

PACK OF PARTS: MEMBER HANDBOOK

FOR SEASON 2024-2025

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THE CLUB

INTRODUCTION

The Pack of Parts robotics club (formerly known as Top Gun) began in 2004. Over these decades, membership has grown to over 80 members annually, with a diverse group of dedicated students from the Sammamish area. Based out of Eastlake High School, club members are high school (9-12) students from Eastlake High School, Redmond High School, Tesla STEM High School, International Community School, and homeschool.



2023-24 Team Photo (PNW Sammamish Winner)

MISSION STATEMENT

Our club's mission is to inspire young people to be science and technology leaders, by engaging them in exciting hands-on programs that build science, engineering and technology skills, and inspire innovation, to foster well-rounded life capabilities including self-confidence, communication, and leadership.

COMMUNITY

Each year our team impacts hundreds of community members through farmer's markets, STEM nights, workshops, camps, and our STEM Kits.



Additionally, we collaborate with government officials with the goal to advocate about FIRST and our team. Recently, we have supported other FIRST teams by mentoring and financial support.

ABOUT FIRST



WHAT IS FIRST?

[FIRST](#) (For Inspiration and Recognition of Science and Technology) is an international youth organization that operates the [FIRST Robotics Competition](#), [FIRST Tech Challenge](#), and [FIRST LEGO League](#) competitions. FIRST was founded by inventor [Dean Kamen](#) and former MIT professor [Woodie Flowers](#) in 1989 to inspire young people's interest and participation in science and technology. FIRST is "More Than Robots". FIRST participation is proven to encourage students to pursue education and careers in STEM-related fields, inspire them to become leaders and innovators, and enhance their work and life skills.

WHAT IS FRC?

Combining the excitement of sport with the rigors of science and technology, we call the FIRST Robotics Competition the ultimate *Sport for the Mind*. Under strict rules, limited resources, and an intense six-week time limit, teams of students are challenged to raise funds, design a team "brand," hone teamwork skills, and build & program industrial-size robots to play a difficult field game against like-minded competitors. It's as close to real-world engineering as a student can get. Volunteer professional mentors lend their time and talents to guide each team. Each season ends with an exciting FIRST Championship in Houston, TX

VALUES OF FIRST

GRACIOUS PROFESSIONALISM

Dr. Woodie Flowers (1943 - 2019), former MIT Professor and FIRST National Advisor, coined the term "Gracious Professionalism". Gracious Professionalism is part of the ethos of FIRST. It is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community. With Gracious Professionalism, fierce competition and mutual gain are not separate notions. Gracious Professionals learn and compete passionately, but treat one another with respect and kindness in the process. Knowledge, competition, and empathy are comfortably blended. In the long run, Gracious Professionalism is part of pursuing a meaningful life.

One can add to society and enjoy the satisfaction of knowing one has acted with integrity and sensitivity.

