

FIRST Progression of Programs

	<p>Grades K-3</p> <p>FIRST LEGO LEAGUE JR.</p>
	<p>Upper Elementary Grades 4-6</p> <p>FIRST LEGO LEAGUE</p>
	<p>Middle School</p> <p>FIRST TECH CHALLENGE</p>
	<p>High School</p> <p>FIRST ROBOTICS COMPETITION</p>



Dubbed a varsity Sport for the Mind™ (FRC) combines the excitement of sport with the rigors of science and technology. Under strict rules, limited resources, and time limits - teams of students are challenged to build and program a robot to perform prescribed tasks against a field of competitors, to raise funds, design a team “brand,” and hone teamwork skills. It’s as close to “real world” engineering as a student can get. Industry mentors volunteer their time and talents to guide each team.

- Design, fabricate, build, and program a robot to compete in a *FIRST* designed game
- Work alongside professional engineers
- Learn to use sophisticated hardware and software
- Develop skills in design, project management, programming, business, and strategic thinking
- Work as part of a team to accomplish common goals
- Gain marketable on-the-job type of experience
- Learn to effectively manage resources
- Develop leadership skills
- Qualify for \$50 million in college scholarships
- Participate in local, official events

For more information: frogforce@frogforce503.org
www.frogforce503.org

Timeframe	Kickoff: January 6, 2018 Build Season: January – February Competition Season: Late Feb. – April Off season: April-December
Team Size	Open to all Novi High School students
Sign Up	Robotics is a recognized club at Novi High School; Registration is in September.



FOR INSPIRATION & RECOGNITION OF SCIENCE & TECHNOLOGY

What's FIRST?

Igniting young minds.

Nurturing creativity.

Inspiring innovation.



Inspiring youth to become science & technology leaders & innovators, by engaging them in exciting, experiential, Mentor and project-based programs that teach science, technology, engineering, and math (STEM) skills, inspire innovation, and foster well-rounded life capabilities.



FLL Jr. captures young student’s inherent curiosity and directs it toward discovering the wonders of science and technology. This program features a real-world scientific concept to be explored through research, teamwork, construction, and imagination. Guided by adult Coaches, teams use LEGO®bricks to build a model that moves and develop a Show-Me Poster to illustrate their journey. Teams can form within schools, neighborhoods, or other organizations. Parents and/or teachers usually fill the role of team coach.

- ✓ Design and build a challenge-related model using LEGO components
- ✓ Create a Show-Me poster and practice presentation skills
- ✓ Explore challenges facing today’s scientists
- ✓ Discover real-world math and science
- ✓ Begin developing teamwork skills
- ✓ Choose to participate in local events called Expos (usually in November-December)
- ✓ Engage in team activities guided by Jr.FLL Core Values
- ✓ Learn to work collaboratively guided by mentors and parents

For more information: michiganjrfl@gmail.com

Timeframe	Challenge Release: early August Season: 6-8 weeks between Aug-April
Team Size	6 Maximum
Cost	\$99 registration fee, \$250 kit



Students are immersed in real-world science and technology challenges. Teams design their own solution to a current scientific question or problem and build autonomous LEGO robots that perform a series of missions. Through their participation, children develop valuable life skills and discover exciting career possibilities while learning that they can make a positive contribution to society. Teams can form within schools, neighborhoods, or other organizations. Parents and/or teachers usually fill the role of team coaches.

- ✓ Take on a Challenge composed of three elements: Robot game, Project, Core Values
- ✓ Create innovative solutions for real world challenges as part of their research project
- ✓ Strategize, design, build, program, and test a robot using LEGO MINDSTORMS® technology
- ✓ Apply real-world math and science concepts
- ✓ Become involved in their local and global community
- ✓ Participate in local events
- ✓ Engage in team activities guided by Core Values
- ✓ Develop presentation and public speaking skills
- ✓ Learn to work collaboratively guided by mentors and parents

For more information: michiganfll@gmail.com

Timeframe	Challenge Release: August 29 th ; Season: August - December
Team Size	10 Maximum
Cost	\$225 registration fee, \$550 for kits



FTC is designed for students to compete head to head using a sports model. Teams of students design, build, and program their robots to compete in an alliance format against other teams. Robots are built using a TETRIX® platform and Android based controller, which are reusable year-to-year. Teams develop strategy and build robots based on sound engineering principles. Teams can form within schools, neighborhoods, or other organizations. Parents and/or teachers usually fill the role of team coaches.

- ✓ Design, build, and program an 18”X18”X18” robot
- ✓ Make the connection between classroom lessons and real-world application
- ✓ Experience science, technology, engineering fields as potential career choices or areas of study
- ✓ Apply and document the engineering process
- ✓ Get hands-on programming and rapid-prototyping experience
- ✓ NEW! Cutting edge Android based platform and Java programming
- ✓ Develop problem-solving, organizational, and team-building skills
- ✓ Work collaboratively with professionals in their field
- ✓ Compete and cooperate in alliances at local events

For more information: michiganftc@gmail.com

Timeframe	Kickoff: September 9 th ; Season: September – December
Team Size	15 Maximum
Cost	\$575 Nbot Registration and Kit Rental

