

1. What is the membership fee for Robotics Club, and what is covered with this fee?

The membership fee for the season 2021-22 will be \$2950. This fee covers the following:

- 36-weeks of mentoring and coach guidance for FLL competition from August – April.
- One core kit and extension kit per team (EV3 or Spike Prime)
- Meeting space for team meetings and FLL competition table access during the meeting time
- Organized scrimmages
- FIRST Inspires registration fees
- FIRST WA competition fees

2. What are the next steps?

If your student is interested and committed to exploring the field of robotics, sign up for tryouts with the Young Explorers Robotics Club.

If students have EV3 or Spike Prime kits, they should refresh their skills by building and programming their robots. [Tons of free resources are available](#) to do self-learning. They should be comfortable with both the kit and its software.

If students are new and don't have access to kits, they can sign up for summer camps focusing on EV3 or Spike Prime robotics. Most of our coaches and mentors used to volunteer with [Radiance Learning Robotics Summer Camps](#). We would recommend the same. You can also look for similar camps around the Puget Sound area

3. What is the timeline?

Here is the rough timeline based on our experience:

- **May – July:** Learn and get familiar with building and programming.
- **July – Aug:** Tryout, Team Formation
- **Aug – Sep:** Team socialization, Assembling field kit, Project discussions, Core Values exercise
- **Sep-Dec:** FLL regional season. Students will work on completing all necessary items to compete in the FLL Qualifier competition.
- **Dec:** FLL Qualifier
- **Dec – Jan:** Qualifier debriefs, postmortem, getting ready for Regional. If a team qualifies to the next level, students will continue improving their robot, project, and presentation. Teams that don't qualify for the next level will continue to work with their team to improve their skill levels for the following season. There will be a club-level competition at the end of April.

- **Feb** – Regional Competition
- **March** – State Competition
- **April** – World Competition

4. My child has Zero experience. Does this matter?

Young Explorer Robotics Club looks for students with diverse backgrounds and skillsets. We are not expecting everyone to be a master at EV3 or Spike Prime. But we expect everyone to be passionate about building robots, programming and work together as a team. Though building and programming are not the only things students do, we want everyone to understand building and programming EV3 or Spike Prime robots.

Students with zero experience are encouraged to learn (either self-learning or with summer camps) and get ready to build and program a straightforward robot by the tryouts. Knowledge, passion, and ability to work in a team will be critical factors for getting into this club.

5. Would knowledge Dash/Dot/WeDo be helpful for tryouts?

Yes, it will be a good start, but the Dash and dot/WeDo are much more straightforward than EV3, which will not be enough for students to compete. Although knowing how to build and program those robots is a good start, students should either learn EV3 by themselves or attend dedicated EV3 camps to get a jump-start before the season. During the season, students won't have time to learn and compete at the same time.

6. What are all some resources for kids to get ready for tryouts?

Tryouts are an opportunity for students to get into our club. Though we are not looking for students with deep knowledge, we cannot take students without any knowledge. We want students to show curiosity to learn and get comfortable with either EV3 or Spike Prime framework.

That said, we expect students to get familiar with building a robot, program it, and make an attachment to solve a given simple problem. When they come to our tryouts, we will ask them to do the same thing.

There are tons of resources online to EV3. For Spike Prime, as of now, there are limited resources. You might need to buy an EV3 or Spike Prime kit for your personal use. Purchasing your equipment and learning on YouTube is an option, but it might not be as helpful as summer camps. If you don't want to commit a large sum of money before your student's commitment, you could look for some summer camps that focus on fundamental EV3/Spike Prime robots. Most of our club's coaches and mentors are either learned from or interned at Radiance Learning Summer Camps. They offer a dedicated kit for each student during their camp and have a solid curriculum to cover mechanical and programming basics.

7. How do they learn Robot Design aspects?

Learning to design a better robot for a given task is one of the most challenging aspects of FLL competition. Everyone can be as creative as they get. The need to build a robot that meets given requirements within the time frame they were given is the key learning goal. They can find past FLL competition robots on YouTube (EV3 has tons of resources online) and learn how those designs are constructed.

In our experience, summer camps can be more effective as they also learn from their peers and FLL/FTC alumina. Using the iterative feedback method, they continuously collect design feedback and keep updating their design. Most importantly, the informal feedback they get from past FLL / FTC alumina during practice runs is valuable.