COOPERTITION

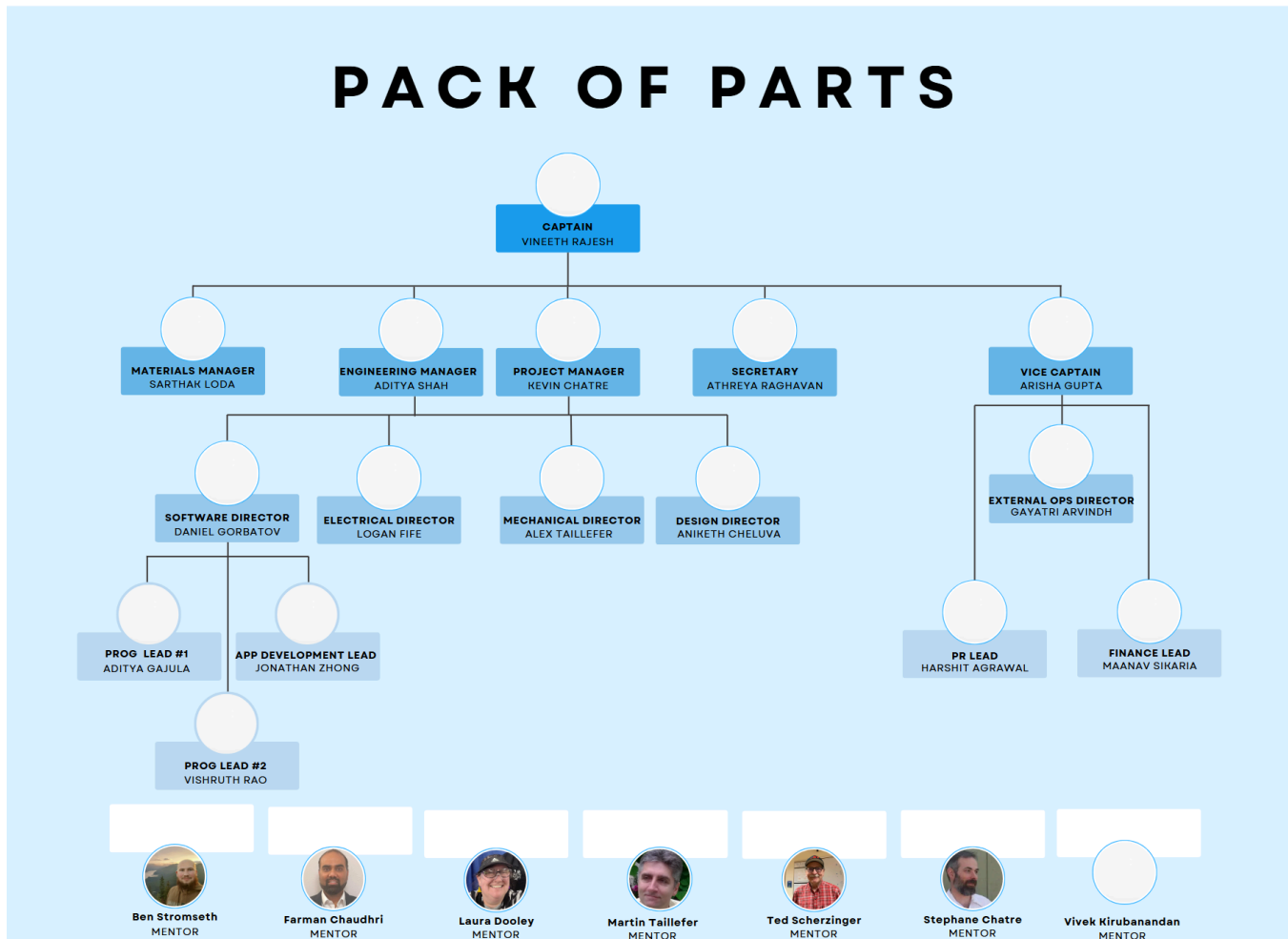
Coopertition produces innovation and puts the cooperation in competition. In FIRST, Coopertition is displaying kindness and respect in the face of fierce competition. Coopertition is founded on the concept and a philosophy that teams can and should help and cooperate with each other even as they compete. Coopertition involves learning from teammates. It is teaching teammates. It is learning from mentors. Coopertition means striving for success, but assisting and enabling others in the process.

CLUB ORGANIZATION

STUDENT LEADERSHIP

Here at Pack of Parts, we believe in the power of student leadership and involvement. Hence, POP is a student-run club with a variety of opportunities for youth leadership. We are here to teach what we know and uncover breakthroughs together.

Here is this season's leadership structure:



The Student Board consists of an Executive Board and a Project Management Board. Following the end of each season, a new *Captain*, and *Vice Captain* are elected via a team-wide voting process. The remaining positions are selected by the graduating senior board members and mentors via an application-based interview.

SUBTEAMS

Club members take on an active role on one or more of POP's subteams. Each director leads their corresponding subteam and is aided by at least one subteam lead, both selected via an interview process.

- **Design & CAD** - Focused on computer design and manufacturing of the robot using CAD and CAM software
- **Mechanical** - Focused on hardware: design (working closely with the CAD subteam), prototyping, machining, and assembly
- **Programming** - Responsible for movement of the robot via remote control and autonomous instruction
- **Electrical** - Responsible for all things routing, pneumatics, and electronics on the robot
- **Business & PR** - Guides the team's business, outreach, and media presence

MENTORS

Pack of Parts would not be complete without the help of our mentors, advisors, and parent volunteers. Mentors provide valuable guidance around the engineering of the robot and the running of the club. Mentors also manage both the digital spaces of Google Chat, GitHub, Email, and Google Drive along with physical spaces at Eastlake High School.

