

ENVISION
ROBOTICS

FLL 2024 – 2025 Season

Overview

May 2024



What is FLL?

- FIRST LEGO League (FLL) is an international program aimed at inspiring young people to explore science, technology, engineering, and math (STEM) through engaging, hands-on learning experiences.
- Founded in 1998 by FIRST (For Inspiration and Recognition of Science and Technology) and LEGO, FLL introduces children aged 9 to 16 (grades 4-8) to real-world engineering challenges by building LEGO-based robots to complete tasks on a thematic playing surface.
- Participants in FLL engage in a new and exciting challenge each year, which revolves around a specific theme, such as space exploration or environmental sustainability.
- Teams design, build, and program their robots using LEGO Mindstorms or LEGO SPIKE Prime kits, and compete in regional, national, and international tournaments. The program also emphasizes core values such as teamwork, inclusion, and innovation, making it a holistic educational experience.



Benefits of joining FLL

- **Enhances Problem-Solving Skills:** Participating in FLL encourages kids to think critically and creatively. They must identify problems, brainstorm solutions, and iterate on their designs. This process fosters a strong ability to tackle complex issues systematically and innovatively.
- **Builds Teamwork and Collaboration:** FLL is inherently a team activity. Kids learn to work together, share ideas, delegate tasks, and support one another. These experiences are crucial in developing interpersonal skills and the ability to collaborate effectively in group settings.
- **Boosts STEM Knowledge and Interest:** Engaging with FLL exposes kids to core STEM concepts in a fun and interactive way. They learn about programming, engineering principles, and scientific inquiry, which can ignite a lasting interest in these fields and potentially influence their future educational and career choices.
- **Improves Communication Skills:** Teams must present their projects and solutions to judges, requiring them to articulate their ideas clearly and confidently. This practice helps kids develop strong verbal and non-verbal communication skills, which are essential for academic and professional success.
- **Fosters Creativity and Innovation:** The open-ended nature of FLL challenges encourages kids to think outside the box and come up with unique solutions. This environment nurtures creativity and innovation, allowing children to explore their imaginative capabilities and apply them in practical scenarios.
- **Develops Resilience and Adaptability:** Robotics competitions often involve unexpected challenges and setbacks. Through FLL, kids learn to persevere through difficulties, adapt their strategies, and remain resilient in the face of obstacles. These experiences build a strong character and a positive mindset towards challenges.

FLL is organized into 3 divisions

For this season we will have a **Challenge team for 9 – 13 yr olds**



DISCOVER

Ages 4 to 6

For children ages 4-6, this playful introductory STEM program ignites their natural curiosity and builds their habits of learning with hands-on activities in the classroom and at home using LEGO® Duplo® bricks.

Benefits:

- Learn STEM fundamentals
- Hands-on learning

Let's Go

EXPLORE

Ages 6 to 10

In Explore, teams of students ages 6-10 focus on the fundamentals of engineering as they explore real-world problems, learn to design and code, and create unique solutions made with LEGO bricks and powered by LEGO® Education WeDo 2.0

Benefits:

- Understand concepts & building STEM skills
- Develop learning habits.

Let's Go

CHALLENGE

Ages 9 to 14

Friendly competition is at the heart of Challenge. Students ages 9-14 engage in problem-solving, coding, and engineering – building and programming a robot that navigates the missions of a robot game and participate in a research project to identify and solve a real-world problem.

Benefits:

- Understand real-world uses of STEM
- Apply critical thinking skills

Let's Go

FIRST LEGO LEAGUE (FLL)

2024 – 2024 Season

During the SUBMERGEDSM Season, FIRST LEGO League teams will use creative thinking and LEGO[®] technology to explore the layers of the ocean and bring their learnings and ideas to the surface as they “sea” into the future.



How does FLL Robotics Competition compare to our core robotics curriculum?

A competitive team such as FLL is complimentary to our core robotics program as each develops unique and equally important skills sets

