LOUDOUN ROBOTICS

FOR STUDENTS

Real Robots. Real Tournaments. Real Friends.

You + a robot + a championship.

What FIRST robotics actually looks like, what you'd build, and how to find a team — or start one when your school doesn't have one yet.

WHAT IS THIS, REALLY?

Not a class.
Not a club lecture.

You build a robot. You write the code that makes it move. Then you take it to a tournament on a Saturday and compete against other teams from across Loudoun and Virginia.

There's a new game every year. The kit is real. The deadline is real. The competition is real.

You don't have to be the smart kid. Half of robotics is showing up, trying things, and fixing what breaks.

WHAT YOU'D DO ON A TEAM

Pick what fits you. Teams need all of it.

Build

Design the robot, attach motors and gears, fix what breaks. Hands-on engineering.

Code

Program how the robot moves, senses, and decides. Block-based or Java.

Drive

Pilot the robot in matches. Reflexes, strategy, calm under pressure.

Strategy

Read the game manual. Plan how to score. Decide what to build first.

Outreach

Run social media. Pitch to judges. Tell the team's story.

Project lead

Run the meeting. Track what's done. Push the team across the finish line.

Most kids try two or three roles before settling.

TWO WAYS IN

Pick where you are. Grow into the next.

GRADES K–8

FIRST LEGO League

LEGO-based. Beginner-friendly. Two divisions: Explore (K–4) is showcase-style; Challenge (4–8) is real competition.

→ *Best if you've never done robotics before*

GRADES 7–12

FIRST Tech Challenge

Metal robots, Java code, alliance-based competition. The closest thing to a professional engineering team you can join in middle or high school.

→ *Best if you want serious engineering challenge*

Not ready for a full season? Try a Loudoun Robotics summer camp or a community STEM event first.

WHAT A SEASON LOOKS LIKE

Five months. A few hours a week. One championship Saturday.

Sep	Oct	Nov	Dec	Jan+
Open the kit	**Build & code**	**Practice runs**	**Tournament**	**Optional regionals**
Game reveal. First meeting. Meet your teammates.	Prototype. Break things. Iterate. Learn fast.	Test your robot. Find what fails before tournament day.	One Saturday. Compete. Cheer. Probably win something.	If you qualify. Otherwise: rest, plan year two.

Total: roughly 30–60 hours including the tournament — depends on team and program. Comparable to a school sport, with a heavier push in November.

WHAT YOU ACTUALLY GET

Stuff colleges and companies actually look for.

1

Real engineering

Not theoretical. You designed a thing, built it, and made it work under deadline.

2

Code that runs in the world

GitHub-able. Portfolio-able. Something to point to in an internship or college application.

3

FIRST's $80M+ scholarship pool

FIRST alumni qualify for awards from partner institutions every year. Some are FIRST-only.

4

A team you'll remember

The people who show up to the championship with you. That's not a small thing.

Real outcomes. Not promotional fluff.

GET ON A TEAM

Already at your school? Find it. Join it.

1

Ask a teacher you trust

Science, math, shop, or robotics teachers usually know if there's a team — and if not, who'd start one.

2

Check the FIRST team finder

firstinspires.org → 'Find Teams'. Filter by ZIP. See every active Loudoun team.

3

Email us if you're stuck

We maintain a directory of Loudoun teams and can introduce you to a coach.

→ **contact@loudounrobotics.org**

Loudoun community FTC teams we've helped fund: Circuit Breakers and Short Circuit.

NO TEAM YET? START ONE

Five steps. A couple of weeks of asking around.

1

Find 2–3 friends who'd join too

Six kids asking is way stronger than one.

2

Find a teacher willing to sponsor

Doesn't have to be a tech teacher. Anyone you trust who has time after school.

3

Get 15 minutes with your principal

Ask a parent or teacher to set it up — bring your friends and our one-page proposal.

4

Make the ask: an after-school club

No new class, no schedule change. Most schools have a club-approval process — we'll help you navigate it.

5

Email us when they say yes

We help with the rest — team grant funding for startup costs, registration help, and mentor matching.

Full playbook with email templates: loudounrobotics.org/resources.html#students

Build something.
This fall.

Whether you join a team or start one — we'll help you. The hardest part is asking once.

contact@loudounrobotics.org

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