COMPETITION ROLES

In addition to leadership positions during build season, club members may have a competition role. Standard competition roles are:

Drive Team consisting of a *Driver*, *Operator*, *Drive Coach*, *Human Player*, and *Technician(s)*. The Drive Team is selected via interviews and tryouts during the preseason. The Drive Team is responsible for representing the team during competitions by driving the robot during matches.

Pit Crew consisting of a *Safety Captain* and *Pit Manager(s)*. Safety Captain, part of the Project Management Board, is selected by the Manager of Materials during pre/build season. Pit Manager(s) are responsible for the organization and accessibility of the team's competition pit, are appointed during build season and work directly with the Manager of Materials.

Scouting consists of a *Scouting/Strategy Lead*, selected via application-based interview during pre-season, part of the Project Management Board; and *Scouts*, team members tasked with observing matches and recording data and observations about the performance of teams. Team members without a main competition role will become Scouters or assist the Scouting/Strategy Lead during competition.

PR members are responsible for taking photos and videos of the club to use for media posts, recap videos, and other materials..

SEASON LAYOUT

OFFSEASON

The club runs all year round. During the offseason, we prepare for the next season, conduct camps, train our members:

- *June:*
 - *First round of interest meetings, welcoming new members, outreach*
 - Safety Training begins*
- *August*
 - *Summer Camps (Engineering, CAD, Design),*
- *September*
 - *Second round of Welcome to the pack night*
 - *Parent Meeting for October Competition*
 - *New member training*
 - *Safety Training*
- *October*
 - *Drive Team Tryouts*
 - *Offseason competitions*
 - *New member training*
- *November*
 - *Parent Meeting for March/April Competition December - Pre-season project(s) finished*
 - *Prepare for upcoming build season*

BUILD SEASON

The build season is when we actually build a robot! In just a few weeks, we go from an idea to a working competition-worthy robot:

- *December:*
 - *Pre-kickoff planning meeting*
- *January:*
 - *Season Kickoff (January 4th) & Build Season begins Meeting schedule shifts to 4 days a week*
 - *Monday 6-9*
 - *Wednesday 6-9*
 - *Friday 6-9*
 - *Saturday 10-5*
- *February*
 - *Build (officially) season comes to an end Robot Reveal*

- *Remaining competition roles selected*
- *Competition preparations*

COMPETITION SEASON

Competition season is when we put it all on the line! We take the robot we've just built and pit it against other teams' creations:

- *March - First and second competitions are determined in season April - First and second competitions are determined in season PNW District Championship (qualifying teams)*
- *April - FIRST World Championship (qualifying teams)*

POST-SEASON

Post-season is where we wrap things up and get ready for our off-season activities:

- *May - New board is elected/interviewed*
- *June - End of Year Banquet*
- *July - Offseason summer projects Including camps*
- *August - Offseason summer projects including camps*

MORE ON COMPETITIONS

Fall events - Every fall there are many competitions for our club to choose from. The same game rules and field are used as in the previous year's game.

District Events - Every FIRST team competes in two weekend-long district events in March and April. District events take place on a Saturday and Sunday with a pit setup on Friday evening. Only members with a competition role attend the Friday pit setup.

District Championships (qualifying teams) - Following the district events is an exciting district championship, pulling 50 of the best PNW teams together in a location varying each year. The PNW District Championship is a multi-day event and involves an overnight stay and possibly one or two missed school days. If Pack of Parts qualifies for this event, more details involving transportation and housing will be provided during the season.

World Championship (qualifying teams) - In mid-April, the FIRST World Championship takes place in Houston, TX. Qualifying teams from district

events across the world compete in a week-long event with hundreds of international teams. In addition to showcasing their work on the field, teams have a chance to participate in exciting museum tours, attend a high-energy welcome party, and explore the city of Houston. If Pack of Parts qualifies for this event, more details involving transportation and housing will be provided during the season.