Envision Applied Robotics Program

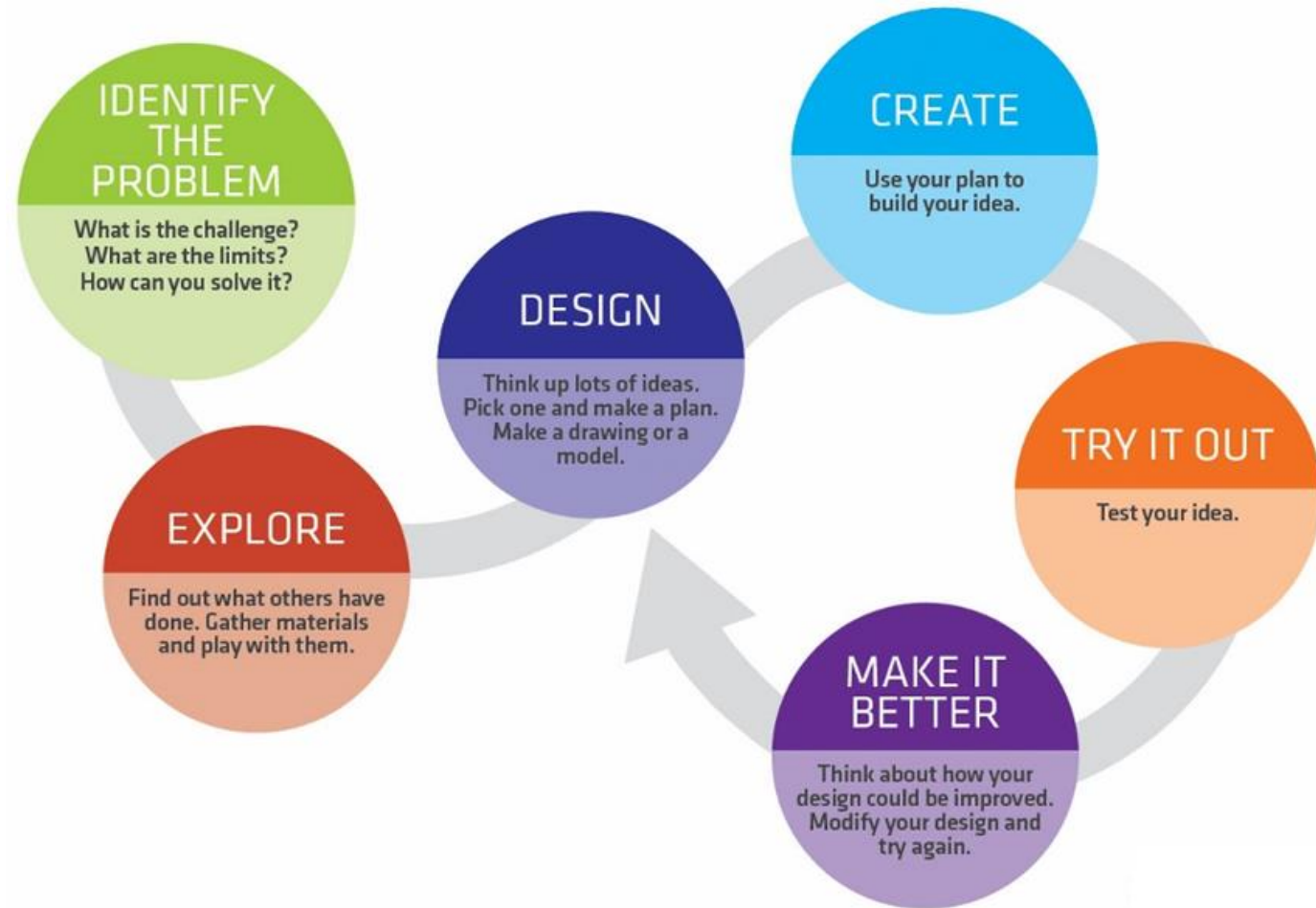
- Students learn to build and code their own robot based on a curriculum and assigned challenges
- Students work on their own at their own pace
- Students assume a variety of roles such as builder, coder, etc.
- Flexible scheduling throughout the year
- No homework
- Attend 1 time per week

FLL Robotics Competition

- Students work as a team towards a goal (s), which is improve and win competitions
- Studio planning, workshops, and practice in preparation for regional qualifiers and competitions
- Students share robotics set and resources
- Team members have different roles suited to their strengths
- Requires commitment over a sustained period of time (i.e., season)
- May require some light “homework”
- Team works towards milestones
- Engineering Design Process to solve challenges
- Team meets 1 – 2 times per week

Students follow an Engineering Design Process

- During the season students will follow an Engineering Design Process to identify and solve challenges set forth in the competition



As with any team the team is strengthened by each member and their commitment to succeeding ...