8. How will you assess student's preparedness?

Young Explorer Robotics Club looks for students with diverse backgrounds. But we expect everyone to be passionate about building robots, programming and work together as a team. Though building and programming are not the only things students do, we want everyone to understand building and programming EV3 or Spike Prime robots.

During the tryouts, we instruct students to program simple missions for a robot to assess if students have the skill level needed to compete in the First Lego League. Here is the outline of tryouts:

1. Build a basic robot using only a core kit. We will give clear step-by-step instructions to do so.
2. We will ask them to program to do a particular task. (involves moving, turning, and sensing)
3. We will ask them to build an attachment that does one additional task or an extension.
4. We will do an interview focusing on their core values and soft skills.
5. We will assess them on how they work with others in a group setting.

9. When are tryouts?

You can register for tryouts from now until July. We planned to do tryouts on the weekend between the 3rd week of July and the 1st week of August. We will announce teams by August 2nd week. The team meeting starts by mid-August.

10. What to expect from tryouts?

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5. We will assess them on how they work with others in a group setting.

Based on students' gender, age, and skill level, they will be placed into appropriate teams that students will most likely be fit in.

11.What is the time commitment?

Young Explorer Robotics Club is a premier club. Like soccer or basketball ball select clubs, our club requires a firm commitment. If your student is busy with so many other activities, this club might not be a good fit.

a. Students

- Five hours a week: For 4 hours in-person and 1-hour online meeting with the team.
- Offline collaboration with your team during competition season and completing assigned homework (typically project research, core value activities, and prep work for competition)
- A serious contender for Regional and State competition might end up working longer than 5-hours, but this is entirely up to the individual team. We are there to support them in every step towards the world competition.

b. Parents

- We are NOT expecting any parents involving in coaching or mentoring any teams.
- We assume parents organize and chaperone field trips for their own student's team
- We assume parents organize fundraisers and outreach events for their team
- One of the parents will be a team coordinator to help communicate with coaches and other officers
- One of the parents will be a safety volunteer during the in-person meeting to monitor student's safety in the facility.

12.What will be the days and timings for the club meet? (Tentatively)

- In-Person Meeting: Weekends (4 hours)
- Online Meetings: Weekdays (1 hour)

13.Where is the in-person meeting location?

The location for the in-person meeting is: 16701 NE 80th St #202, Redmond, WA 98052

14.Which platform will our club use: EV3 or SPIKE Prime?

EV3: Lego Mindstorms EV3 is the third generation robotics kit in Lego's Mindstorms line. It is the successor to the second generation Lego Mindstorms NXT 2.0 kit. It was officially released in stores in September 2013. Many competitions are using this set. Among

them are the FIRST LEGO League Challenge is one. ([MINDSTORMS EV3 | STEAM for High School | LEGO® Education](#))

SPIKE Prime is the newer Lego kit combining colorful building elements, easy-to-use hardware, and an intuitive drag-and-drop coding language based on Scratch. ([SPIKE Prime | Middle School STEAM Learning | LEGO® Education](#))

SPIKE Prime is the newer kit, and LEGO will improve the software greatly in the next year. Even though it is improving, SPIKE Prime will still have bugs and glitches until it stabilizes. EV3 is an older, very reliable kit. EV3 can be able to do more advanced tasks beyond FLL competition. EV3 will still be allowed in FLL for several upcoming years. EV3 has tons of online resources to help us build and program for FLL missions.

That said, our club would use both sets. We will use EV3 for higher-grade students and will use Spike Prime for young kids with no experience.

15. How many field trips are needed?

Field trips are not mandatory. Based on the research projects few field trips would help increase understanding the subject well, design / propose solutions, and ultimately score better in the project section of the competition

16. How many missions will teams be doing each season?

The number of the completed mission depends on the teams' maturity and skill level. Beginner-level teams can do 30% of the tasks, returning teams can do 50% of the tasks, and experienced teams do up 75% of the tasks. Robot design and mission path will also be crucial to increase the number of completed missions. Creative problem-solving and out-of-the-box thinking are critical to getting there.

17. How Microsoft Give or a similar non-profit corporate-matching program can be helpful for the teams?

Corporate matching won't cover the membership fees. But it can help fund team-specific expenses like field trips, project materials (3-D printing), activities related to building team identity (goodies, t-shirts, etc.), and other things that may help students compete at a higher level