CLUB TECH

Our club uses a broad range of digital tools to help us stay connected and organized:

- [Google Chat](#). We use Google Chat for intra-team communication and announcements. This is the most important communication platform for those associated with the club and we expect members and mentors to check this daily.
- [Google Calendar](#). We track our meeting times with Google Calendar.
- [GitHub](#). We use GitHub as a project management platform and programming repository. Every club member is expected to be on GitHub and part of our organization. GitHub is where each sub team documents and tracks the progress of their projects
- [Gmail](#). All club members get a @packofparts.org email address which we use to send documents and other occasional communication.
- [Google Drive](#). We use Google Drive to store documents, photos, forms, and any other digital team material.
- www.packofparts.org. Our website has a variety of information about the club.
- Social Media. The club maintains a presence on [Facebook](#), [Instagram](#), [YouTube](#), and [LinkedIn](#).

RULES AND EXPECTATIONS

MEMBER REQUIREMENTS

Being a member of Pack of Parts means being a member of a competitive team. All members are expected to follow the club's [Constitution](#) , [Bylaws](#), [Code of Conduct](#), and [Shop Rules](#).

In addition, members must meet all the following requirements. There will be periodic scheduled checkpoints to ensure all members are on track to complete all requirements by the end of the season.

1. All paperwork, permission slips and STIMS must be completed and turned in on time. These forms are always available on the team website
2. Club fee must be paid on time. This club fee goes towards transportation to and from competitions, competition registration, and season materials. If this fee makes it difficult for an individual to become a member of the club, contact info@packofparts.org
3. Additional fees will/may be needed to attend District Championships and Worlds depending on sponsorship. Financial aid is available for this as well.
4. All members must complete Safety Training. Preseason Safety Training will involve a written and hands-on "test". Students who do not go through this process will not be allowed to work in the shop.
5. Demonstrate Gracious Professionalism* consistently. Any behavior deemed un-graciously-professional will result in warnings, mentor involvement, limited privileges and shop rights, expulsion from a leadership position, or even expulsion from the team. *See page 4

As part of Pack of Parts, members will be photographed for promotional club videos, FIRST related media and/or club social media posts. If you wish to refrain from being photographed and used in promotional materials contact info@packofparts.org.

CODE OF CONDUCT

1. Members must demonstrate Gracious Professionalism, Coopertition, and teamwork at all times.
2. Members must proactively contribute to club activities and projects.
3. Members must interact respectfully and professionally with mentors,

advisors, and parent volunteers.

4. Horseplay, harassment, and violence of any kind are not tolerated at meetings, competitions, or any club-sponsored activity.
5. Members with questions, comments, or concerns should contact a Board member and/or mentor.
6. Violations of the code of conduct, bylaws, and/or shop rules will result in: warnings, suspension from shop, demotion from a leadership position, suspension from the team
7. Food is to be eaten and kept in designated areas.

SHOP RULES

1. All members must successfully complete preseason Safety Training
 - a. Must score 100% on written safety test
 - b. Must successfully complete mentor-led shop test
2. All members must follow the safety procedures listed in the Safety Training manual at all times.
3. All members must wear safety glasses at all times when working in the shop.
4. All members must ask for help and/or supervision when operating power tools and not distract others as they do so.
5. All members must **clean up their workspaces before they leave - leave them in a better condition than when started!**

COMPETITION EXPECTATIONS

1. To attend competitions, members must complete and turn in all required forms, registration, and club dues by the stated deadline as well as have the required attendance.
2. Members with a competition role are required to attend both district competitions and possibly a District Championship and/or World Championship (based on advancement).
3. Club members with one of the following roles will be expected to assist in pit setup the Friday before each competition: *Driver, Operator, Drive Coach, Human Player, Technician, Safety Captain, Pit Manager(s)*
4. Members without a defined competition role will be expected to fulfill the role of *Scout* and remain in the stands to cheer on POP's drive team as well as other teams on the field.
 - a. Prior to match scouting, scouts will explore the competition pits

- and learn more about the capabilities of other teams (pit scouting).
- b. Scouts will then work match scouting shifts as specified by the *Scouting/Strategy Lead*.
5. *Safety Captain*, as well as other club members in the competition pits, will present the team's work in various technical and non-technical areas to judges.
 6. Club members will wear their club shirts/hoodies and any additional team spirit gear during competition.
 7. All club members are expected to assist event volunteers and other teams whenever possible.
 8. Club members, mentors, and families are expected to demonstrate unparalleled Gracious Professionalism and Coopertition at all times during competition. Any behavior deemed "un-GP" will not be tolerated.

