. The total cost for a team has averaged around \$250. Receipts may be submitted to reimburse teams (up to a specified amount) for table and presentation materials to help lower the cost for teams.

Reports and Documentation

Each team is required to complete three reports.

- 1) **Mentor/Mentee Report:** Each team is assigned a mentor (new teams) or mentee (returning teams). Teams are to communicate and help one another throughout the season. Each team completes a brief report (three questions) half way through the season.
- 2) **Final Report:** This report sums up your FLL experience. It asks about your team's demographics, experiences, awards nominated for or won and how you connected the FLL experience to the Girl Scout Leadership Experience.
- 3) **Event Report:** Each team is required to share their knowledge and experiences of FLL with a minimum of 50 people. This can be done through a science night at school, robotics demonstrations for your school, at a Girl Scout council event, etc. This report asks for demographics of the people you shared your experience with and a brief description of the event.

Informational Meeting

Tuesday, March 4, 6:00-7:00 p.m., New Berlin Service Center

(21516 W. Greenfield Ave., New Berlin)

Please RSVP by **Monday, March 3** to **Crystal Polak**, Event Pathway Manager, cpolak@gswise.org or **414-443-3986**.

2014 Team Timeline	
Tuesday, March 4, 6:00-7:00 p.m. New Berlin Service Center	Informational meeting for parents interested in their girl joining a robotics team. Adults only, please.
Monday, March 25, 5:00 p.m.	Applications due to GSWISE (details on back).
Tuesday, April 1	Applicant teams will be notified of their status.
Friday, August 8 – Saturday, August 9 Trefoil Oaks Program Center	Team training weekend. Details will be made available to selected teams.
Late August • Online	World Class Challenge information is released.
November	Regional Tournament – required for all teams.
December	State Tournament – required for teams who advance during Regional Tournament, all teams encouraged to attend.



FIRST LEGO League Team Application

To be completed by an adult representative of the troop/team.

Coach #1 name: _____ Phone: (____) _____

Email _____

Coach #2 name: _____ Phone: (____) _____

Email _____

Names of interested girls	Grade in fall
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Troop number _____ Troop school (if applicable) _____

Estimated number of adults that would support the team (must be at least two) _____

How did you determine that girls in the troop are interested in robotics?

Has the troop completed or started to work on any of the Girl Scout Journeys? If so, which one(s)?

Please give examples of badge activities, Journey activities, or events that the troop has participated in related to STEM (science, technology, engineering and math). To what degree are the girls interested in STEM topics?

What was the troop's greatest accomplishment this year?

Please describe one or two things the troop has done that are "outside-the-box" (in addition to working on badges, Journeys, and community service projects).

You may attach additional pages for your responses. Email completed application to **Crystal at cpolak@gswise.org** or mail to: **Girl Scouts of Wisconsin Southeast, P.O. Box 14999, Milwaukee, WI 53214.**