Student Commitment and Role

- **Robotics & Coding** – learn building techniques, coding, and help formulate solutions to FLL challenges
- **Attendance, Timelines and Milestones** – attend meetings, help plan work and milestones for FLL season
- **Assigned Role** – embracing assigned role and working hard to perfect the assigned tasks
- **Workbooks** – document team's activities, progress, ideas and solutions
- **Homework** – as needed, research solutions and/or assigned tasks
- **Events** – support the team by attending qualifying events, performing
- **Team Dynamics** – embrace working as a team and support one another

Parents play an integral role in supporting their child and the team

Parent Commitment

- **Attendance** – ensure your child (s) attends meetings and events
- **Communication** – stay informed, ask questions, maintain regular communication with coaches and staff
- **Milestones & Homework** – encourage your child (s) to embrace their assigned role, complete homework and meet individual and team milestones
- **Conflict** – in the event conflict occurs, help bring this to the staff's attention and help resolve in an appropriate manner
- **Competition Events** – attend internal competition in mid-Nov and attend regional and qualifying tournament (s)

Envision Robotics FLL Coaching Staff

Envision Robotics FLL coaches have experience in a variety of areas including robotics, coding, competitive robotics, and working with kids

Role of the Envision Coach

- **Workshops** – plan, organize and run workshops
- **Equipment** – organize, setup, and maintain equipment for weekly meetings and events
- **Mentorship** – actively coach and guide students to perform their individual roles and the team as a whole
- **Planning and Tracking** – help construct the team’s schedule, milestones, assign homework, and track progress and report to parents and others
- **Team Dynamics** – help minimize any conflict, ensure students have fun and enjoy the experience

2024 – 24 Season Timeline

	June	July - Aug	Sept - Nov	Nov 30 – Feb 9	Feb 22 – Mar 2	End-March
<u>Focus</u>	<ul style="list-style-type: none"> Focus is on learning foundational skills in robotics and coding through workshops Staff getting to know students and their strengths and abilities 	<ul style="list-style-type: none"> Workshop focus is on learning more advanced building techniques and coding challenges based on past FLL seasons and challenges 	<ul style="list-style-type: none"> Teams formulate robot build (s) and coding solutions to challenges Focus on perfecting solutions Role assignments 	<ul style="list-style-type: none"> Attend Regional Tournament (s) Continue to perfect solutions, apply learnings from tournaments 	<ul style="list-style-type: none"> Qualification tournament (s) Continue to perfect solutions, apply learnings from tournaments 	<ul style="list-style-type: none"> Finals
<u>Key Dates:</u>	<ul style="list-style-type: none"> Team begins meeting first week in June Late June students are selected for the team 	<ul style="list-style-type: none"> August 6th FLL releases “Task Publication/ Challenges” Late July/Early August FLL begins shipping Challenge and Explore sets Team Registration with FLL in July 	<ul style="list-style-type: none"> Role assignments by Sept 13th Mid-November we will have an internal competition where parents can attend 	<ul style="list-style-type: none"> Regional Tournament dates TBD 	<ul style="list-style-type: none"> Qualification Tournament dates TBD 	<ul style="list-style-type: none"> TBD – depends on team performance
<u>Commitment</u>	<ul style="list-style-type: none"> Team meets 1 / week for 75 minutes 	<ul style="list-style-type: none"> Team meets 1 / week for 75 minutes / session 	<ul style="list-style-type: none"> Team meets 2 / week for 90 minutes / session 	<ul style="list-style-type: none"> Team meets 2 / week for 90 minutes / session 	<ul style="list-style-type: none"> Team meets 2 / week for 90 minutes / session 	<ul style="list-style-type: none"> TBD

Participation Fees

June

- \$199 + tax for foundational workshops

July - Onwards

- Registration Fee for **Challenge Team (9 – 13 yrs)**: ~ \$350 + tax - due towards the end of June
- Monthly Tuition fee: \$199 + tax per month for July / August covers team meetings / workshops and are separate from the seasonal Registration Fee
- Monthly Tuition fee: \$380+tax per month for Sept – Feb (33 weeks over 8 months, avg 4/weeks per month). Set-up as recurring billing start of month.

Seasonal

Registration Fees

(includes):

- FLL Team Registration fees
- FLL Challenge Set
- FLL Workbooks
- Robot (lease) for season and replacement parts, as needed
- FLL taxes, shipping and \$USD exchange fees
- Tournament table (lease)
- Participation in 1 regional tournament and 1 qualifying tournament
- Miscellaneous construction materials and supplies

Participation Fees (continued)

Monthly Tuition

Fees:

- Coaching staff and their time preparing for workshops, planning team progress, assigning and managing to milestones, communicating team progress, registering and coordinating for events
- Weekly meet space at the Studio
- Coordinating with FLL, as needed

Notes:

- Due to the costs associated with managing this program we are unable to offer sibling discounts
- No make-up or credits for missed meetings
- No refund of registration fee
- Addition fee required for participation in regional tournaments which is estimated at \$40/student to cover staff coaching cost, transportation, and planning. If applicable, Tournament registration fees will be charged at cost and split equally between the team members