PARTICIPATION

Members are expected to attend and participate in most team meetings and competitions. If members need to skip meetings, they should notify their director via Google Chat so that the director can reassign their work.

FAMILY INVOLVEMENT

PARENT/GUARDIAN COMMUNICATION

Information for families is sent via email and text message. We ask that each member provide at least one parent/guardian email and phone number on all forms/other materials distributed to families in preparation for the season.

For updates on our club check out www.packofparts.org, ask members, email the mentors (mentors@packofparts.org), or check social media. Email is our primary method of communication with families. Text messaging is used for planning, when immediate contact is required, and on club trips.

FOOD SUPPORT

Meetings - Saturdays: During build season, we may rely on parent involvement in supplying lunches for our day-long weekend meetings. Signups for bringing in food will be sent out periodically to prepare for build and competition season.

Weekdays evenings - parents and members will be asked to provide snacks periodically throughout the year.

Competitions - Parents are asked to donate catered lunches.

VOLUNTEERING AND MENTORSHIP

Volunteering with FIRST - Volunteering at FIRST events is encouraged for both members and their parents/guardians. Additionally, *parents/guardians interested in mentoring or volunteering directly with our team may be eligible to earn matching donations through their company for Pack of Parts.* We encourage parents/guardians to check if their company matches donations here: <https://www.firstinspires.org/ways-to-help/corporate-matching-gifts>

Mentoring at Pack of Parts - If you are a parent/guardian with technical and/or nontechnical expertise interested in becoming a mentor for Pack of Parts, we'd love to hear from you! You can help in the shop, you can chaperone events, you can drive to events, etc. Join the fun by dropping a note mentors@packofparts.org for more information.

GENERAL SUPPORT OPPORTUNITIES

Transportation (offseason & outreach events) - Interested and available parents/guardians will be asked to provide group and individual transportation for students to and from outreach, volunteer, fundraising, and offseason events. These may be day-long or weekend-long and are held in various locations.

Supporting the team - Whether it's by bringing food to meetings and events, mentoring, offering to carpool, or even attending fundraisers, we are extremely thankful for the support of our parent volunteers. Supporting the team at offseason, outreach, fundraising, and competition events is always encouraged and greatly appreciated, as well. As our members spread the word of FIRST and POP's journey in their communities, we ask the same of member families.

FINANCES

If any fees or dues make it difficult for a student to become a member of the team, they are encouraged to reach out to mentors@packofparts.org and we can help.

DUES AND FEES

Club fee - \$250

This club fee goes towards robotic components, shop supplies, fees for competitions, team shirts, and team travel..

If you are a student at Eastlake HS, you can pay at the school bookkeeper or online. If you are a student elsewhere, please write a check to Eastlake Robotics Boosters and deliver it to the team Director of Finance.

TEAM MERCHANDISE

Merchandise will be available for sale in the early fall and again during build season. This is to ensure our team maintains a professional, identifiable, and uniform image at competitions and events.

TRAVEL EXPENSES

In the possibility that our team advances to the PNW District Championship and/or World Championship in Houston, additional travel expenses will be imposed. These fees will cover transportation, overnight housing, and food arrangements for each member. More information on these expenses will be communicated during the competition season.

CLUB FUNDING

Our club has 2 ways of funding our activities. Through our ASB club finances and our parent booster club

The ASB funds come from any student run fundraisers, team dues, our OSPI grant, and any grants that come to the club through the school.

Boosters pick up where ASB leaves off and helps fund things such as mentor stipends (staff mentors only), team banquet, travel, scholarships, and more. Funds here come from parent donations, grants that are not available to an ASB, and adult run fundraisers.

Our funds are managed jointly between mentors and the finance team ensuring students have a voice and plan how club funds are spent and also ensuring proper oversight through staff and parent collaboration.